

**Appendix D**  
**Transportation Impact Analysis**





# HEXAGON TRANSPORTATION CONSULTANTS, INC.

## 220 Park Road

### Draft Transportation Impact Analysis

Prepared for:

**ICF International**

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DRAFT

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## Executive Summary

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This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed mixed-use office and retail project, at 220 Park Road. The project is located in downtown Burlingame on Park Road, mid-block between Burlingame Avenue and Howard Avenue. The project site extends from Park Road to Lorton Avenue. The post office building is unoccupied. The proposed redevelopment includes the restoration and reactivation of portions of the historic post office building.

The project would include approximately 140,020 square feet of office space and 11,915 square feet of ground-floor retail space. Additionally, the plan proposes extending the underground parking levels under a portion of the adjacent city-owned parking lot (Lot E) via an easement to achieve a 280-space parking count, subject to approval by the City. Partly in exchange for this easement and partly in exchange for a reduced office parking ratio, these parking stalls, as well as the rest of the parking spaces for the project, would be available for public use in the evenings and on weekends in order to provide greater parking capacity to those visiting Burlingame's downtown, again subject to approval by the City. Access to the proposed project would be provided via a full-access driveway on Lorton Avenue.

The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Burlingame and the City/County Association of Governments (C/CAG) of San Mateo County Congestion Management Program (CMP). The study includes an analysis of AM and PM peak hour traffic conditions during weekdays on 12 study intersections in the vicinity of the project site. Potential impacts to pedestrians, bikes, and transit services were also considered.

Based on the project description, and trip generation rates recommended by the Institute of Transportation Engineers, it is estimated that the proposed project would generate 1,513 net new daily vehicle trips, with 154 net new trips during the AM peak hour and 175 net new trips during the PM peak hour.

The City of Burlingame does not have a Council-adopted level of service threshold, thus significance standards (such as LOS D or better) that have typically been applied in traffic studies and EIRs, were used. The results of the intersection level of service analysis under all scenarios with and without the project are summarized in Table ES-1. The results determined that under all scenarios with and without the project, all of the study intersections would operate at an acceptable LOS C or better during both the AM and PM peak hours.

The Project's transportation impact on vehicles miles traveled (VMT) was evaluated based on the CEQA Guidelines published by Governor's Office of Planning and Research (OPR). According to CEQA Guidelines, projects within one-half mile of either an existing major transit stop or a stop along

an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. The project is located within a half mile of the Burlingame Station, which is a major transit stop. Therefore, the project is expected to have a less-than-significant impact on vehicles miles travelled.

This report has also provided the following recommendations for the project:

- C/CAG requires developments that are estimated to generate 100 or more new peak-hour trips to implement transportation demand management (TDM) measures that provide trip credits equal to or greater than the project's net peak-hour trip generation. The project applicant is required to prepare a TDM plan in accordance with the C/CAG requirements prior to project approval.
- 15 feet painted red curb should be provided adjacent to the project driveway on Lorton Avenue to comply with Caltrans sight distance requirements. Appropriate visible warning signs and audible warning signals should also be provided at the parking garage entrance to alert pedestrians and bicyclists of vehicles exiting the garage.
- The project should provide a transition slope to the garage driveway ramp with 15 percent slope in order to meet the City's requirement.
- Signs prohibiting parking during garbage pickup hours should be placed along the project frontage on Lorton Avenue. The trash bins should be removed from the public right-of-way immediately after garbage pickup as to not impact AM or PM peak-hour traffic conditions.
- The project is requesting a Historic Variance under Municipal Code 21.04.120 for reduced parking on site to accommodate the reduced available space for ground level parking due to the unique configuration and siting of the historic post office building.
- To encourage bicycling by employees, it is recommended the project provide 14 long-term secured bicycle parking for employees within the building.



**Table ES-1  
Intersection Levels of Service Summary**

Study Number	Intersection	Peak Hour	Count Date	Traffic Control	Existing				Background				Cumulative			
					No Project		with Project		No Project		with Project		No Project		with Project	
					Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS
1	California Drive and Burlingame Avenue	AM	03/28/18	Signal	14.7	B	14.7	B	14.8	B	14.9	B	15.5	B	15.6	B
		PM	03/28/18		15.1	B	15.1	B	15.5	B	15.5	B	16.4	B	16.5	B
2	California Drive and Howard Avenue	AM	03/28/18	Signal	9.2	A	9.4	A	9.4	A	9.5	A	9.9	A	10.1	B
		PM	03/28/18		9.1	A	9.4	A	9.4	A	9.7	A	10.3	B	10.7	B
3	California Drive and Bayswater Avenue	AM	03/28/18	Signal	8.5	A	8.6	A	8.7	A	8.8	A	11.3	B	11.3	B
		PM	03/28/18		8.5	A	8.5	A	8.7	A	8.7	A	9.2	A	9.2	A
4	California Drive and Peninsula Avenue	AM	03/28/18	Signal	16.0	B	16.1	B	16.2	B	16.3	B	16.9	B	17.1	B
		PM	03/28/18		18.9	B	19.2	B	19.5	B	19.9	B	22.0	C	22.8	C
5	Lorton Avenue and Burlingame Avenue	AM	03/02/16	AWSC <sup>1</sup>	8.4	A	8.6	A	8.5	A	8.8	A	8.8	A	9.0	A
		PM	03/02/16		9.4	A	9.8	A	9.5	A	10.0	A	10.1	B	10.6	B
6	Lorton Avenue and Howard Avenue	AM	03/28/18	AWSC <sup>1</sup>	9.6	A	10.4	B	10.0	A	10.9	B	10.6	B	11.8	B
		PM	03/28/18		12.0	B	13.5	B	12.6	B	14.5	B	14.4	B	17.6	C
7	Park Road and Burlingame Avenue	AM	03/02/16	AWSC <sup>1</sup>	8.1	A	8.2	A	8.2	A	8.3	A	8.4	A	8.5	A
		PM	03/02/16		9.0	A	9.2	A	9.0	A	9.3	A	9.4	A	9.7	A
8	Park Road and Howard Avenue	AM	03/28/18	Signal	11.9	B	12.1	B	12.0	B	12.2	B	12.3	B	12.5	B
		PM	03/28/18		12.1	B	12.2	B	12.3	B	12.4	B	12.8	B	12.9	B
9	El Camino Real and Burlingame Avenue	AM	05/23/17	Signal	9.1	A	9.3	A	9.2	A	9.5	A	9.8	A	10.2	B
		PM	05/23/17		10.1	B	10.5	B	10.3	B	10.7	B	11.5	B	12.0	B
10	El Camino Real and Howard Avenue	AM	04/05/16	Signal	9.4	A	9.6	A	9.5	A	9.8	A	10.4	B	10.8	B
		PM	04/05/16		12.7	B	13.1	B	13.1	B	13.4	B	15.9	B	16.5	B
11	El Camino Real and Bayswater Avenue *	AM	03/28/18	Signal	11.9	B	12.1	B	12.7	B	12.9	B	13.6	B	13.7	B
		PM	03/28/18		12.5	B	12.7	B	13.1	B	13.8	B	14.7	B	14.9	B
12	California Drive and Oak Grove Avenue	AM	04/24/19	Signal	17.5	B	17.5	B	17.9	B	17.9	B	19.9	B	19.9	B
		PM	04/24/19		15.2	B	15.3	B	15.6	B	15.6	B	16.9	B	17.0	B

Note:

AWSC = All-Way Stop Control

\* The *Highway Capacity Manual (HCM) 2010* does not support turning movements with shared and exclusive lanes. Therefore, this intersection was analyzed using the HCM 2000.

<sup>1</sup> Average delay for an all-way stop controlled intersection is reported for the entire intersection.



# 1. Introduction

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This report presents the results of the Transportation Impact Analysis (TIA) conducted for the proposed mixed-use office and retail project at 220 Park Road. The site is located in downtown Burlingame on Park Road, mid-block between Burlingame Avenue and Howard Avenue (see Figure 1). The project site extends from Park Road to Lorton Avenue. The post office building is unoccupied. The proposed redevelopment includes the restoration and reactivation of portions of the historic post office building.

The project would include approximately 140,020 square feet of office space and 11,915 square feet of ground-floor retail space (see Figure 2). Additionally, the plan proposes extending the underground parking levels under a portion of the adjacent city-owned parking lot (Lot E) via an easement to achieve a 280-space parking count, subject to approval by the City. Partly in exchange for this easement and partly in exchange for a reduced office parking ratio, these parking stalls, as well as the rest of the parking spaces for the project, would be available for public use in the evenings and on weekends in order to provide greater parking capacity to those visiting Burlingame's downtown, again subject to approval by the City. Access to the proposed project would be provided via a full-access driveway on Lorton Avenue.

## Scope of Study

This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed development. The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Burlingame and the City/County Association of Governments (C/CAG) of San Mateo County. The C/CAG administers the San Mateo County Congestion Management Program (CMP). Given that the project is expected to generate more than 100 peak hour trips, a freeway segment analysis was prepared. The traffic study includes an analysis of AM and PM peak hour traffic conditions for nine (9) signalized intersections and three (3) unsignalized intersections in the vicinity of the project site. Additionally, the study includes a vehicle miles traveled (VMT) analysis. The study also includes a signal warrant analysis to determine the need for signalization at the study unsignalized intersections. An analysis of site access and on-site circulation, vehicle queuing, and transit, bicycle, and pedestrian access is also included.

## Study Intersections

1. California Drive and Burlingame Avenue
2. California Drive and Howard Avenue
3. California Drive and Bayswater Avenue
4. California Drive and Peninsula Avenue
5. Lorton Avenue and Burlingame Avenue (unsignalized)
6. Lorton Avenue and Howard Avenue (unsignalized)

7. Park Road and Burlingame Avenue (unsignalized)
8. Park Road and Howard Avenue
9. El Camino Real and Burlingame Avenue
10. El Camino Real and Howard Avenue
11. El Camino Real and Bayswater Avenue
12. California Drive and Oak Grove Avenue

All of these intersections are oriented at nearly a 45-degree angle in relation to true North. In accordance with previous traffic studies prepared in the City of Burlingame, El Camino Real and California Drive are considered as north-south streets since they run parallel to U.S. 101. Streets that cross El Camino Real are treated as east-west streets.

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

Traffic conditions were evaluated for the following scenarios:

- Scenario 1:** *Existing Conditions.* Existing traffic volumes at study intersections were estimated based on available traffic counts conducted for local traffic studies, EIRs, and the 2019 CMP monitoring report. Due to Covid-19 and regional shelter-in-place orders, new traffic counts could not be collected for the study. Therefore, a growth rate of 1% per year was applied to the traffic counts that are more than two years old to estimate the traffic volumes for existing conditions. The study intersections were evaluated with a level of service analysis using Synchro software in accordance with the *2010 Highway Capacity Manual* methodology.
- Scenario 2:** *Background Conditions.* Background traffic volumes reflect traffic added by projected volumes from approved but not yet completed developments in the project area. The approved project trips and/or approved project information were obtained from recent traffic studies in the City of Burlingame.
- Scenario 3:** *Existing plus Project Conditions.* Existing traffic volumes with the project were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects the project would have on the existing roadway network.
- Scenario 4:** *Project Conditions.* Background traffic volumes with the project (hereafter called project traffic volumes) were estimated by adding to background traffic volumes the additional traffic generated by the project. Project Conditions were evaluated relative to background conditions to determine potential project impacts.
- Scenario 5:** *Cumulative Conditions.* Cumulative traffic volumes represent traffic growth through the year 2030. Cumulative traffic volumes were estimated by applying an annual growth factor of 1.0 percent to the existing volumes, then adding trips from approved and pending developments, as well as project-generated traffic. Cumulative conditions were evaluated relative to cumulative no project conditions to determine potential 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 previous traffic counts, the City of Burlingame, local traffic studies and EIRs, and field observations. The following data were collected from these sources:

- existing peak-hour intersection turning-movement volumes
- lane configurations
- intersection signal timing and phasing
- approved and pending project trips

### Level of Service Standards and Analysis Methodologies

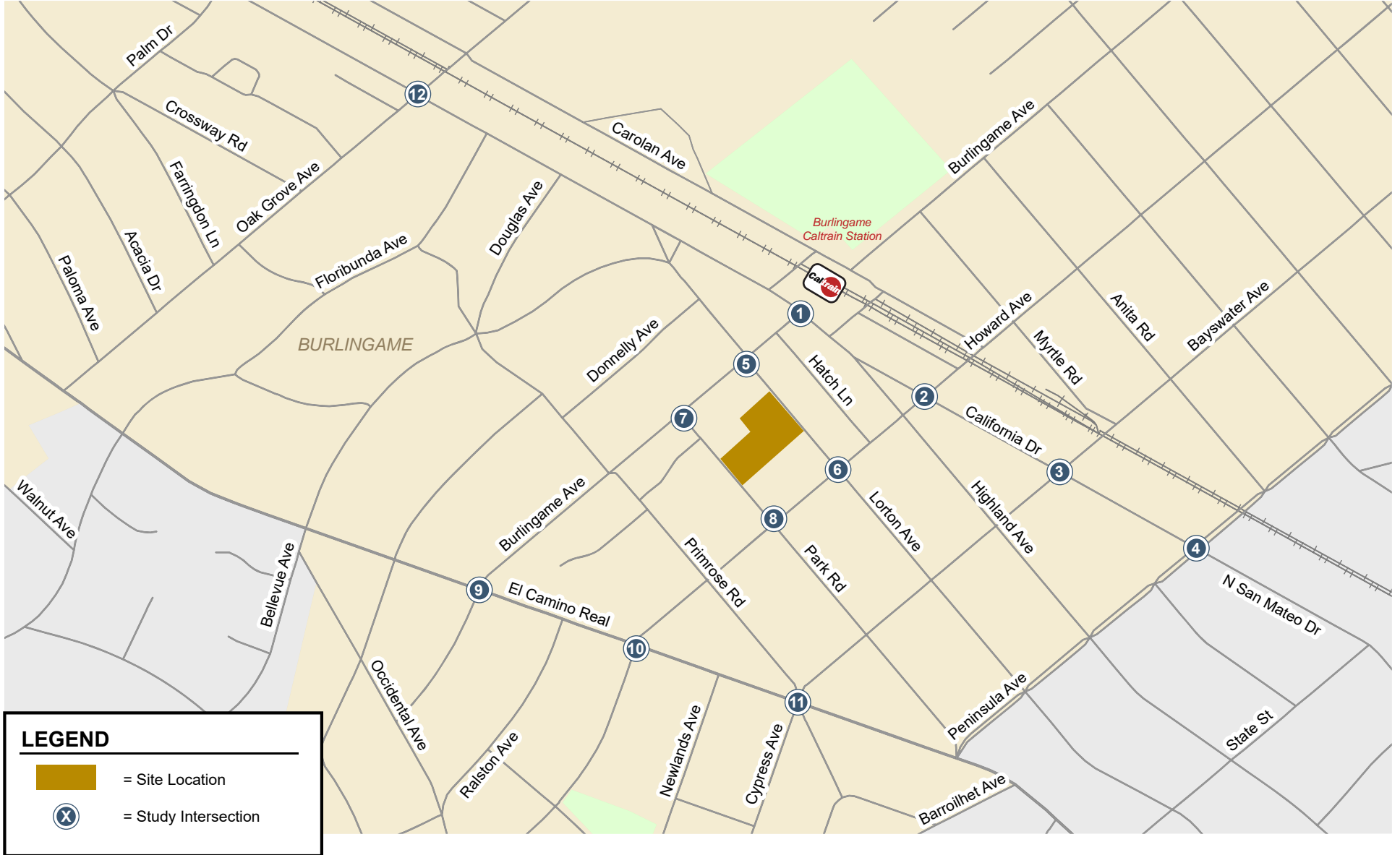
Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The various analysis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

#### City of Burlingame Signalized Intersections

The City of Burlingame level of service standards were used to evaluate the signalized study intersections. The City of Burlingame evaluates intersection level of service based on the *Highway Capacity Manual (HCM) 2010* method using Synchro software<sup>1</sup>. The 2010 HCM method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. This average delay can then be correlated to a level of service. While the City of Burlingame does not have a Council-adopted level of service threshold, a standard of LOS D or better has typically been applied in local traffic studies and EIRs. The correlation between delay and level of service is shown in Table 1.

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<sup>1</sup> The 2010 *Highway Capacity Manual (HCM)* does not support turning movements with shared and exclusive lanes, and intersections with more than four approaches. Intersections with these features were analyzed using the 2000 *HCM*.



**Figure 1**  
**Site Location and Study Intersections**

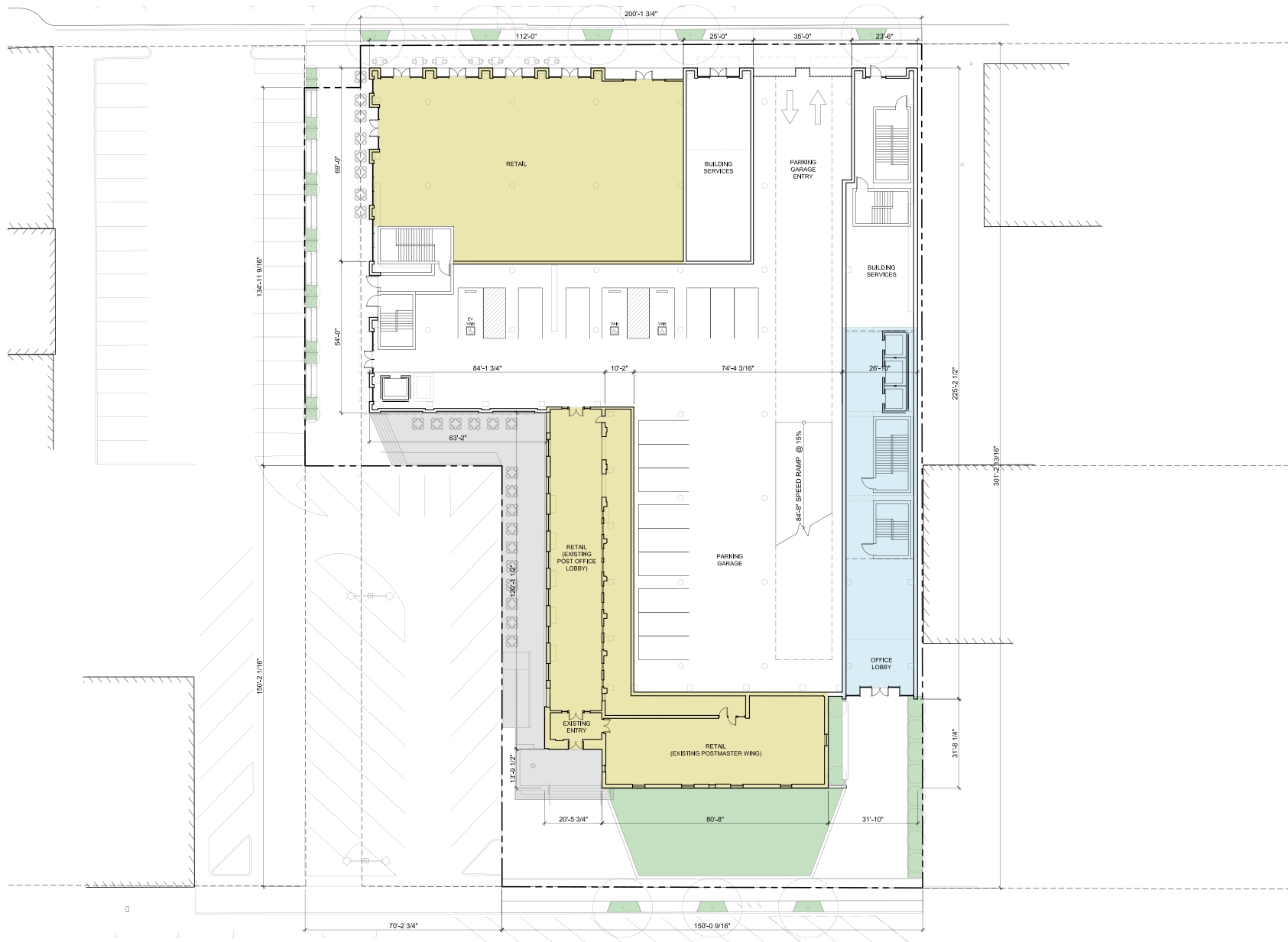


Figure 2  
Project Site Plan

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

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	Up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

### **City of Burlingame Unsignalized Intersections**

Level of service analysis at unsignalized intersections is generally used to determine the need for modification in the type of intersection control (i.e., all-way stop or signalization). As part of the evaluation, traffic volumes, delays and traffic signal warrants are evaluated to determine if the existing intersection control is appropriate.

Level of service at unsignalized intersections was based on the 2010 HCM method using the Synchro software platform. This method is applicable for both side-street and all-way stop-controlled intersections. For all-way stop-controlled intersections (e.g., the Lorton Avenue/Howard Avenue intersection), a weighted average delay of the entire intersection is presented.

The City of Burlingame does not have a formally-adopted level of service standard for unsignalized intersections. The correlation between average control delay and LOS for unsignalized intersections is shown in Table 2.



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

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Little or no traffic delay	Up to 10.0
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 80.0

### **Traffic Signal Warrant**

The level of service calculations at the unsignalized intersections is supplemented with an assessment of the need for installation of a traffic signal, known as a signal warrant analysis. The need for signalization of unsignalized intersections in an urban or suburban context is typically assessed based on the Peak Hour Volume Warrant (Warrant 3) described in the *California Manual on Uniform Traffic Control Devices for Streets and Highways* (CA MUTCD), Part 4, Highway Traffic Signals. This method makes no evaluation of intersection level of service, but simply provides an indication whether vehicular peak hour volumes are, or would be, sufficiently high to justify installation of a traffic signal. Additional analysis is recommended and may include unsignalized level of service analysis and/or operational analysis such as evaluating vehicle queuing and delay. Other types of traffic control devices, signage, or geometric changes may be preferable based on existing field conditions.

The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the decision should be considered when one or more of the warrants are met, which triggers further feasibility analysis. Engineering judgment should be exercised to determine how a traffic signal could affect collision rates and traffic conditions at the subject intersection, as well as at adjacent intersections. Other options besides a traffic signal should also be considered, such as all-way stop control, new or enhanced signage, or roadway geometry changes; these measures may be more appropriate than a new traffic signal.

### **Intersection Vehicle Queuing**

The analysis of intersection operations is typically supplemented with a vehicle queuing analysis at study intersections where the project would add a substantial number of vehicle trips to the left-turn movements. The analysis provides a basis for estimating future left-turn pocket storage requirements at the study intersections. The analysis is based on the 95th percentile queue length calculated by the Synchro software.

The 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Or, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about one cycle during the peak hour for a

signal with a 120-second cycle length). Therefore, left-turn storage pocket designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time. The 95th percentile queue length is also known as the “design queue length.”

### **VMT Analysis**

Per California Senate Bill 743, the California Natural Resources Agency, with assistance from the Governor’s Office of Planning and Research (OPR), adopted new CEQA guidelines in December 2018. The new guidelines state that automobile delay, as measured by level of service (LOS), will no longer constitute a significant environmental impact under CEQA, and that VMT is considered the most appropriate metric to evaluate a project’s transportation impacts. Burlingame has not yet adopted any thresholds or guidelines related to VMT. The VMT evaluation is presented based on the OPR’s CEQA Guidelines and Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018).

### **Adverse Intersection Operations Effects**

The City of Burlingame does not have Council-adopted definitions of an adverse effect on intersection operations. The following standards typically have been used in traffic studies and EIRs. The project is said to create an adverse effect on traffic conditions at a signalized intersection in the City of Burlingame if for any peak-hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under no project conditions to an unacceptable LOS E or F under project conditions; or
2. The level of service at the intersection is an unacceptable LOS E or F under no project conditions and the addition of project trips causes the average delay at the intersection to increase by five (5) or more seconds.

Adverse effects at signalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection level of service to background conditions or better.

### **CMP Roadway Impact and Compliance**

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. Per CMP technical guidelines, all new developments estimated to generate 100 or more net peak hour trips are required to implement Travel Demand Management (TDM) measures in accordance with the C/CAG CMP checklist. Given that the proposed project is expected to generate more than 100 net peak hour vehicle trips during the PM peak hour, implementation of TDM measures is required by the project.

## **Report Organization**

This report has a total of seven chapters. Chapter 2 describes the existing roadway network, transit services, and pedestrian and bicycle facilities. Chapter 3 presents the intersection levels of service under background conditions with the addition of traffic from approved developments in the City of Burlingame. Chapter 4 describes the method used to estimate project traffic, the intersection operations under existing plus project conditions and background plus project conditions, and potential deficiencies caused by the project on the roadway network. Chapter 5 presents the intersection levels of service under the cumulative and cumulative plus project conditions. Chapter 6 shows the freeway analysis and project’s compliance with the CMP. Chapter 7 presents the VMT analysis and analysis of other transportation-related issues, including vehicle queuing analysis at selected intersections, traffic

operations at unsignalized intersections, site access and on-site circulation, parking, and potential impacts on bicycle, pedestrian, and transit facilities.

## 2. Existing Conditions

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

### Existing Roadway Network

Regional access to the project site is provided via US 101 and El Camino Real (SR 82), which are described below.

**US 101** is a north/south, eight-lane freeway in the vicinity of the site. US 101 extends northward through San Francisco and southward through San Jose. Access to and from the project study area is provided via a full interchange at Broadway and a partial interchange at Peninsula Avenue.

**El Camino Real (SR 82)** is a four-lane roadway west of the project site that serves as a north-south route of travel along the Peninsula in the vicinity of the site. El Camino Real extends northward to San Francisco, and southward to San Jose. The posted speed limit on El Camino Real is 35 mph. There are sidewalks on both sides of the road in the project vicinity. Access to the project site from El Camino Real is provided via Burlingame Avenue and Howard Avenue.

Local access to the site is provided by Broadway, Peninsula Avenue, California Drive, Howard Avenue, Burlingame Avenue, Park Road and Lorton Avenue. These roadways are described below.

**Broadway** is an east/west, two- to four-lane arterial that extends from west of Vancouver Avenue to Old Bayshore Highway, where it transitions into Airport Boulevard. On-street parking and sidewalks are present on both the sides of the road in the project vicinity. Bike lanes are striped on Broadway east of Carolan Avenue. The posted speed limit on Broadway is 25 MPH. Access to the project site from Broadway is provided via California Drive and El Camino Real.

**Peninsula Avenue** is an east/west, two- to three-lane arterial that extends from El Camino Real east to Airport Boulevard, where it transitions into Coyote Point Drive. Peninsula Avenue operates south of the project site and acts as the southern gateway into the city, connecting the downtown Burlingame area with US 101 and El Camino Real. On-street parking and sidewalks are present on both sides of Peninsula Avenue, and the posted speed limit is 30 MPH. Access to the project site from Peninsula Avenue is provided via Lorton Avenue and Park Road.

**California Drive** is a north/south roadway that extends from Millbrae Avenue in the City of Millbrae to Peninsula Avenue in San Mateo to the south, at which point it becomes North San Mateo Drive. California Drive consists of two lanes between Millbrae Avenue and Broadway, and four lanes south of

Broadway. In the project vicinity, on-street parking and sidewalks are present on both the sides of California Drive. The speed limit on California Drive is 30 MPH. California Drive is a designated Class III bike route north of South Lane. Access to the project site from California Drive is provided via Howard Avenue and Burlingame Avenue.

**Howard Avenue** is an east/west roadway with two or three lanes extending from Occidental Avenue in the west to N. Amphlett Boulevard in the east. The speed limit on Howard Avenue is 25 MPH. Four-hour metered parking is provided between 8 AM to 6 PM in the project vicinity. There are sidewalks on both sides of the road. A Class III bike route on Howard Avenue extends from Occidental Avenue to East Lane, where it transitions into Class II bike lanes and extends east to Humboldt Street. Access to the project site from Howard Avenue is provided via Lorton Avenue and Park Road.

**Burlingame Avenue** is an east/west roadway with two lanes extending from Occidental Avenue in the west to Rollins Road to the east with a discontinuity at the Burlingame Caltrain Station. Sidewalks are available on both the sides of the street with the posted speed limit of 25 mph. There is two-hour on street parking between 8 AM to 6 PM. Access to the project site from Burlingame Avenue is provided via Lorton Avenue and Park Road.

**Park Road** is a north/south roadway with two lanes extending from Burlingame Avenue in the north to Peninsula Avenue in the south. The speed limit on Park Road is 25 MPH. Park Road has two-hour on street parking between 8 AM to 6 PM. There are sidewalks on both sides of the road. Park Road provides direct access to the project site.

**Lorton Avenue** is a north/south roadway with two lanes extending from Bellevue Avenue in the north to Peninsula Avenue in the south, where it transitions into Prospect Row. The speed limit on Lorton Avenue is 25 MPH. Lorton Avenue has two-hour on street parking between 8 AM to 6 PM. There are sidewalks on both sides of the road. Lorton Avenue provides direct access to the project site.

## Existing Pedestrian and Bicycle Facilities

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the vicinity of the project site, sidewalks exist along both sides of Howard Avenue, Burlingame Avenue, Lorton Avenue, and Park Road, providing pedestrian access to and from the project site. Marked crosswalks are provided along all stop-controlled approaches except at the south leg of the Lorton Avenue/Bayswater Avenue intersection.

The overall network of sidewalks and crosswalks in the study area has adequate connectivity and provides pedestrians with safe routes to transit services and other points of interest in the vicinity of the project site.

### Existing Bicycle Facilities

There are some bicycle facilities in the vicinity of the project site. The existing bicycle facilities within the study area are described below and are shown on Figure 3.

**North-south bicycle connections** in the study area include Class III bike routes along California Drive, Carolan Avenue, Primrose Road, and Highland Avenue. There are also Class II bike lanes north of the project site along Carolan Avenue.

**East-west bicycle connections** in the study area consist of bike routes along Oak Grove Avenue, Floribunda Avenue, Chapin Avenue, and Howard Avenue. Although Lorton Avenue and Park Road are

not designated bike routes, due to low travel speed and traffic volume, they are conducive to bicycle travel.

## Existing Transit Service

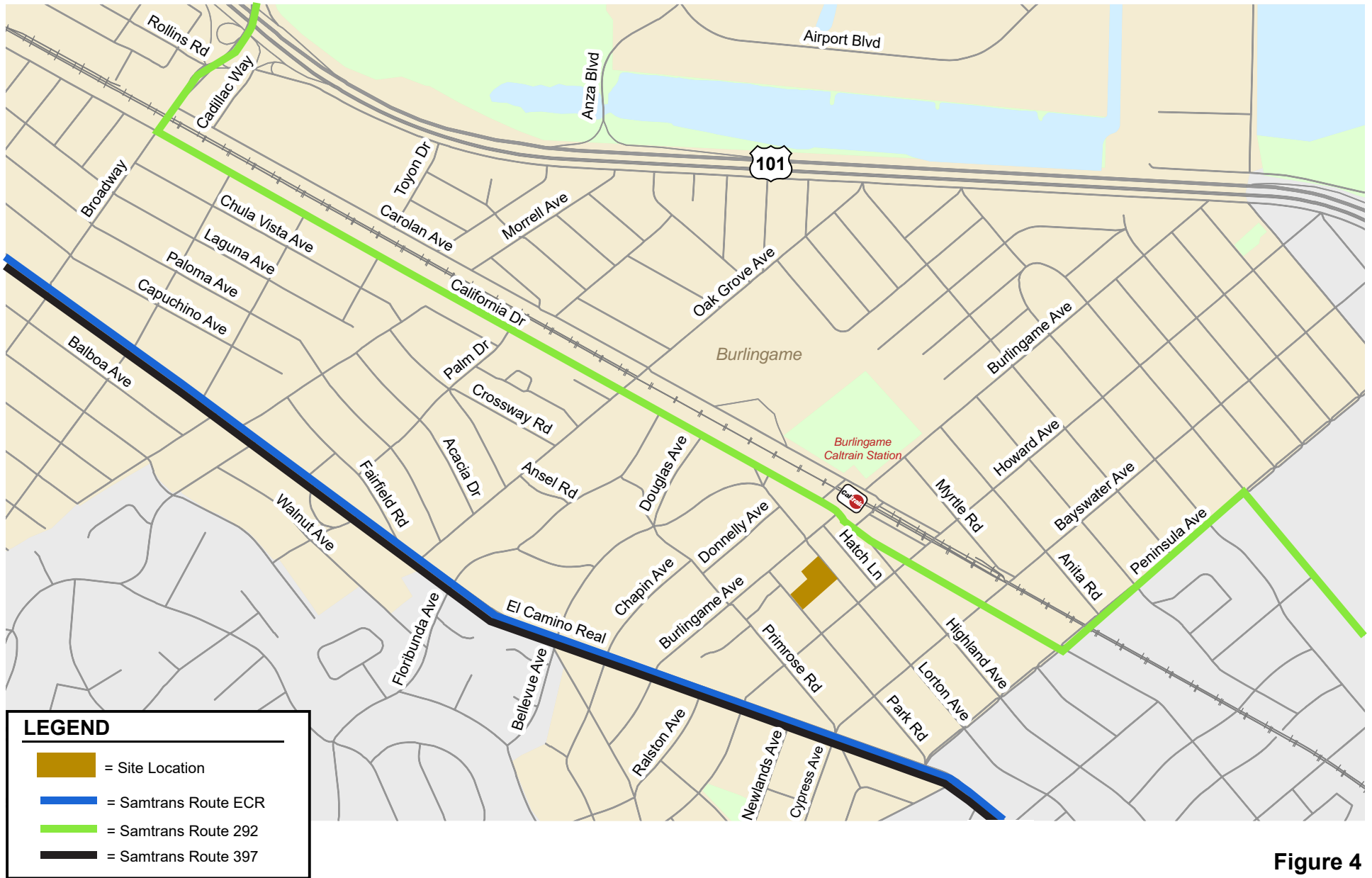
Existing transit service to the study area is provided by the San Mateo County Transit District (SamTrans), the City of Burlingame, and Caltrain (See Figure 4). The study area is served directly by express bus routes. The reduced transit service routes that run through the study area during Covid-19 are listed in Table 3, including their route description and commute hour headways. The nearest bus stops are located at the intersections along Howard Avenue at California Drive and El Camino Real. The Howard Avenue and California Drive bus stop is located approximately 785 feet walking distance from the project site, and the Howard Avenue and El Camino Real bus stop is 1,100 feet walking distance from the project site.

**Table 3**  
**Existing Transit Services**

Transit Route	Route Description	Headway <sup>1</sup>
<b>Operated by SamTrans</b>		
Express Route 292	Hillsdale Shopping Center to Transbay Transit Center	60 mins
Express Route 397	Downtown San Francisco to Palo Alto Transit Center (provides limited overnight service)	60 mins
Multi-City Route ECR	Daly City BART Station to Palo Alto Transit Center	20 mins
<b>Notes:</b>		
These were service available during Covid-19 and effective from April 19,2020		
<sup>1</sup> Approximate headways during peak commute periods.		



**Figure 3**  
**Existing Bicycle Facilities**



**Figure 4**  
Existing Transit Services



## Caltrain Service

Caltrain provides frequent passenger train service between San Jose and San Francisco seven days a week. During commute hours, Caltrain provides extended service to Morgan Hill and Gilroy. The closest Caltrain station is the Burlingame Station (approximately 700 feet east of the project site), providing weekday and weekend service. The Burlingame Station provides local and limited Caltrain service. Trains that stop at the Burlingame Station operate at approximately 15 to 45-minute headways in both directions during the commute hours, with somewhat less frequent service midday. Service operates between about 5:30 AM and 11:35 PM in the northbound direction and between 5:20 AM and 12:35 AM (next day) in the southbound direction. These were services available during Covid-19 effective June 15, 2020.

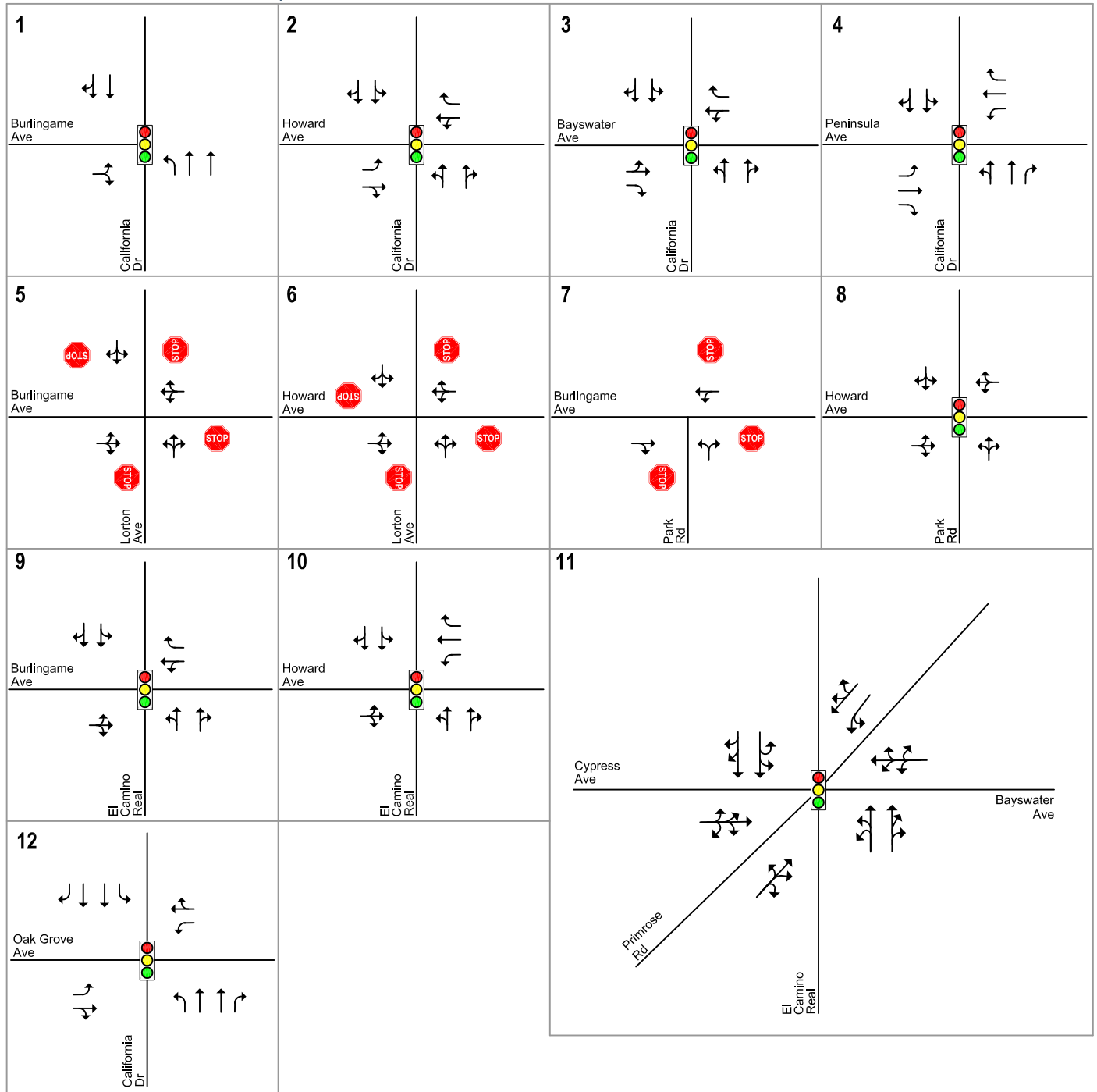
As part of the Caltrain Modernization Program, the rail service will be electrified. The electrified Caltrain system will provide increased service and is also expected to help accommodate the increase in system ridership through much improved system operations.

## Existing Intersection Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 5.

Existing peak-hour traffic volumes (see Figure 6) at study intersections were estimated based on available traffic counts conducted for local traffic studies. Peak-hour traffic counts for the California Drive and Oak Grove Avenue intersection were collected within two years, which is typically considered as recent traffic counts that can be used directly for a traffic study. All other study intersections do not have recent traffic counts. Due to Covid-19 and regional shelter-in-place orders, new traffic counts could not be collected for these intersections. Therefore, a growth rate of 1% per year was applied to the older traffic counts to estimate the existing traffic volumes. Traffic count dates and sources and the adjustment applied to the study intersections are summarized in Appendix A.

220 Park Road Office Development TIA



LEGEND



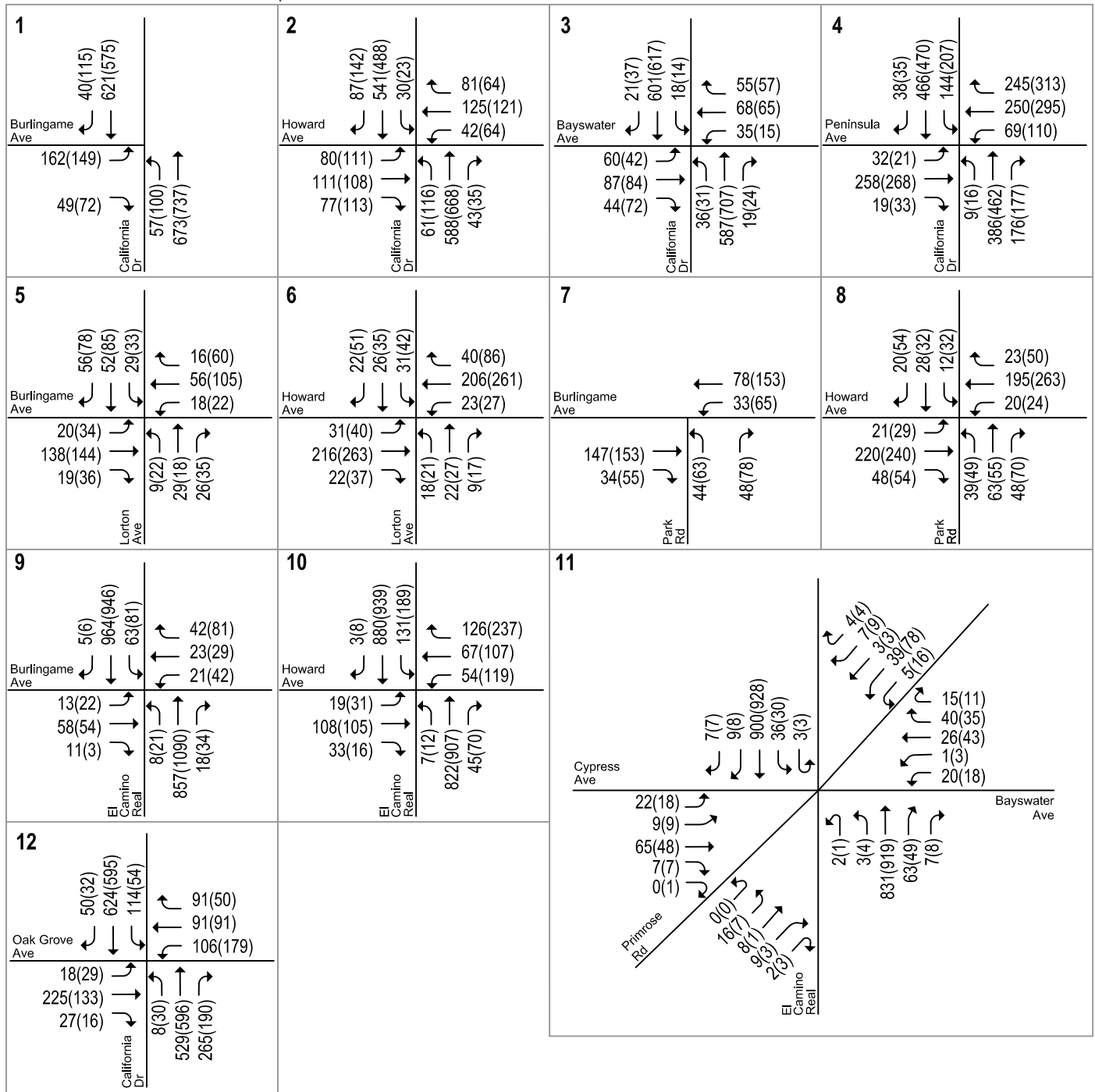
= Sign



= Signalized Intersection

Figure 5  
Existing Lane Configurations

220 Park Road Office Development TIA



LEGEND

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

Figure 6  
Existing Traffic Volumes

## Existing Intersection Levels of Service

The results of the analysis show that all of the signalized study intersections currently operate at LOS B or better during the AM and PM peak hours (see Table 4). The results of the analysis show that all the unsignalized study intersections currently operate at LOS A or LOS B during the AM and PM peak hours. The intersection level of service calculation sheets are included in Appendix B.

**Table 4**  
**Existing Intersection Levels of Service**

Study Number	Intersection	Count Date	Traffic Control	Peak Hour	Existing Conditions	
					Avg. Delay (sec.)	LOS
1	California Drive and Burlingame Avenue	03/28/18	Signal	AM	14.7	B
		03/28/18		PM	15.1	B
2	California Drive and Howard Avenue	03/28/18	Signal	AM	9.2	A
		03/28/18		PM	9.1	A
3	California Drive and Bayswater Avenue	03/28/18	Signal	AM	8.5	A
		03/28/18		PM	8.5	A
4	California Drive and Peninsula Avenue	03/28/18	Signal	AM	16.0	B
		03/28/18		PM	18.9	B
5	Lorton Avenue and Burlingame Avenue	03/02/16	AWSC <sup>1</sup>	AM	8.4	A
		03/02/16		PM	9.4	A
6	Lorton Avenue and Howard Avenue	03/28/18	AWSC <sup>1</sup>	AM	9.6	A
		03/28/18		PM	12.0	B
7	Park Road and Burlingame Avenue	03/02/16	AWSC <sup>1</sup>	AM	8.1	A
		03/02/16		PM	9.0	A
8	Park Road and Howard Avenue	03/28/18	Signal	AM	11.9	B
		03/28/18		PM	12.1	B
9	El Camino Real and Burlingame Avenue	05/23/17	Signal	AM	9.1	A
		05/23/17		PM	10.1	B
10	El Camino Real and Howard Avenue	04/05/16	Signal	AM	9.4	A
		04/05/16		PM	12.7	B
11	El Camino Real and Bayswater Avenue *	03/28/18	Signal	AM	11.9	B
		03/28/18		PM	12.5	B
12	California Drive and Oak Grove Avenue	04/24/19	Signal	AM	17.5	B
		04/24/19		PM	15.2	B

Notes:

AWSC = All-Way Stop Control

\* The *Highway Capacity Manual (HCM) 2010* does not support turning movements with shared and exclusive lanes, and intersections with more than four approaches. Therefore, this intersection was analyzed using the HCM 2000.

<sup>1</sup> Average delay for an all-way stop controlled intersection is reported for the entire intersection.

## 3. Background Conditions

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This chapter describes background traffic conditions. Background conditions are defined as conditions within the next 3-5 years (a horizon year of 2023-2025) just prior to completion/occupation of the proposed development. Traffic volumes for background conditions comprise existing traffic volumes plus traffic generated by other approved developments in the vicinity of the site. This chapter describes the procedure used to determine background traffic volumes and the resulting traffic conditions.

### Roadway Network and Traffic Volumes

Under background conditions, it is assumed that the proposed Peninsula Corridor Electrification Project (PCEP), which is a key component of the Caltrain Modernization program, would be completed (projected to be operational between 2020 and 2021). According to Fehr & Peers' *Caltrain Peninsula Corridor Electrification Project Transportation Analysis* (2014), the PCEP is expected to increase service by up to six Caltrain trains per peak hour per direction by 2020. The remainder of the transportation network is assumed to be the same under background conditions as that of the existing transportation network.

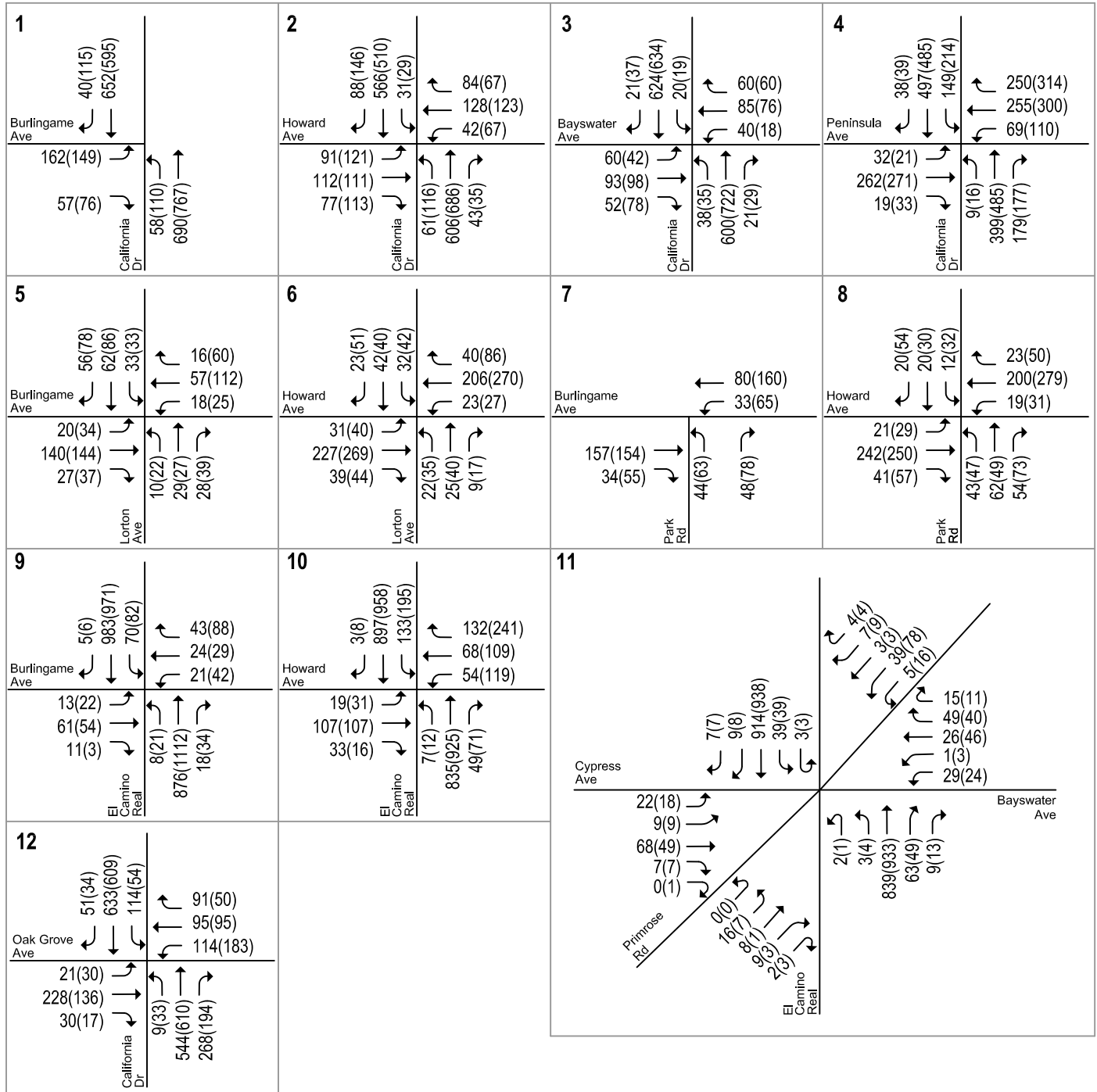
Background traffic volumes for the study intersections were estimated by adding to existing traffic volumes the trips generated by nearby approved but not yet completed or occupied projects in the area. A list of approved developments was obtained from the City of Burlingame website (see Appendix C). Trip generation estimates for the approved projects were based on their respective traffic study, if available. For small projects that did not require a traffic study, trips were estimated based on ITE trip rates. The estimated trips from the approved projects were distributed and assigned throughout the study area based on the trip distribution assumptions present in the traffic studies or based on knowledge of travel patterns in the study area. Background peak hour traffic volumes are shown on Figure 7. The approved trips and traffic volumes for all components of traffic are tabulated in Appendix A.

### Background Intersection Levels of Service

Table 5 shows that all study intersections would continue to operate at acceptable levels of service (LOS B or better) during both the AM and PM peak hours under background conditions.

The intersection level of service calculation sheets are provided in Appendix B.

220 Park Road Office Development TIA



LEGEND

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

Figure 7  
Background Traffic Volumes

**Table 5**  
**Background Intersection Levels of Service**

Study Number	Intersection	Traffic Control	Peak Hour	Existing		Background	
				Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	California Drive and Burlingame Avenue	Signal	AM	14.7	B	14.8	B
			PM	15.1	B	15.5	B
2	California Drive and Howard Avenue	Signal	AM	9.2	A	9.4	A
			PM	9.1	A	9.4	A
3	California Drive and Bayswater Avenue	Signal	AM	8.5	A	8.7	A
			PM	8.5	A	8.7	A
4	California Drive and Peninsula Avenue	Signal	AM	16.0	B	16.2	B
			PM	18.9	B	19.5	B
5	Lorton Avenue and Burlingame Avenue	AWSC <sup>1</sup>	AM	8.4	A	8.5	A
			PM	9.4	A	9.5	A
6	Lorton Avenue and Howard Avenue	AWSC <sup>1</sup>	AM	9.6	A	10.0	A
			PM	12.0	B	12.6	B
7	Park Road and Burlingame Avenue	AWSC <sup>1</sup>	AM	8.1	A	8.2	A
			PM	9.0	A	9.0	A
8	Park Road and Howard Avenue	Signal	AM	11.9	B	12.0	B
			PM	12.1	B	12.3	B
9	El Camino Real and Burlingame Avenue	Signal	AM	9.1	A	9.2	A
			PM	10.1	B	10.3	B
10	El Camino Real and Howard Avenue	Signal	AM	9.4	A	9.5	A
			PM	12.7	B	13.1	B
11	El Camino Real and Bayswater Avenue *	Signal	AM	11.9	B	12.7	B
			PM	12.5	B	13.1	B
12	California Drive and Oak Grove Avenue	Signal	AM	17.5	B	17.9	B
			PM	15.2	B	15.6	B

Notes:

AWSC = All-Way Stop Control

\* The *Highway Capacity Manual* (HCM) 2010 does not support turning movements with shared and exclusive lanes, and intersections with more than four approaches. Therefore, this intersection was analyzed using the HCM 2000.

<sup>1</sup> Average delay for an all-way stop controlled intersection is reported for the entire intersection.

## 4. Project Conditions

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This chapter describes traffic conditions with the project and includes: (1) the method by which project traffic is estimated and (2) a level of service summary. Existing plus project conditions are represented by existing traffic conditions with the addition of traffic generated by the project. Existing plus project traffic conditions could potentially occur if the project were to be occupied prior to the other approved projects in the area. Project conditions are represented by background traffic conditions with the addition of traffic generated by the project. Background plus project conditions were evaluated relative to background conditions in order to determine potential project effects.

### Roadway Network

The roadway network under project conditions would be the same as the existing roadway network because the project would not alter the existing intersection lane configurations.

### Project Trip Estimates

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

### Trip Generation

The magnitude of traffic added to the roadway system by a new development is estimated by multiplying the applicable trip generation rates by the size and use of the development. Trip generation data are published in the *Trip Generation Manual, 10th Edition*, published by the Institute of Transportation Engineers (ITE). The rates for General Office Building (Land Use 710), and Shopping Center (Land Use 820) were used to estimate the trips generated by the proposed project. The “General Office Building” category refers to a general office building with a mix of tenants including professional services, insurance companies, and investment brokers, and tenant services. Since specific uses of the proposed office space are unknown, it is reasonable to use this ITE category for the office space. The “Shopping Center” category refers to an integrated group of commercial establishments. This category includes the trip data for a wide scale of retail uses, from neighborhood centers to regional centers. Since specific uses of the proposed retail spaces are unknown, it is reasonable to use the trip rates for shopping centers for the retail space.



**Trip Reductions**

Trip reductions were taken for the mixed-use internalization of the project, as well as its proximity to regional rail transit. These reductions were reviewed and approved by City of Burlingame staff. Specific reductions include the following:

- A 10% transit trip reduction was applied to the peak hour trip generation estimates for the office space. The proposed project is located less than a quarter mile south and west of the Burlingame Caltrain Station.
- A 10% trip reduction was taken for the mixed-use internalization of the project consistent with ITE guidelines. The 10% factor was first applied to the smaller generator (retail). The same number of trips were subtracted from the larger generator (office) to account for both trip ends.
- A 20% pass-by trip reduction was applied to the retail component of the project during the PM peak hour. The pass-by trips account for vehicular traffic that is already present on Lorton Avenue that would stop at the retail center as they pass by the site.

**Net Project Trips**

After applying the trip reductions, the project would generate 1,513 new daily vehicle trips, with 154 new trips (131 inbound and 23 outbound) during the AM peak hour and 175 net new trips (38 inbound and 137 outbound) during the PM peak hour (See Table 6).

**Table 6  
Project Trip Generation Estimates**

Land Use	Size	Unit	Daily		AM Peak Hour				PM Peak Hour					
			Rate	Trips	Rate	In %	In	Out	Total	Rate	In %	In	Out	Total
<b>Proposed Uses</b>														
Office <sup>1</sup>	140.20	ksf	9.74	1,366	1.16	86%	140	23	163	1.15	16%	26	135	161
<i>Proximity to Transit Trip Reduction (10%)<sup>3</sup></i>				(132)			(14)	(2)	(16)			(2)	(13)	(15)
<i>Office &amp; Retail Internal Capture<sup>4</sup></i>				(45)			0	(1)	(1)			(2)	(2)	(4)
<b>Subtotal</b>				<b>1189</b>			<b>126</b>	<b>20</b>	<b>146</b>			<b>22</b>	<b>120</b>	<b>142</b>
Retail <sup>2</sup>	11.915	s.f.	37.75	450	0.94	62%	7	4	11	3.81	48%	22	23	45
<i>Office &amp; Retail Internal Capture(10%)<sup>4</sup></i>				(45)			(1)	0	(1)			(2)	(2)	(4)
<i>Pass-by Trip Reduction (20%)<sup>5</sup></i>				(81)			(1)	(1)	(2)			(4)	(4)	(8)
<b>Subtotal</b>				<b>324</b>			<b>5</b>	<b>3</b>	<b>8</b>			<b>16</b>	<b>17</b>	<b>33</b>
<b>Total Project Trips</b>				<b>1,513</b>			<b>131</b>	<b>23</b>	<b>154</b>			<b>38</b>	<b>137</b>	<b>175</b>

**Notes:**  
<sup>1</sup> General Office Building (Land Use 710) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017*.  
<sup>2</sup> Shopping Center (Land Use 820) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017*.  
<sup>3</sup> A 10% trip reduction was applied given the project's proximity to the Burlingame Caltrain Station (within 1/4 mile).  
<sup>4</sup> A 10% Office/retail mixed-use trip reduction was applied to the project consistent with industry standards in the Bay Area cities. The 10% reduction was first applied to the smaller generator (retail). The same number of trips were subtracted from the larger generator (office) to account for both trip ends.  
<sup>5</sup> A 20% pass-by trip reduction was applied to the retail component of the project. The pass-by trips account for the vehicular traffic already present on Lorton Avenue that would stop at the retail as they pass by the site.

**Trip Distribution and Trip Assignment**

The trip distribution pattern for the project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The peak hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern.

Figure 8 shows the trip distribution pattern for the office development. Figure 9 shows the trip assignment of project traffic on the local transportation network.

## Existing Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes. The existing plus project traffic volumes are shown on Figure 10.

## Existing Plus Project Intersection Analysis

Table 7 shows that all of the study intersections would continue to operate at LOS B or better during both the AM and PM peak hours of traffic. The intersection level of service calculation sheets are provided in Appendix B.

**Table 7**  
**Existing Plus Project Intersection Levels of Service**

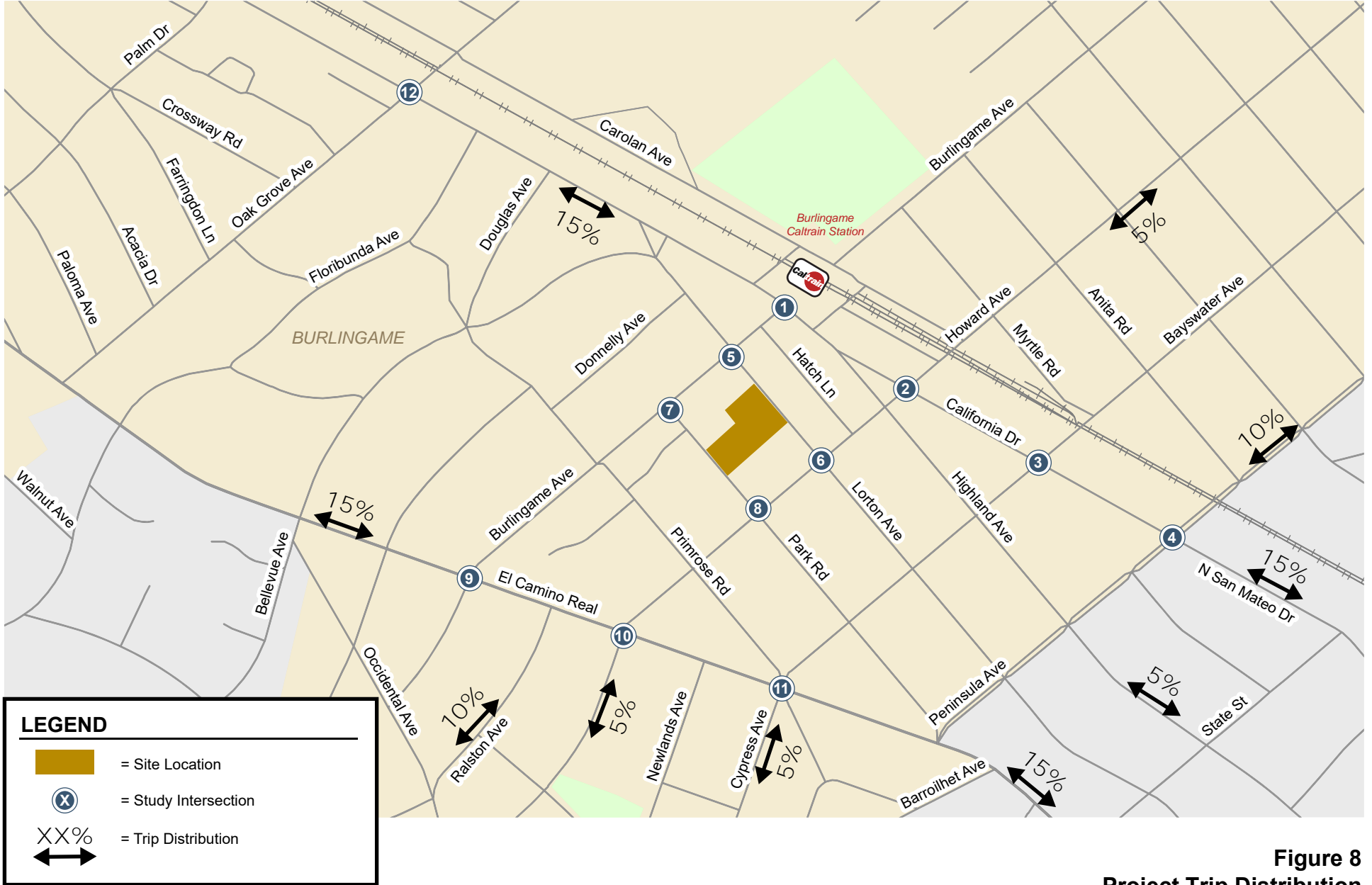
Study Number	Intersection	Traffic Control	Peak Hour	Existing Conditions			
				No Project		With Project	
				Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS
1	California Drive and Burlingame Avenue	Signal	AM	14.7	B	14.7	B
			PM	15.1	B	15.1	B
2	California Drive and Howard Avenue	Signal	AM	9.2	A	9.4	A
			PM	9.1	A	9.4	A
3	California Drive and Bayswater Avenue	Signal	AM	8.5	A	8.6	A
			PM	8.5	A	8.5	A
4	California Drive and Peninsula Avenue	Signal	AM	16.0	B	16.1	B
			PM	18.9	B	19.2	B
5	Lorton Avenue and Burlingame Avenue	AWSC <sup>1</sup>	AM	8.4	A	8.6	A
			PM	9.4	A	9.8	A
6	Lorton Avenue and Howard Avenue	AWSC <sup>1</sup>	AM	9.6	A	10.4	B
			PM	12.0	B	13.5	B
7	Park Road and Burlingame Avenue	AWSC <sup>1</sup>	AM	8.1	A	8.2	A
			PM	9.0	A	9.2	A
8	Park Road and Howard Avenue	Signal	AM	11.9	B	12.1	B
			PM	12.1	B	12.2	B
9	El Camino Real and Burlingame Avenue	Signal	AM	9.1	A	9.3	A
			PM	10.1	B	10.5	B
10	El Camino Real and Howard Avenue	Signal	AM	9.4	A	9.6	A
			PM	12.7	B	13.1	B
11	El Camino Real and Bayswater Avenue *	Signal	AM	11.9	B	12.1	B
			PM	12.5	B	12.7	B
12	California Drive and Oak Grove Avenue	Signal	AM	17.5	B	17.5	B
			PM	15.2	B	15.3	B

**Note:**

AWSC = All-Way Stop Control

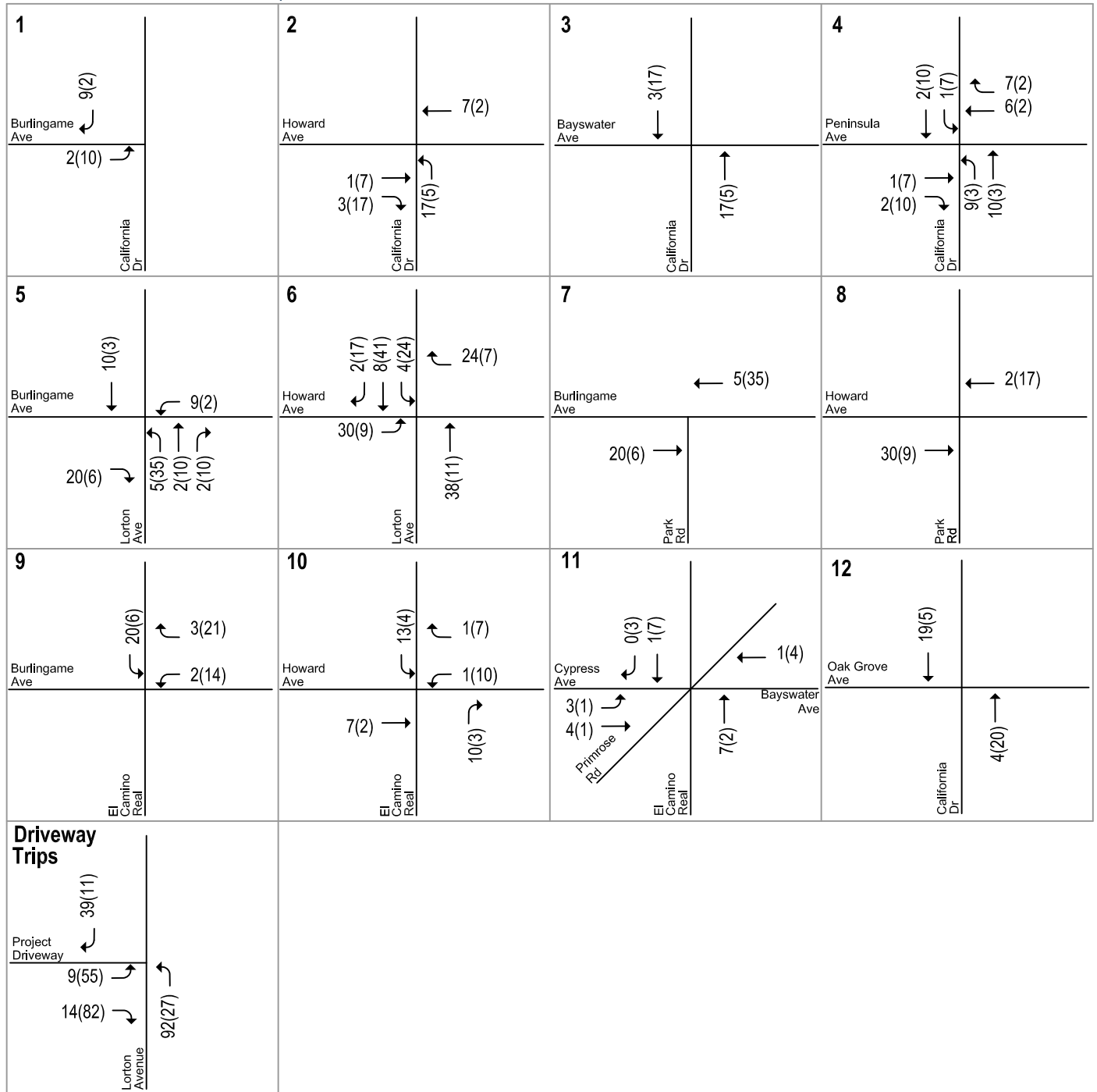
\* The *Highway Capacity Manual (HCM) 2010* does not support turning movements with shared and exclusive lanes, and intersections with more than four approaches. Therefore, this intersection was analyzed using the HCM 2000.

<sup>1</sup> Average delay for an all-way stop controlled intersection is reported for the entire intersection.



**Figure 8**  
Project Trip Distribution

220 Park Road Office Development TIA

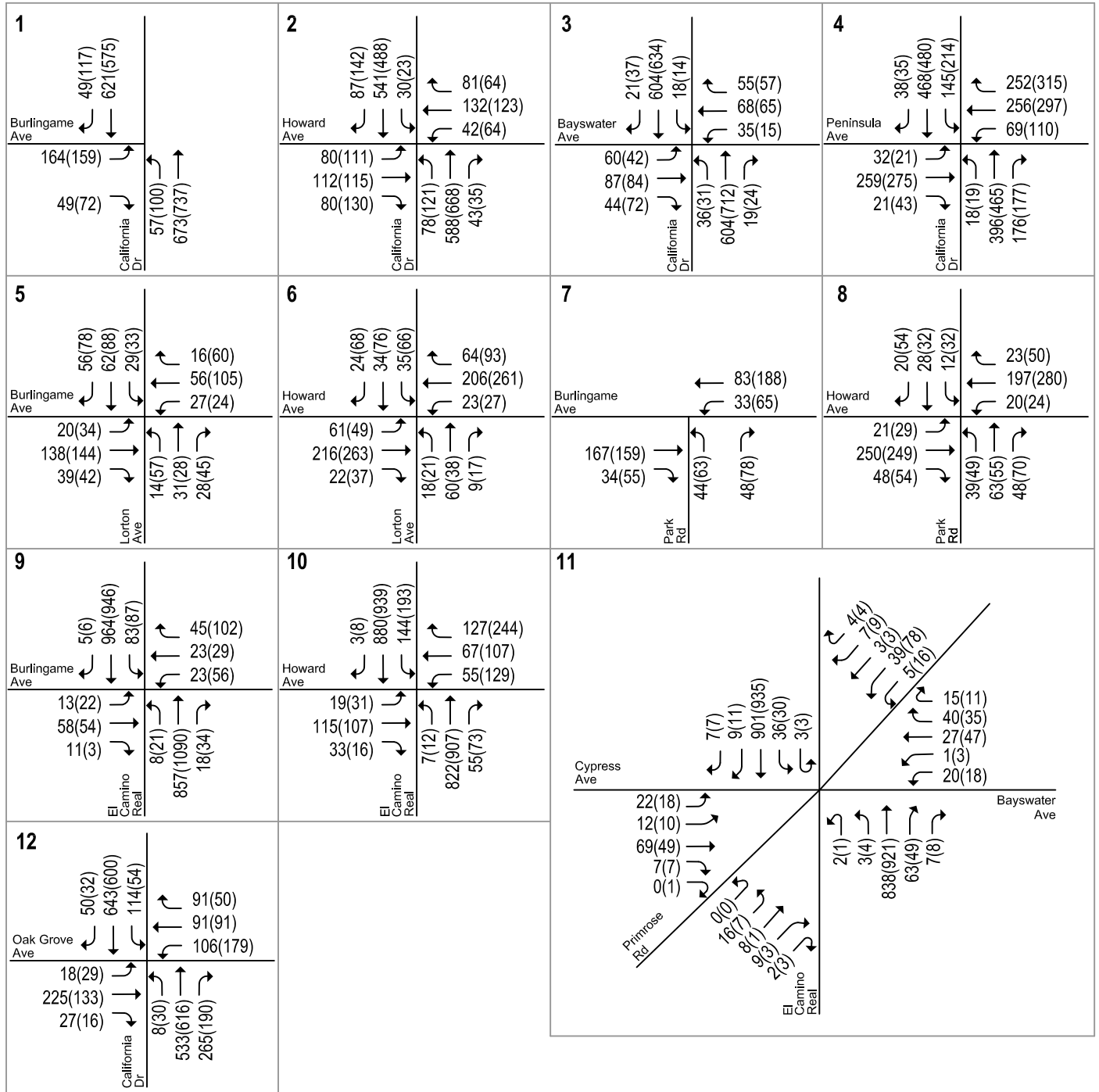


LEGEND

XX(XX) = AM(PM) Peak-Hour Trips

Figure 9  
Project Trip Assignment

220 Park Road Office Development TIA



LEGEND

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

Figure 10  
Existing Plus Project Traffic Volumes

## Project Condition Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to background traffic volumes to obtain project condition traffic volumes. The project condition traffic volumes at the study intersections are shown on Figure 11.

## Project Condition Intersection Analysis

Table 8 shows that all of the study intersections would continue to operate at LOS B or better during both the AM and PM peak hours of traffic.

Intersection level of service calculation sheets are provided in Appendix B.

**Table 8**  
**Background Plus Project Intersection Levels of Service**

Study Number	Intersection	Traffic Control	Peak Hour	Background Conditions			
				No Project		With Project	
				Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS
1	California Drive and Burlingame Avenue	Signal	AM	14.8	B	14.9	B
			PM	15.5	B	15.5	B
2	California Drive and Howard Avenue	Signal	AM	9.4	A	9.5	A
			PM	9.4	A	9.7	A
3	California Drive and Bayswater Avenue	Signal	AM	8.7	A	8.8	A
			PM	8.7	A	8.7	A
4	California Drive and Peninsula Avenue	Signal	AM	16.2	B	16.3	B
			PM	19.5	B	19.9	B
5	Lorton Avenue and Burlingame Avenue	AWSC <sup>1</sup>	AM	8.5	A	8.8	A
			PM	9.5	A	10.0	A
6	Lorton Avenue and Howard Avenue	AWSC <sup>1</sup>	AM	10.0	A	10.9	B
			PM	12.6	B	14.5	B
7	Park Road and Burlingame Avenue	AWSC <sup>1</sup>	AM	8.2	A	8.3	A
			PM	9.0	A	9.3	A
8	Park Road and Howard Avenue	Signal	AM	12.0	B	12.2	B
			PM	12.3	B	12.4	B
9	El Camino Real and Burlingame Avenue	Signal	AM	9.2	A	9.5	A
			PM	10.3	B	10.7	B
10	El Camino Real and Howard Avenue	Signal	AM	9.5	A	9.8	A
			PM	13.1	B	13.4	B
11	El Camino Real and Bayswater Avenue *	Signal	AM	12.7	B	12.9	B
			PM	13.1	B	13.8	B
12	California Drive and Oak Grove Avenue	Signal	AM	17.9	B	17.9	B
			PM	15.6	B	15.6	B

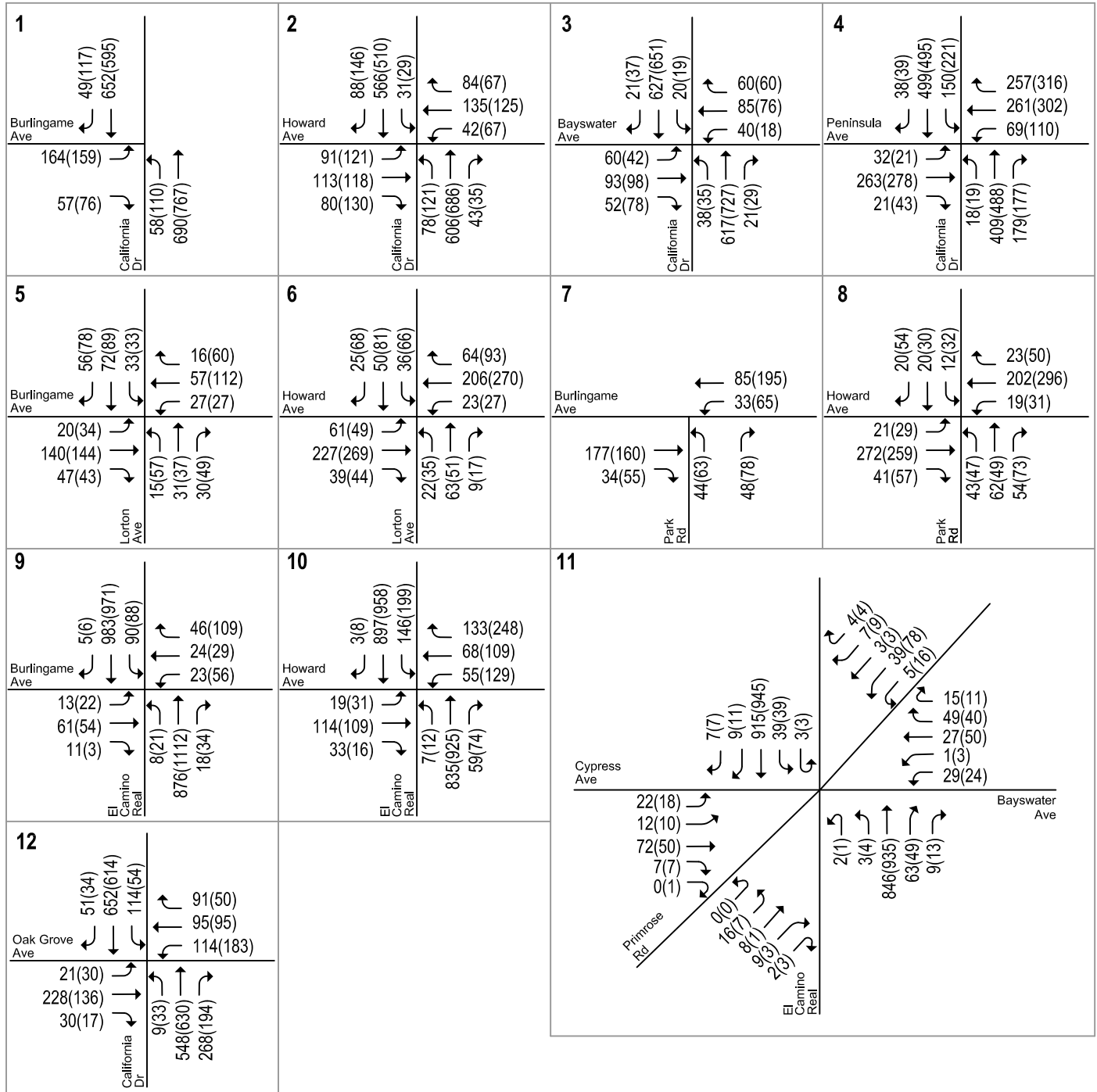
**Note:**

AWSC = All-Way Stop Control

\* The *Highway Capacity Manual (HCM) 2010* does not support turning movements with shared and exclusive lanes, and intersections with more than four approaches. Therefore, this intersection was analyzed using the HCM 2000.

<sup>1</sup> Average delay for an all-way stop controlled intersection is reported for the entire intersection.

220 Park Road Office Development TIA



LEGEND

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

Figure 11  
Background Plus Project Traffic Volumes

## 5. Cumulative Conditions

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This chapter presents a summary of the traffic conditions that would occur under cumulative conditions with the proposed project. Cumulative conditions represent future traffic conditions with expected growth in the area. The expected future traffic growth was estimated by applying an annual growth factor to the existing counts over 10 years and by adding trips from approved projects to the factored volumes. Thus, cumulative conditions reflect a horizon year of 2030. The estimated 2030 traffic volumes were compared to the City of Burlingame 2040 General Plan volume forecasts at four of the study intersections. The volumes calculated for 2030 using the growth rate yielded a more conservative analysis.

### Roadway Network and Traffic Volumes

The intersection lane configurations under cumulative conditions were assumed to be the same as described under background conditions.

Based on the C/CAG travel demand model, as well as previously completed traffic studies within the City of Burlingame, the traffic volumes under cumulative no project conditions for the study intersections were estimated by applying a 1.0 percent annual growth rate to the existing traffic counts and adding traffic from approved developments. The growth rate was applied to the study intersections through the year 2030 (ten-year horizon). Project trips were then added to the growth estimates to create the cumulative conditions volumes (see Figure 12).

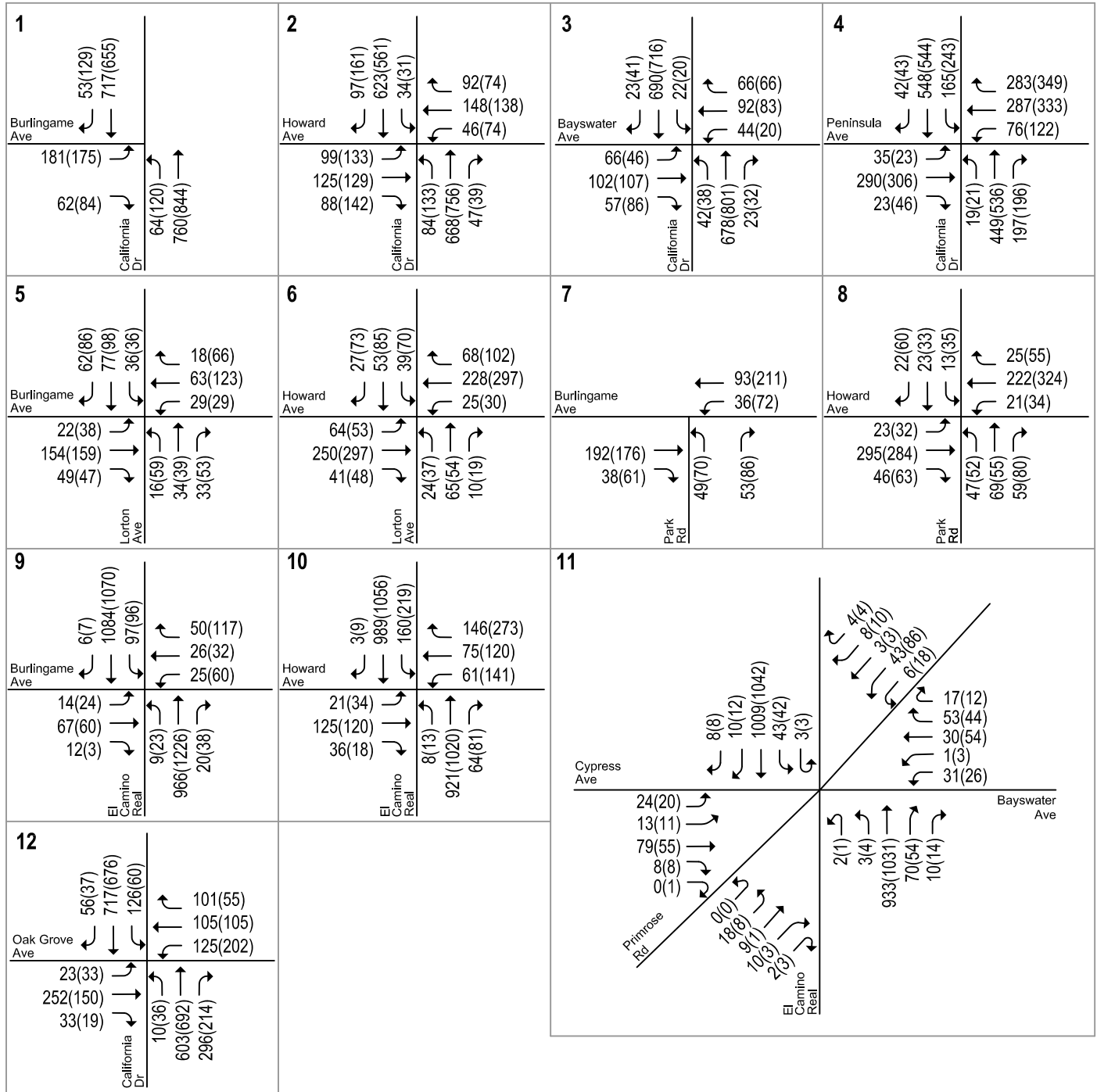
### Intersection Levels of Service Analysis

The results of the level of service analysis under cumulative conditions all of the study intersections would operate at an acceptable LOS C or better during both the AM and PM peak hours (see Table 9).

Level of service calculation sheets are included in Appendix B.



220 Park Road Office Development TIA



LEGEND

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

Figure 12  
Cumulative Plus Project Traffic Volumes

**Table 9**  
**Cumulative Levels of Service Summary**

Study Number	Intersection	Traffic Control	Peak Hour	Cumulative Conditions			
				No Project		With Project	
				Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS
1	California Drive and Burlingame Avenue	Signal	AM	15.5	B	15.6	B
			PM	16.4	B	16.5	B
2	California Drive and Howard Avenue	Signal	AM	9.9	A	10.1	B
			PM	10.3	B	10.7	B
3	California Drive and Bayswater Avenue	Signal	AM	11.3	B	11.3	B
			PM	9.2	A	9.2	A
4	California Drive and Peninsula Avenue	Signal	AM	16.9	B	17.1	B
			PM	22.0	C	22.8	C
5	Lorton Avenue and Burlingame Avenue	AWSC <sup>1</sup>	AM	8.8	A	9.0	A
			PM	10.1	B	10.6	B
6	Lorton Avenue and Howard Avenue	AWSC <sup>1</sup>	AM	10.6	B	11.8	B
			PM	14.4	B	17.6	C
7	Park Road and Burlingame Avenue	AWSC <sup>1</sup>	AM	8.4	A	8.5	A
			PM	9.4	A	9.7	A
8	Park Road and Howard Avenue	Signal	AM	12.3	B	12.5	B
			PM	12.8	B	12.9	B
9	El Camino Real and Burlingame Avenue	Signal	AM	9.8	A	10.2	B
			PM	11.5	B	12.0	B
10	El Camino Real and Howard Avenue	Signal	AM	10.4	B	10.8	B
			PM	15.9	B	16.5	B
11	El Camino Real and Bayswater Avenue	Signal	AM	13.6	B	13.7	B
			PM	14.7	B	14.9	B
12	California Drive and Oak Grove Avenue	Signal	AM	19.9	B	19.9	B
			PM	16.9	B	17.0	B

**Note:**  
 AWSC = All-Way Stop Control  
 \* The *Highway Capacity Manual (HCM) 2010* does not support turning movements with shared and exclusive lanes, and intersections with more than four approaches. Therefore, this intersection was analyzed using the HCM 2000.  
<sup>1</sup> Average delay for an all-way stop controlled intersection is reported for the entire intersection.

## 6. Freeway Segment Analysis and CMP Compliance

Per CMP technical guidelines, a freeway segment level of service analysis is required when a project is expected to add trips greater than one percent of a segment's capacity. New freeway trips generated by the project are expected to be considerably less than the one percent threshold of freeway capacity to all segments in the area. Therefore, a detailed analysis of freeway segments was not performed, and the project is considered to have an insignificant impact on the study freeway segments. A simple freeway segment capacity evaluation to substantiate this determination is presented in Table 10.

**Table 10**  
**Freeway Segment Capacity Evaluation**

Freeway	Segment	Direction	Peak Hour	# of Lanes	Capacity <sup>1</sup>	Project Trips	% Capacity	Impact
US 101	Broadway to Millbrae Avenue	NB	AM	4	9,200	4	0.04%	NO
			PM	4	9,200	20	0.22%	NO
US 101	SR 92 to Peninsula Avenue	NB	AM	4	9,200	13	0.14%	NO
			PM	4	9,200	4	0.04%	NO
US 101	Millbrae Avenue to Broadway	SB	AM	4	9,200	19	0.21%	NO
			PM	4	9,200	5	0.05%	NO
US 101	Peninsula Avenue to SR 92	SB	AM	4	9,200	4	0.04%	NO
			PM	4	9,200	20	0.22%	NO

**Notes:**  
<sup>1</sup> Freeway segment capacity is calculated based on the capacities cited in Highway Capacity Manual 2000 (2,200 vehicles per hour per lane (vphpl) for two-lane freeway segments and 2,300 vphpl for three-lane or larger freeway segments).

### CMP Compliance

C/CAG requires developments that are estimated to generate 100 or more new peak-hour trips to implement transportation demand management (TDM) measures that provide trip credits equal to or greater than the project's net peak-hour trip generation. Trip credits are applied to each TDM measure proposed, in accordance with the C/CAG TDM checklist. TDM measures include services, incentives, facilities, and actions that reduce single-occupant vehicle (SOV) trips to help relieve traffic congestion,

parking demand, and air pollution problems. The project applicant is required to prepare a TDM plan in accordance with the C/CAG requirements prior to project approval.

## 7. Other Transportation Issues

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

- Vehicle miles traveled (VMT)
- Intersection vehicle queuing
- Traffic operations at unsignalized intersections
- Site access and circulation
- Potential effects to pedestrians, bicycles, and transit facilities
- Parking

The analyses in this chapter are based on professional judgement in accordance with the standards and methods employed by traffic engineering professionals.

### VMT Analysis

The CEQA Guidelines Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within a half mile of an existing major transit stop or an existing stop along a high quality transit corridor will have a less-than-significant impact on VMT. The project is located within a half mile of the Burlingame Station, which is a major transit stop. Therefore, the project is expected to have a less-than-significant impact on VMT.

### Intersection Vehicle Queuing

The analysis of intersection levels of service was supplemented with a vehicle queuing analysis for left-turn lanes and stop-controlled approaches at intersections where the project would add a substantial number of trips to the left-turn movements or stop-controlled approaches (see Table 11). This analysis provides a basis for estimating future storage requirements at the intersections under existing and background conditions. Vehicle queues were estimated using Synchro software, described in Chapter

The following movements were selected for evaluation:

- Left turn from northbound California Drive to eastbound Howard Avenue
- Right turn from eastbound Burlingame Avenue to southbound Lorton Avenue
- Left turn from northbound Lorton Avenue to eastbound Burlingame Avenue
- Left turn from eastbound Howard Avenue to northbound Lorton Avenue
- Right turn from westbound Howard Avenue to northbound Lorton Avenue
- Left turn from southbound Lorton Avenue to eastbound Howard Avenue
- Left turn from southbound El Camino Real to eastbound Burlingame Avenue
- Left turn from westbound Burlingame Avenue to southbound El Camino Real

**Table 11  
Queuing Analysis Summary**

Intersection Movement Peak Hour Period	California Dr / Howard Ave	Burlingame Ave / Lorton Avenue		Lorton Avenue / Howard Avenue			El Camino Real / Burlingame	
	NBLTR	EBLTR	NBLTR	EBLTR	WBLTR	SBLTR	SBLTR	WBLT
	AM	AM	PM	AM	AM	PM	AM	PM
<b>Existing</b>								
Lanes	2	1	1	1	1	1	2	1
Volume (vph)	692	177	75	269	269	128	1032	71
Volume (vphpl)	346	177	75	269	269	128	516	71
95th% Queue <sup>1</sup> (veh/ln)	2	1	1	2	2	1	7	3
95th% Queue <sup>2</sup> (ft/ln)	50	25	25	50	50	25	175	75
Storage (ft/ ln)	595 <sup>3</sup>	325 <sup>3</sup>	550 <sup>3</sup>	300 <sup>3</sup>	300 <sup>3</sup>	550 <sup>3</sup>	300 <sup>3</sup>	100
Adequate (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y
<b>Existing Plus Project</b>								
Lanes	2	1	1	1	1	1	2	1
Volume (vph)	709	197	130	299	293	210	1052	85
Volume (vphpl)	355	197	130	299	293	210	526	85
95th% Queue <sup>1</sup> (veh/ln)	3	1	1	2	2	2	8	3
95th% Queue <sup>2</sup> (ft/ln)	75	25	25	50	50	50	200	75
Storage (ft/ ln)	595 <sup>3</sup>	325 <sup>3</sup>	550 <sup>3</sup>	300 <sup>3</sup>	300 <sup>3</sup>	550 <sup>3</sup>	300 <sup>3</sup>	100
Adequate (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y
<b>Background</b>								
Lanes	2	1	1	1	1	1	2	1
Volume (vph)	717	186	89	275	299	136	1047	71
Volume (vphpl)	359	186	89	275	299	136	524	71
95th% Queue <sup>1</sup> (veh/ln)	3	1	1	2	2	1	8	3
95th% Queue <sup>2</sup> (ft/ln)	75	25	25	50	50	25	200	75
Storage (ft/ ln)	595 <sup>3</sup>	325 <sup>3</sup>	550 <sup>3</sup>	300 <sup>3</sup>	300 <sup>3</sup>	550 <sup>3</sup>	300 <sup>3</sup>	100
Adequate (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y
<b>Background Plus Project</b>								
Lanes	2	1	1	1	1	1	2	1
Volume (vph)	734	206	144	305	323	218	1067	85
Volume (vphpl)	367	206	144	305	323	218	534	85
95th% Queue <sup>1</sup> (veh/ln)	3	1	1	2	2	2	8	3
95th% Queue <sup>2</sup> (ft/ln)	75	25	25	50	50	50	200	75
Storage (ft/ ln)	595 <sup>3</sup>	325 <sup>3</sup>	550 <sup>3</sup>	300 <sup>3</sup>	300 <sup>3</sup>	550 <sup>3</sup>	300 <sup>3</sup>	100
Adequate (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y
<b>Notes:</b>								
NB = northbound; SB = southbound; EB = eastbound; WB = westbound.								
LT = left turn movement; RT = right turn movement.								
1. Assumes One Vehicle Queued per 25 feet.								
2. Value taken from Synchro 10 software. Value rounded to the nearest 25 feet.								
3. Distance to the nearest intersection.								

The queuing analysis shows that the existing left-turn storage at all the intersections would be adequate under all scenarios during both AM and PM peak hours.

## Traffic Operations at Unsignalized Intersections

The study evaluates three unsignalized intersections: Lorton Avenue/ Burlingame Avenue, Lorton Avenue/Howard Avenue and Park Road/Burlingame Avenue. The three intersections are all-way stop controlled with stop signs on all the legs.

Based on the level of service analysis results, all intersections would operate at LOS C or better under all study scenarios. The queuing analysis shows no vehicle queuing issues under project scenarios. Therefore, the project traffic would not result in the need for intersection improvement or modification of the traffic control at the intersections.

## Signal Warrant Analysis

Signal warrant checks (California *MUTCD*, Section 4, Warrant 3) were performed for the unsignalized study intersections. Based on their peak-hour traffic volumes, the study intersections would not warrant signalization under any traffic scenario without and with the project. Signal warrant worksheets and threshold tables are included in Appendix D.

## Site Access and On-Site Circulation

The site access and on-site circulation evaluation is based on the March 30, 2020 site plan prepared by KSH Architects (see Figure 13 and Figure 14). Site access was evaluated to determine the adequacy of the site's driveway with regard to the following: traffic volume, geometric design, sight distance, and operations (e.g., vehicle queuing and delay). On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

### Site Access

Vehicles access to the parking garage would be provided via a full-access driveway on Lorton Avenue (see Figure 2). The driveway would provide access to a ground floor parking garage, which then would lead to the proposed below-grade parking garage.

### Project Driveway Design

The Lorton Avenue project driveway is shown to be 35 feet in width. The City of Burlingame Zoning Code (25.70.025) requires a minimum of either two 12-foot driveways or one 18-foot driveway for parking areas of more than 30 vehicle spaces. Therefore, the proposed driveway meets the City's minimum width requirement for two-way driveways.

The project driveway would provide enough stacking space for approximately five inbound vehicles and five outbound vehicles before encountering the first cross aisle. This is adequate stacking space for the expected driveway volume.

### Nearby Driveways

The location of the project driveway was also reviewed with respect to other driveways in the vicinity of the project site. There is a driveway immediately adjacent to the project driveway to serve a commercial building. Since the driveway would have low volume, no conflicts are expected to occur.

The intersections along Lorton Avenue at Burlingame Avenue and Howard Avenue are located approximately 395 feet north and 155 south of the project driveway, respectively. While the project driveway would be somewhat close to the Lorton Avenue/Howard Avenue intersection, vehicle queues at the intersection are not expected to back-up to the driveway and block access to the project site.

### **Sight Distance**

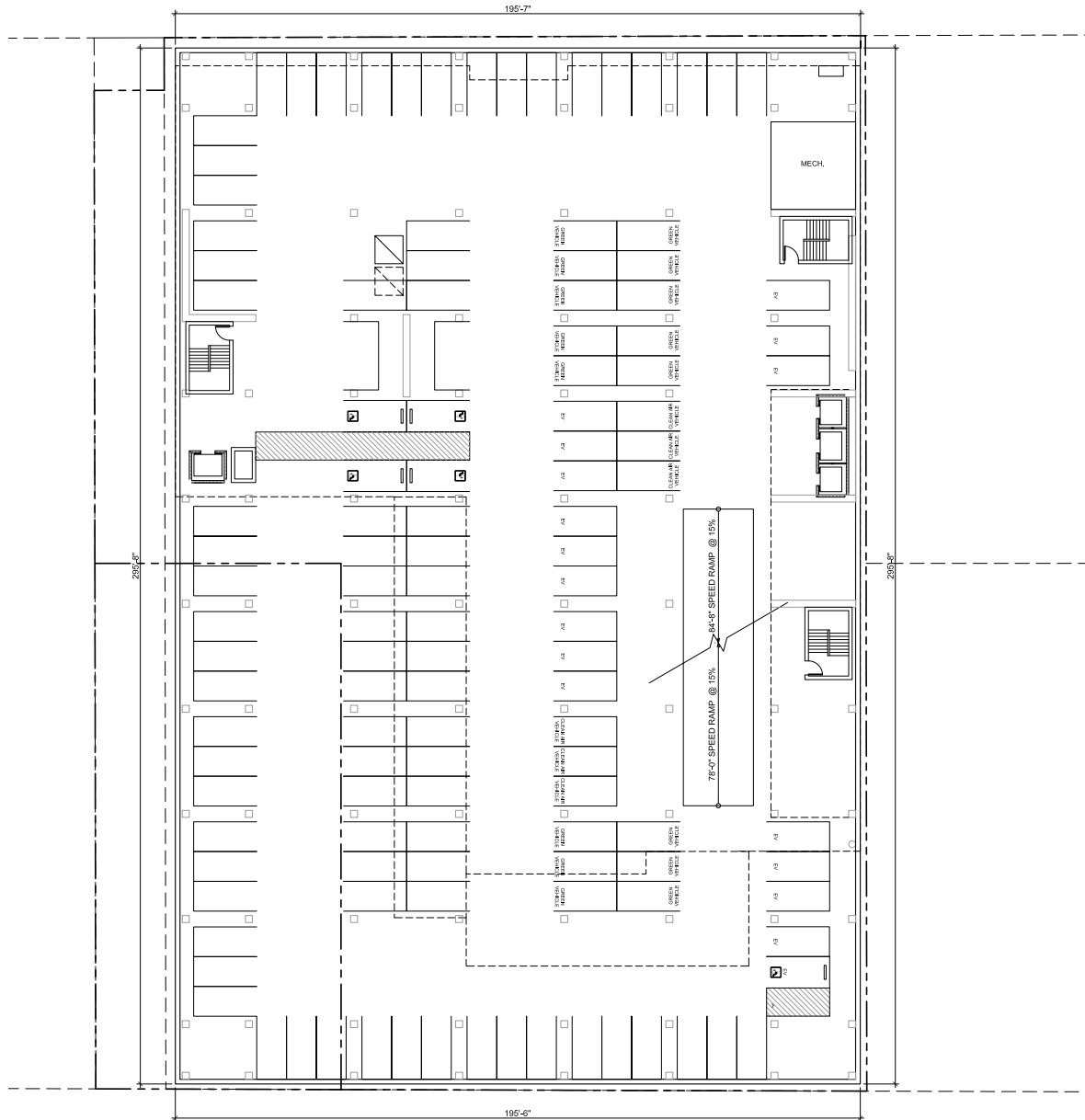
The driveway location was evaluated to determine if the sight distance at the driveway would be adequate. Adequate sight distance reduces the likelihood of a collision at driveways and provides drivers with the ability to locate sufficient gaps in traffic to exit a driveway. Sight distance of a driveway is evaluated based on the stopping sight distance recommended by Caltrain for a given design speed.

For the driveway on Lorton Avenue, which has a posted speed limit of 25 mph, the Caltrans stopping sight distance is 200 feet (based on a design speed of 30 mph). Thus, a driver must be able to see 200 feet on both directions of Lorton Avenue to locate a sufficient gap to turn out of the driveway. There is a driveway to an existing commercial building immediately adjacent to the project site. This driveway provides a clear sight zone to the south of the site.

According to the site plan, the landscape plan shows street trees would be added along the project frontage on Lorton Avenue. The type and location of the street trees would be determined by the City at the implementation stage. Note that street trees have a high canopy and would not obstruct the view of drivers exiting the project driveways.

However, given that on-street parking is permitted along Lorton Avenue, 15 feet painted red curb should be provided near the project driveway as needed to comply with Caltrans sight distance requirements, to ensure exiting vehicles can see northbound bicyclists and vehicles in the street. Appropriate visible warning signs and audible warning signals should be installed at the driveway to alert pedestrians and bicyclists of vehicles exiting the garage.





**Figure 13**  
**Below Grade Parking Garage Layout - Level 1**

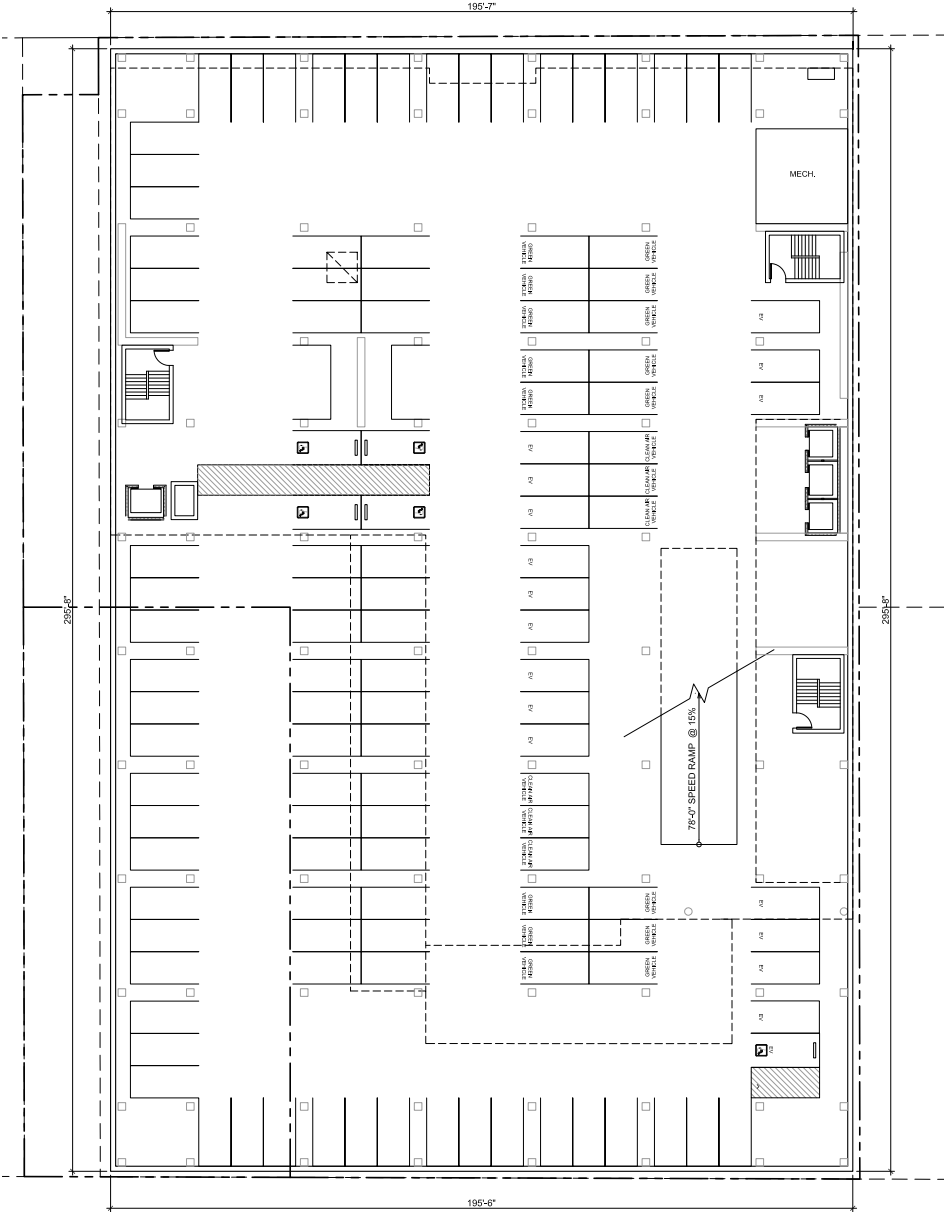


Figure 14  
Below Grade Parking Garage Layout - Level 2

## Project Driveway Operations

The project-generated trips that are estimated to occur at the project driveway are 132 inbound trips and 24 outbound trips during the AM peak hour, and 42 inbound trips and 141 outbound trips during the PM peak hour. Based on the relatively low traffic volume near the project site along Lorton Avenue, vehicle queues should rarely exceed 1 or 2 vehicles in length during the peak hours.

The project driveway would provide full access, allowing right and left inbound and outbound turns to and from Lorton Avenue. Outbound left turns from the project driveway would require vehicles to wait for gaps in traffic in both the northbound and southbound directions, while inbound left turns would require vehicles to wait for a gap in the southbound traffic flow only. Given that Lorton Avenue consists of only one lane in each direction with no left-turn pockets, inbound left turns at the project driveway would be made from the through lane. Thus, there would be interruptions to the through traffic flow while left-turn vehicles wait for a gap in the on-coming traffic flow, albeit momentary. This condition is standard in downtown areas such as this.

A level of service analysis was conducted for left turns at the project driveways to ensure that vehicles would operate without excessive delays or queues (see Table 12). Under all scenarios with project traffic, the project driveway would operate at LOS B or better during the AM and PM peak hours. This indicates that left-turning vehicles at the project driveway would experience minor delays and are expected to have a minimal effect on operations at the adjacent intersections.

**Table 12**  
**Project Driveway Levels of Service Summary**

Intersection	Movement	Peak Hour	Existing with Project		Background with Project		Cumulative with Project	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
Project Driveway and Lorton Avenue	Inbound Left	AM	7.7	A	7.8	A	7.8	A
		PM	7.7	A	7.7	A	7.8	A
	Outbound Left	AM	10.7	B	10.8	B	11.0	B
		PM	11.6	B	11.7	B	11.9	B

## On-Site Circulation

On-site vehicular circulation was reviewed in accordance with the City of Burlingame Zoning Code and generally accepted traffic engineering standards. In general, the proposed site plan would provide vehicle traffic with adequate connectivity through the parking areas. The project would provide 90-degree parking stalls through most of the parking garage. The City's standard (25.70.025) minimum width for two-way drive aisles is 24 feet wide where 90-degree parking is provided. This allows sufficient room for vehicles to back out of the parking spaces. According to the site plan, the two-way drive aisles with 90-degree parking available on both sides measure a minimum of 24 feet wide throughout the parking garage, providing adequate access to the parking stalls. Therefore, the project would meet the City's minimum dimensions for parking aisles.

As per the City of Burlingame Zoning Code (25.70.025), the maximum slope of the garage ramps should not be greater than 15 percent, and transition slopes are required for driveways that exceed ten percent slope. The project site plan shows a slope of approximately 15 percent for the garage driveway

ramp with no transition slope. Therefore, the project should provide a transition slope to meet the City requirement.

### **Parking Stall Dimensions**

The City of Burlingame Zoning Code has established minimum parking space dimensions of 8.5 feet in width and 18 feet in length for parking spaces provided within garages for commercial and industrial uses.

The site plan shows that all of the parking spaces measure 8.5 feet in width and 18 feet in length. These dimensions would allow the parking spaces to accommodate passenger cars, trucks, as well as SUVs and vans.

### **Bike and Pedestrian On-site Circulation**

The project site would cluster around a future public plaza on Park Road and Lorton Avenue, which would extend through the project site as a paseo to Lorton Avenue. The proposed retail areas would be adjacent to the new public plaza that would provide outdoor space for seating, dining, community/cultural events, and landscaping. All street frontages would be improved to meet current requirements. The improvements would include wider sidewalks, street trees, and landscaping. The public plaza and paseo would connect all project elements and provide a pedestrian connection between Park Road and Lorton Avenue.

The site plan shows adequate pedestrian circulation throughout the site, as well as between the site and the surrounding pedestrian facilities. Pedestrian access to the project will be facilitated by existing sidewalks on Lorton Avenue, Burlingame Avenue, Park Road and Howard Avenue, as well as the proposed paseo through the project site between Lorton Avenue and Park Road. There are bus stops on El Camino Real and California Drive in the immediate vicinity of the project site.

The site plan shows continuous walkways along the eastern and western edges of the site, including a pedestrian connection through the site via the proposed public paseo.

The existing bicycle facilities provide adequate connectivity between the proposed project site and the adjacent neighborhoods. Short term bicycle parking would be provided on site.

## **Truck Access and Circulation**

The project plans do not show a formal loading/unloading space, and the City code does not require one. Therefore, all truck deliveries are expected to occur curbside along Lorton Avenue. It is recommended that the City provide a loading zone on Lorton Avenue either along the project frontage or somewhere nearby. Currently, Lorton Avenue along the project frontage provides metered on-street parking from 8 AM to 6 PM.

### **Garbage Collection**

Garbage collection activities for the project are not expected to occur on-site due to height and access limitations. Therefore, it is assumed that trash bins would be wheeled out to the curb along Lorton Avenue on designated garbage collection days. Given that on-street parking is permitted along Lorton Avenue, signs prohibiting parking during garbage pickup hours should be placed adjacent to the building entrance. The trash bins also should be removed from the public right-of-way immediately after garbage pickup as to not impact AM or PM peak hour traffic conditions or reduce on-street parking.

## Emergency Vehicle Access

Emergency vehicles access (EVA) would be provided via Lorton Avenue and Park Road. Smaller emergency vehicles also would be able to access the parking garage.

## Parking Supply

According to the City of Burlingame Zoning Code for the Howard Avenue (HMU) Mixed-Use District in the Downtown Parking Sector, the project is required to provide one parking space per 300 s.f. of office space. Therefore, the project is required to provide 467 parking spaces for the office space. The project is requesting a Historic Variance under Municipal Code 21.04.120 for reduced parking on site to accommodate the reduced available space for ground level parking due to the unique configuration and siting of the historic post office building. Due to the property's downtown location within walking distance of retail, restaurant, and services and less than a quarter mile from the Burlingame Caltrain Station, the project proposes to provide a reduced parking ratio of 2.0 parking spaces per 1,000 square feet of office space (i.e. 1 parking space per 500 s.f. of office space). Since the project is located in the parking sector of the Burlingame Downtown Specific Plan Area, and the proposed retail uses would be located on the first floor, the project is exempt from providing off-street parking for the retail uses. Based on this, the project is planning to provide 280 parking spaces.

In order to achieve 280 parking spaces, the plan proposes extending the underground parking levels under a portion of the adjacent city-owned parking lot (Lot E) and future public plaza via an easement. This is subject to approval by the City. Partly in exchange for this easement and partly in exchange for a reduced office parking ratio, these parking stalls, as well as the rest of the parking spaces in the project, would be available for public use in the evenings and on weekends in order to provide a greater parking capacity to those visiting Burlingame's downtown.

Per the California Building Code (CBC) Table 11B-6, seven (7) ADA accessible spaces are required for projects with 201 to 300 parking spaces. Of the required accessible parking spaces, one van accessible space is required. The plans show a total of thirteen (13) accessible spaces: three ADA parking spaces on the ground level and five ADA parking spaces in the below grade parking Level 1 and 2 respectively. Thus, the project adheres to the CBC accessible parking provisions.

## Bicycle Parking

The City of Burlingame municipal code does not include standards for bicycle parking. However, the project site plan shows a total of 14 short-term bicycle parking spaces along the Lorton Avenue and Park Road project frontages. Hexagon recommends including long-term bicycle parking as per the Green Building Code. Based on Green Building Code standards, buildings with over 10 tenant occupants should provide secure bike parking equal to 5 percent of the vehicle parking capacity, with a minimum of one space. Therefore, Hexagon recommends the project provide a minimum of 14 long-term bicycle spaces.

## Pedestrian, Bicycle, and Transit Analysis

All new development projects in the City of Burlingame should encourage multi-modal travel, consistent with the goals of the City's General Plan. It is the goal of the General Plan that all development projects accommodate and encourage the use of non-automobile transportation modes to achieve Burlingame's mobility goals. In addition, the adopted Bicycle Transportation Plan establishes goals and policies to make bicycling a daily part of life in Burlingame. The Transportation Plan includes designated bike lanes where possible, as well as designated routes for both local and regional trips, to provide a

complete connection through Burlingame. In order to further the goals of the City, pedestrian and bicycle facilities should be encouraged with new development projects.

### **Pedestrian Facilities**

Pedestrian facilities in the study area consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections (see Chapter 2 for details). The project is expected to increase the number of pedestrians using the sidewalks and crosswalks. Along the Park Road project frontage, the project would add four feet of additional space to the sidewalk including an 8-foot walking zone and 4 feet tree planting / streetlights / furniture zone. Along the Lorton Avenue project frontage, the project would add 4.5 feet of additional space to the sidewalk, which would include 6 feet of walking zone, 4 feet of tree planting / streetlights / furniture zone and 3.5 feet for café and retail zone. The project would not remove any pedestrian facilities, nor would it conflict with any adopted plans or policies for new pedestrian facilities.

### **Bicycle Facilities**

There are some bike facilities in the immediate vicinity of the project site (see Chapter 2 for details). Bicycles are also allowed on Caltrain and BART. The Burlingame Station is served by Caltrain (approximately a quarter mile north of the project site), while the Millbrae Station is served by Caltrain and BART (located about three miles from the project site). There are bicycle racks and bicycle lockers available at both transit stations.

Bicyclists north of the Burlingame Station could take Primrose Road and California Drive to Howard Avenue, while cyclists traveling to the site from the Burlingame Caltrain station could use Burlingame Avenue as a route to Lorton Avenue. Although Burlingame Avenue is not a designated bike route, due to its low speed limit and traffic volumes, it is conducive to bicycle travel.

The project would not remove any bicycle facilities, nor would it conflict with any adopted plans or policies for new bicycle facilities.

### **Transit Services**

The project study area is well-served by SamTrans, Caltrain, and the Burlingame Trolley. The study area is served directly by one express bus route. There has been a reduction in transit service due to Covid-19. The project would generate about 163 person-trips during the AM peak hour and 161 person-trips during the PM peak hour. Given the project site's proximity to transit services, it could be expected that a portion (10%) of project trips would be made by transit. Assuming 10% of the total trips are made by transit, that translates into 16 new transit riders during the peak hours. It is assumed that the bus service and Caltrain have sufficient capacity to accommodate this minor increase in ridership.

The project would not remove any transit facilities, nor would it conflict with any adopted plans or policies associated with new transit facilities.

### **Future Transit Services**

As previously mentioned, the Caltrain electrification project is expected to increase service by up to eight Caltrain trains at the Burlingame Station. With the proposed electrification project, it is expected that the transit ridership at the Burlingame Station will increase. Given the nearby Caltrain station, development of this office project would result in new transit riders, thus reducing vehicle trips. The Burlingame Station is within walking distance (approximately a quarter mile north of the project site).

**220 Park Road Office Development TIA**  
**Technical Appendices**





**Appendix A**  
**Volume Summary**



## 220 Park Road, Burlingame - Existing Volume Adjustment Summary

#	N/S Street	E/W Street	Previous Count Date		Number of growth years with 1% per Year	
			AM	PM	AM	PM
1	California Dr	Burlingame Ave	3/28/2018	3/28/2018	2	2
2	California Dr	Howard Ave	3/28/2018	3/28/2018	2	2
3	California Dr	Bayswater Ave	3/28/2018	3/28/2018	2	2
4	California Dr	Peninsula Ave	3/28/2018	3/28/2018	2	2
5	Lorton Ave	Burlingame Ave	3/2/2016	3/2/2016	4	4
6	Lorton Ave	Howard Ave	3/28/2018	3/28/2018	2	2
7	Park Rd	Burlingame Ave	3/2/2016	3/2/2016	4	4
8	Park Rd	Howard Ave	3/28/2018	3/28/2018	2	2
9	El Camino Real	Burlingame Ave	5/23/2017	5/23/2017	3	3
10	El Camino Real	Howard Ave	4/5/2016	4/5/2016	4	4
11	El Camino Real	Bayswater Ave	3/28/2018	3/28/2018	2	2
12	California Drive	Oak Grove Avenue	4/24/2019	4/24/2019	0	0





220 Park Road Feasibility Study

Intersection Number: **5**  
 Traffix Node Number: 5  
 Intersection Name: Lorton Avenue & Burlingame Avenue  
 Peak Hour: AM  
 Count Date: 03/02/16  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

Future Growth % Per Year: 1%  
 Number of Years to Cumulative Horizon: 10

Scenario:	Movements																				Total										
	Northbound					Southbound					Eastbound					Westbound						Northeastbound					Southwestbound				
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2		RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2
<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27	
Existing Conditions	0	26	29	9	0	0	56	52	29	0	0	19	138	20	0	0	16	56	18	0	0	0	0	0	0	0	0	0	0	0	468
<b>Existing Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Approved Project Trips</b>	0	2	0	1	0	0	0	10	4	0	0	8	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	28
Background Conditions	0	28	29	10	0	0	56	62	33	0	0	27	140	20	0	0	16	57	18	0	0	0	0	0	0	0	0	0	0	0	496
<b>Background Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Project Trips</b>	0	2	2	5	0	0	0	10	0	0	0	20	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	48
Existing + Project	0	28	31	14	0	0	56	62	29	0	0	39	138	20	0	0	16	56	27	0	0	0	0	0	0	0	0	0	0	0	516
Background + Project	0	30	31	15	0	0	56	72	33	0	0	47	140	20	0	0	16	57	27	0	0	0	0	0	0	0	0	0	0	0	544
<b>Existing + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Background+Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Baseline Conditions	0	31	32	11	0	0	62	67	36	0	0	29	154	22	0	0	18	63	20	0	0	0	0	0	0	0	0	0	0	0	545
Cumulative + Proj Conditions	0	33	34	16	0	0	62	77	36	0	0	49	154	22	0	0	18	63	29	0	0	0	0	0	0	0	0	0	0	0	593
<b>Cumulative Baseline Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Cumulative + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Intersection Number: **6**  
 Traffix Node Number: 6  
 Intersection Name: Lorton Avenue & Howard Avenue  
 Peak Hour: AM  
 Count Date: 03/28/18  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

Future Growth % Per Year: 1%  
 Number of Years to Cumulative Horizon: 10

Scenario:	Movements																				Total										
	Northbound					Southbound					Eastbound					Westbound						Northeastbound					Southwestbound				
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2		RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2
<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27	
Existing Conditions	0	9	22	18	0	0	22	26	31	0	0	22	216	31	0	0	40	206	23	0	0	0	0	0	0	0	0	0	0	0	666
<b>Existing Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Approved Project Trips</b>	0	0	3	4	0	0	1	16	1	0	0	17	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
Background Conditions	0	9	25	22	0	0	23	42	32	0	0	39	227	31	0	0	40	206	23	0	0	0	0	0	0	0	0	0	0	0	719
<b>Background Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Project Trips</b>	0	0	38	0	0	0	2	8	4	0	0	0	0	30	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	106
Existing + Project	0	9	60	18	0	0	24	34	35	0	0	22	216	61	0	0	64	206	23	0	0	0	0	0	0	0	0	0	0	0	772
Background + Project	0	9	63	22	0	0	25	50	36	0	0	39	227	61	0	0	64	206	23	0	0	0	0	0	0	0	0	0	0	0	825
<b>Existing + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Background+Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Baseline Conditions	0	10	27	24	0	0	25	45	35	0	0	41	250	34	0	0	44	228	25	0	0	0	0	0	0	0	0	0	0	0	788
Cumulative + Proj Conditions	0	10	65	24	0	0	27	53	39	0	0	41	250	64	0	0	68	228	25	0	0	0	0	0	0	0	0	0	0	0	894
<b>Cumulative Baseline Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Cumulative + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Intersection Number: **7**  
 Traffic Node Number: 7  
 Intersection Name: Park Road & Burlingame Avenue  
 Peak Hour: AM  
 Count Date: 03/02/16  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

		Movements																				Future Growth % Per Year: 1%	Number of Years to Cumulative Horizon: 10									
Scenario:	INDEX	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					Total
		RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	
Existing Conditions	0	48	0	44	0	0	0	0	0	0	0	34	147	0	0	0	0	78	33	0	0	0	0	0	0	0	0	0	0	384		
Existing Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Approved Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	12			
Background Conditions	0	48	0	44	0	0	0	0	0	0	0	34	157	0	0	0	80	33	0	0	0	0	0	0	0	0	0	0	396			
Background Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	5	0	0	0	0	0	0	0	0	0	0	25				
Existing + Project	0	48	0	44	0	0	0	0	0	0	0	34	167	0	0	0	83	33	0	0	0	0	0	0	0	0	0	409				
Background + Project	0	48	0	44	0	0	0	0	0	0	0	34	177	0	0	0	85	33	0	0	0	0	0	0	0	0	0	421				
Existing + Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Background+Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Cumulative Baseline Conditions	0	53	0	49	0	0	0	0	0	0	0	38	172	0	0	0	88	36	0	0	0	0	0	0	0	0	0	436				
Cumulative + Proj Conditions	0	53	0	49	0	0	0	0	0	0	0	38	192	0	0	0	93	36	0	0	0	0	0	0	0	0	0	461				
Cumulative Baseline Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Cumulative + Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

Intersection Number: **8**  
 Traffic Node Number: 8  
 Intersection Name: Park Road & Howard Avenue  
 Peak Hour: AM  
 Count Date: 03/28/18  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

		Movements																				Future Growth % Per Year: 1%	Number of Years to Cumulative Horizon: 10									
Scenario:	INDEX	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					Total
		RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	
Existing Conditions	0	48	63	39	0	0	20	28	12	0	0	48	220	21	0	0	23	195	20	0	0	0	0	0	0	0	0	737				
Existing Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Approved Project Trips	0	6	-1	4	0	0	0	-8	0	0	0	-7	22	0	0	0	5	-1	0	0	0	0	0	0	0	0	20					
Background Conditions	0	54	62	43	0	0	20	20	12	0	0	41	242	21	0	0	23	200	19	0	0	0	0	0	0	0	757					
Background Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	30	0	0	0	2	0	0	0	0	0	0	0	0	0	32					
Existing + Project	0	48	63	39	0	0	20	28	12	0	0	48	250	21	0	0	23	197	20	0	0	0	0	0	0	0	769					
Background + Project	0	54	62	43	0	0	20	20	12	0	0	41	272	21	0	0	23	202	19	0	0	0	0	0	0	0	789					
Existing + Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Background+Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Cumulative Baseline Conditions	0	59	69	47	0	0	22	23	13	0	0	46	265	23	0	0	25	220	21	0	0	0	0	0	0	0	833					
Cumulative + Proj Conditions	0	59	69	47	0	0	22	23	13	0	0	46	295	23	0	0	25	222	21	0	0	0	0	0	0	0	865					
Cumulative Baseline Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Cumulative + Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

220 Park Road Feasibility Study

Intersection Number: **9**  
 Traffic Node Number: 9  
 Intersection Name: El Camino Real & Burlingame Avenue  
 Peak Hour: AM  
 Count Date: 05/23/17  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

		Movements																				Total										
		Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					
Scenario:	INDEX	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	Total
Existing Conditions		0	18	857	8	0	0	5	964	63	0	0	11	58	13	0	0	42	23	21	0	0	0	0	0	0	0	0	0	0	0	2083
Existing Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved Project Trips		0	0	19	0	0	0	0	19	7	0	0	0	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	50
Background Conditions		0	18	876	8	0	0	5	983	70	0	0	11	61	13	0	0	43	24	21	0	0	0	0	0	0	0	0	0	0	0	2133
Background Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Trips		0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	25
Existing + Project		0	18	857	8	0	0	5	964	83	0	0	11	58	13	0	0	45	23	23	0	0	0	0	0	0	0	0	0	0	0	2108
Background + Project		0	18	876	8	0	0	5	983	90	0	0	11	61	13	0	0	46	24	23	0	0	0	0	0	0	0	0	0	0	0	2158
Existing + Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Background+Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Baseline Conditions		0	20	966	9	0	0	6	1084	77	0	0	12	67	14	0	0	47	26	23	0	0	0	0	0	0	0	0	0	0	0	2351
Cumulative + Proj Conditions		0	20	966	9	0	0	6	1084	97	0	0	12	67	14	0	0	50	26	25	0	0	0	0	0	0	0	0	0	0	0	2376
Cumulative Baseline Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative + Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Number: **10**  
 Traffic Node Number: 10  
 Intersection Name: El Camino Real & Howard Avenue  
 Peak Hour: AM  
 Count Date: 04/05/16  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

		Movements																				Total										
		Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					
Scenario:	INDEX	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	Total
Existing Conditions		0	45	822	7	0	0	3	880	131	0	0	33	108	19	0	0	126	67	54	0	0	0	0	0	0	0	0	0	0	0	2295
Existing Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved Project Trips		0	4	13	0	0	0	0	17	2	0	0	0	-1	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	42
Background Conditions		0	49	835	7	0	0	3	897	133	0	0	33	107	19	0	0	132	68	54	0	0	0	0	0	0	0	0	0	0	0	2337
Background Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Trips		0	10	0	0	0	0	0	0	13	0	0	0	7	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	32
Existing + Project		0	55	822	7	0	0	3	880	144	0	0	33	115	19	0	0	127	67	55	0	0	0	0	0	0	0	0	0	0	0	2327
Background + Project		0	59	835	7	0	0	3	897	146	0	0	33	114	19	0	0	133	68	55	0	0	0	0	0	0	0	0	0	0	0	2369
Existing + Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Background+Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Baseline Conditions		0	54	921	8	0	0	3	989	147	0	0	36	118	21	0	0	145	75	60	0	0	0	0	0	0	0	0	0	0	0	2577
Cumulative + Proj Conditions		0	64	921	8	0	0	3	989	160	0	0	36	125	21	0	0	146	75	61	0	0	0	0	0	0	0	0	0	0	0	2609
Cumulative Baseline Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative + Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



220 Park Road Feasibility Study

Intersection Number: 11  
 Traffic Node Number: 11  
 Intersection Name: El Camino Real & Bayswater Avenue  
 Peak Hour: AM  
 Count Date: 03/28/18  
 Scenario: 220 Park Road

Date of Analysis: 05/25/20

		Movements																								Future Growth % Per Year: 1%						
		Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					Number of Years to Cumulative Horizon: 10
Scenario:	INDEX	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	Total
Existing Conditions		7	63	831	3	2	7	9	900	36	3	0	7	65	9	22	15	40	26	1	20	2	9	8	16	0	4	7	3	39	5	2159
Existing Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved Project Trips		2	0	8	0	0	0	0	14	3	0	0	0	3	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	48
Background Conditions		9	63	839	3	2	7	9	914	39	3	0	7	68	9	22	15	49	26	1	29	2	9	8	16	0	4	7	3	39	5	2207
Background Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Trips		0	0	7	0	0	0	0	1	0	0	0	0	4	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	16
Existing + Project		7	63	838	3	2	7	9	901	36	3	0	7	69	12	22	15	40	27	1	20	2	9	8	16	0	4	7	3	39	5	2175
Background + Project		9	63	846	3	2	7	9	915	39	3	0	7	72	12	22	15	49	27	1	29	2	9	8	16	0	4	7	3	39	5	2223
Existing + Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Background+Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Baseline Conditions		10	70	926	3	2	8	10	1008	43	3	0	8	75	10	24	17	53	29	1	31	2	10	9	18	0	4	8	3	43	6	2434
Cumulative + Proj Conditions		10	70	933	3	2	8	10	1009	43	3	0	8	79	13	24	17	53	30	1	31	2	10	9	18	0	4	8	3	43	6	2450
Cumulative Baseline Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative + Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Number: 12  
 Traffic Node Number: 12  
 Intersection Name: California Drive & Oak Grove Avenue  
 Peak Hour: AM  
 Count Date: 04/24/19  
 Scenario: 220 Park Road

Date of Analysis: 05/25/20

		Movements																								Future Growth % Per Year: 1%						
		Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					Number of Years to Cumulative Horizon: 10
Scenario:	INDEX	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	Total
Existing Conditions		0	265	529	8	0	0	50	624	114	0	0	27	225	18	0	0	91	91	106	0	0	0	0	0	0	0	0	0	0	0	2148
Existing Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved Project Trips		0	3	15	1	0	0	1	9	0	0	0	3	3	3	0	0	0	4	8	0	0	0	0	0	0	0	0	0	0	0	50
Background Conditions		0	268	544	9	0	0	51	633	114	0	0	30	228	21	0	0	91	95	114	0	0	0	0	0	0	0	0	0	0	0	2198
Background Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Trips		0	0	4	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Existing + Project		0	265	533	8	0	0	50	643	114	0	0	27	225	18	0	0	91	91	106	0	0	0	0	0	0	0	0	0	0	0	2171
Background + Project		0	268	548	9	0	0	51	652	114	0	0	30	228	21	0	0	91	95	114	0	0	0	0	0	0	0	0	0	0	0	2221
Existing + Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Background+Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Baseline Conditions		0	296	599	10	0	0	56	698	126	0	0	33	252	23	0	0	101	105	125	0	0	0	0	0	0	0	0	0	0	0	2424
Cumulative + Proj Conditions		0	296	603	10	0	0	56	717	126	0	0	33	252	23	0	0	101	105	125	0	0	0	0	0	0	0	0	0	0	0	2447
Cumulative Baseline Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative + Project Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Number:	1																																
Traffic Node Number:	1																																
Intersection Name:	California Drive												& Burlingame Avenue																				
Peak Hour:	PM																																
Count Date:	03/28/18																																
Scenario:	220 Park Road																																
																							Future Growth % Per Year:		1%								
																							Number of Years to Cumulative Horizon:		10								
<b>Movements</b>																																	
Scenario:	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					Total		
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2			
	<b>INDEX</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>16</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>21</b>	<b>20</b>	<b>19</b>	<b>18</b>	<b>17</b>	<b>26</b>	<b>25</b>	<b>24</b>	<b>23</b>	<b>22</b>	<b>31</b>	<b>30</b>	<b>29</b>	<b>28</b>	<b>27</b>		
Existing Conditions	0	0	737	100	0	0	115	575	0	0	0	72	0	149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Existing Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Approved Project Trips</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64</b>	
Background Conditions	0	0	767	110	0	0	115	595	0	0	0	76	0	149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1812
<b>Background Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Project Trips</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	
Existing + Project	0	0	737	100	0	0	117	575	0	0	0	72	0	159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1760
Background + Project	0	0	767	110	0	0	117	595	0	0	0	76	0	159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1824
<b>Existing + Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Background+Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Cumulative Baseline Conditions	0	0	844	120	0	0	127	655	0	0	0	84	0	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1995
Cumulative + Proj Conditions	0	0	844	120	0	0	129	655	0	0	0	84	0	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2007
<b>Cumulative Baseline Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Cumulative + Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Intersection Number:	2																																
Traffic Node Number:	2																																
Intersection Name:	California Drive												& Howard Avenue																				
Peak Hour:	PM																																
Count Date:	03/28/18																																
Scenario:	220 Park Road																																
																							Future Growth % Per Year:		1%								
																							Number of Years to Cumulative Horizon:		10								
<b>Movements</b>																																	
Scenario:	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					Total		
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2			
	<b>INDEX</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>16</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>21</b>	<b>20</b>	<b>19</b>	<b>18</b>	<b>17</b>	<b>26</b>	<b>25</b>	<b>24</b>	<b>23</b>	<b>22</b>	<b>31</b>	<b>30</b>	<b>29</b>	<b>28</b>	<b>27</b>		
Existing Conditions	0	35	668	116	0	0	142	488	23	0	0	113	108	111	0	0	64	121	64	0	0	0	0	0	0	0	0	0	0	0	0	0	2053
<b>Existing Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Approved Project Trips</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>22</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>71</b>	
Background Conditions	0	35	686	116	0	0	146	510	29	0	0	113	111	121	0	0	67	123	67	0	0	0	0	0	0	0	0	0	0	0	0	0	2124
<b>Background Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Project Trips</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>31</b>	
Existing + Project	0	35	668	121	0	0	142	488	23	0	0	130	115	111	0	0	64	123	64	0	0	0	0	0	0	0	0	0	0	0	0	0	2084
Background + Project	0	35	686	121	0	0	146	510	29	0	0	130	118	121	0	0	67	125	67	0	0	0	0	0	0	0	0	0	0	0	0	0	2155
<b>Existing + Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Background+Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Cumulative Baseline Conditions	0	39	756	128	0	0	161	561	31	0	0	125	122	133	0	0	74	136	74	0	0	0	0	0	0	0	0	0	0	0	0	0	2340
Cumulative + Proj Conditions	0	39	756	133	0	0	161	561	31	0	0	142	129	133	0	0	74	138	74	0	0	0	0	0	0	0	0	0	0	0	0	0	2371
<b>Cumulative Baseline Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Cumulative + Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

220 Park Road Feasibility Study

Intersection Number: **3**  
 Trafix Node Number: 3  
 Intersection Name: California Drive & Bayswater Avenue  
 Peak Hour: PM  
 Count Date: 03/28/18  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

Future Growth % Per Year: 1%  
 Number of Years to Cumulative Horizon: 10

Scenario:	Movements																									Total					
	Northbound					Southbound					Eastbound					Westbound					Northeastbound						Southwestbound				
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2		RT2	RT	TH	LT	LT2
<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27	
Existing Conditions	0	24	707	31	0	0	37	617	14	0	0	72	84	42	0	0	57	65	15	0	0	0	0	0	0	0	0	0	0	0	1765
<b>Existing Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Approved Project Trips</b>	0	5	15	4	0	0	0	17	5	0	0	6	14	0	0	0	3	11	3	0	0	0	0	0	0	0	0	0	0	0	83
Background Conditions	0	29	722	35	0	0	37	634	19	0	0	78	98	42	0	0	60	76	18	0	0	0	0	0	0	0	0	0	0	0	1848
<b>Background Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Project Trips</b>	0	0	5	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Existing + Project	0	24	712	31	0	0	37	634	14	0	0	72	84	42	0	0	57	65	15	0	0	0	0	0	0	0	0	0	0	0	1787
Background + Project	0	29	727	35	0	0	37	651	19	0	0	78	98	42	0	0	60	76	18	0	0	0	0	0	0	0	0	0	0	0	1870
<b>Existing + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Background+Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Baseline Conditions	0	32	796	38	0	0	41	699	20	0	0	86	107	46	0	0	66	83	20	0	0	0	0	0	0	0	0	0	0	0	2034
Cumulative + Proj Conditions	0	32	801	38	0	0	41	716	20	0	0	86	107	46	0	0	66	83	20	0	0	0	0	0	0	0	0	0	0	0	2056
<b>Cumulative Baseline Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Cumulative + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Intersection Number: **4**  
 Trafix Node Number: 4  
 Intersection Name: California Drive & Peninsula Avenue  
 Peak Hour: PM  
 Count Date: 03/28/18  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

Future Growth % Per Year: 1%  
 Number of Years to Cumulative Horizon: 10

Scenario:	Movements																									Total					
	Northbound					Southbound					Eastbound					Westbound					Northeastbound						Southwestbound				
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2		RT2	RT	TH	LT	LT2
<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27	
Existing Conditions	0	177	462	16	0	0	35	470	207	0	0	33	268	21	0	0	313	295	110	0	0	0	0	0	0	0	0	0	0	0	2407
<b>Existing Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Approved Project Trips</b>	0	0	23	0	0	0	4	15	7	0	0	0	3	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	58
Background Conditions	0	177	485	16	0	0	39	485	214	0	0	33	271	21	0	0	314	300	110	0	0	0	0	0	0	0	0	0	0	0	2465
<b>Background Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Project Trips</b>	0	0	3	3	0	0	0	10	7	0	0	10	7	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	44
Existing + Project	0	177	465	19	0	0	35	480	214	0	0	43	275	21	0	0	315	297	110	0	0	0	0	0	0	0	0	0	0	0	2451
Background + Project	0	177	488	19	0	0	39	495	221	0	0	43	278	21	0	0	316	302	110	0	0	0	0	0	0	0	0	0	0	0	2509
<b>Existing + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Background+Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Baseline Conditions	0	196	533	18	0	0	43	534	236	0	0	36	299	23	0	0	347	331	122	0	0	0	0	0	0	0	0	0	0	0	2718
Cumulative + Proj Conditions	0	196	536	21	0	0	43	544	243	0	0	46	306	23	0	0	349	333	122	0	0	0	0	0	0	0	0	0	0	0	2762
<b>Cumulative Baseline Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Cumulative + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Intersection Number: **5**  
 Trafix Node Number: 5  
 Intersection Name: Lorton Avenue & Burlingame Avenue  
 Peak Hour: PM  
 Count Date: 03/02/16  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

Future Growth % Per Year: 1%  
 Number of Years to Cumulative Horizon: 10

Scenario:	Movements																											Total			
	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT		TH	LT	LT2
<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27	
Existing Conditions	0	35	18	22	0	0	78	85	33	0	0	36	144	34	0	0	60	105	22	0	0	0	0	0	0	0	0	0	0	0	672
Existing Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approved Project Trips	0	4	9	0	0	0	0	1	0	0	0	1	0	0	0	0	0	7	3	0	0	0	0	0	0	0	0	0	0	0	25
Background Conditions	0	39	27	22	0	0	78	86	33	0	0	37	144	34	0	0	60	112	25	0	0	0	0	0	0	0	0	0	0	0	697
Background Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trips	0	10	10	35	0	0	0	3	0	0	0	6	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	66
Existing + Project	0	45	28	57	0	0	78	88	33	0	0	42	144	34	0	0	60	105	24	0	0	0	0	0	0	0	0	0	0	0	738
Background + Project	0	49	37	57	0	0	78	89	33	0	0	43	144	34	0	0	60	112	27	0	0	0	0	0	0	0	0	0	0	0	763
Existing + Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Background+Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Baseline Conditions	0	43	29	24	0	0	86	95	36	0	0	41	159	38	0	0	66	123	27	0	0	0	0	0	0	0	0	0	0	0	767
Cumulative + Proj Conditions	0	53	39	59	0	0	86	98	36	0	0	47	159	38	0	0	66	123	29	0	0	0	0	0	0	0	0	0	0	0	833
Cumulative Baseline Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative + Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Intersection Number: **6**  
 Trafix Node Number: 6  
 Intersection Name: Lorton Avenue & Howard Avenue  
 Peak Hour: PM  
 Count Date: 03/28/18  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

Future Growth % Per Year: 1%  
 Number of Years to Cumulative Horizon: 10

Scenario:	Movements																											Total			
	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT		TH	LT	LT2
<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27	
Existing Conditions	0	17	27	21	0	0	51	35	42	0	0	37	263	40	0	0	86	261	27	0	0	0	0	0	0	0	0	0	0	0	907
Existing Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approved Project Trips	0	0	13	14	0	0	0	5	0	0	0	7	6	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	54
Background Conditions	0	17	40	35	0	0	51	40	42	0	0	44	269	40	0	0	86	270	27	0	0	0	0	0	0	0	0	0	0	0	961
Background Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trips	0	0	11	0	0	0	17	41	24	0	0	0	0	9	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	109
Existing + Project	0	17	38	21	0	0	68	76	66	0	0	37	263	49	0	0	93	261	27	0	0	0	0	0	0	0	0	0	0	0	1016
Background + Project	0	17	51	35	0	0	68	81	66	0	0	44	269	49	0	0	93	270	27	0	0	0	0	0	0	0	0	0	0	0	1070
Existing + Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Background+Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Baseline Conditions	0	19	43	37	0	0	56	44	46	0	0	48	297	44	0	0	95	297	30	0	0	0	0	0	0	0	0	0	0	0	1056
Cumulative + Proj Conditions	0	19	54	37	0	0	73	85	70	0	0	48	297	53	0	0	102	297	30	0	0	0	0	0	0	0	0	0	0	0	1165
Cumulative Baseline Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative + Project Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

220 Park Road Feasibility Study

Intersection Number:	<b>7</b>	
Traffic Node Number:	7	
Intersection Name:	Park Road	& Burlingame Avenue
Peak Hour:	PM	
Count Date:	03/02/16	
Scenario:	220 Park Road	
		Date of Analysis: 05/25/20

																									Future Growth % Per Year:	1%					
																									Number of Years to Cumulative Horizon:	10					
Scenario:	Movements																								Total						
	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT		LT2	RT2	RT	TH	LT	LT2
INDEX	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27	
Existing Conditions	0	78	0	63	0	0	0	0	0	0	0	55	153	0	0	0	0	153	65	0	0	0	0	0	0	0	0	0	0	0	
<b>Existing Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Approved Project Trips</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Background Conditions	0	78	0	63	0	0	0	0	0	0	0	55	154	0	0	0	0	160	65	0	0	0	0	0	0	0	0	0	0	0	
<b>Background Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Project Trips</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Existing + Project	0	78	0	63	0	0	0	0	0	0	0	55	159	0	0	0	0	188	65	0	0	0	0	0	0	0	0	0	0	0	
Background + Project	0	78	0	63	0	0	0	0	0	0	0	55	160	0	0	0	0	195	65	0	0	0	0	0	0	0	0	0	0	0	
<b>Existing + Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Background+Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Cumulative Baseline Conditions	0	86	0	70	0	0	0	0	0	0	0	61	170	0	0	0	0	176	72	0	0	0	0	0	0	0	0	0	0	0	
Cumulative + Proj Conditions	0	86	0	70	0	0	0	0	0	0	0	61	176	0	0	0	0	211	72	0	0	0	0	0	0	0	0	0	0	0	
<b>Cumulative Baseline Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Cumulative + Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Intersection Number:	<b>8</b>	
Traffic Node Number:	8	
Intersection Name:	Park Road	& Howard Avenue
Peak Hour:	PM	
Count Date:	03/28/18	
Scenario:	220 Park Road	
		Date of Analysis: 05/25/20

																									Future Growth % Per Year:	1%					
																									Number of Years to Cumulative Horizon:	10					
Scenario:	Movements																								Total						
	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT		LT2	RT2	RT	TH	LT	LT2
INDEX	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27	
Existing Conditions	0	70	55	49	0	0	54	32	32	0	0	54	240	29	0	0	50	263	24	0	0	0	0	0	0	0	0	0	0	0	
<b>Existing Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Approved Project Trips</b>	<b>0</b>	<b>3</b>	<b>-6</b>	<b>-2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Background Conditions	0	73	49	47	0	0	54	30	32	0	0	57	250	29	0	0	50	279	31	0	0	0	0	0	0	0	0	0	0	0	
<b>Background Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Project Trips</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Existing + Project	0	70	55	49	0	0	54	32	32	0	0	54	249	29	0	0	50	280	24	0	0	0	0	0	0	0	0	0	0	0	
Background + Project	0	73	49	47	0	0	54	30	32	0	0	57	259	29	0	0	50	296	31	0	0	0	0	0	0	0	0	0	0	0	
<b>Existing + Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Background+Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Cumulative Baseline Conditions	0	80	55	52	0	0	60	33	35	0	0	63	275	32	0	0	55	307	34	0	0	0	0	0	0	0	0	0	0	0	
Cumulative + Proj Conditions	0	80	55	52	0	0	60	33	35	0	0	63	284	32	0	0	55	324	34	0	0	0	0	0	0	0	0	0	0	0	
<b>Cumulative Baseline Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Cumulative + Project Check</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

220 Park Road Feasibility Study

Intersection Number: **9**  
 Trafix Node Number: 9  
 Intersection Name: El Camino Real & Burlingame Avenue  
 Peak Hour: PM  
 Count Date: 05/23/17  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

Future Growth % Per Year: 1%  
 Number of Years to Cumulative Horizon: 10

Scenario:	Movements																								Total						
	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT		LT2	RT2	RT	TH	LT	LT2
	<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27
Existing Conditions	0	34	1090	21	0	0	6	946	81	0	0	3	54	22	0	0	81	29	42	0	0	0	0	0	0	0	0	0	0	0	2409
<b>Existing Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approved Project Trips	0	0	22	0	0	0	0	25	1	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	55
Background Conditions	0	34	1112	21	0	0	6	971	82	0	0	3	54	22	0	0	88	29	42	0	0	0	0	0	0	0	0	0	0	0	2464
<b>Background Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trips	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	21	0	14	0	0	0	0	0	0	0	0	0	0	0	41
Existing + Project	0	34	1090	21	0	0	6	946	87	0	0	3	54	22	0	0	102	29	56	0	0	0	0	0	0	0	0	0	0	0	2450
Background + Project	0	34	1112	21	0	0	6	971	88	0	0	3	54	22	0	0	109	29	56	0	0	0	0	0	0	0	0	0	0	0	2505
<b>Existing + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Background+Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Baseline Conditions	0	38	1226	23	0	0	7	1070	90	0	0	3	60	24	0	0	96	32	46	0	0	0	0	0	0	0	0	0	0	0	2715
Cumulative + Proj Conditions	0	38	1226	23	0	0	7	1070	96	0	0	3	60	24	0	0	117	32	60	0	0	0	0	0	0	0	0	0	0	0	2756
<b>Cumulative Baseline Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Cumulative + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Intersection Number: **10**  
 Trafix Node Number: 10  
 Intersection Name: El Camino Real & Howard Avenue  
 Peak Hour: PM  
 Count Date: 04/05/16  
 Scenario: 220 Park Road  
 Date of Analysis: 05/25/20

Future Growth % Per Year: 1%  
 Number of Years to Cumulative Horizon: 10

Scenario:	Movements																								Total						
	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound					
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT		LT2	RT2	RT	TH	LT	LT2
	<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27
Existing Conditions	0	70	907	12	0	0	8	939	189	0	0	16	105	31	0	0	237	107	119	0	0	0	0	0	0	0	0	0	0	0	2740
<b>Existing Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approved Project Trips	0	1	18	0	0	0	0	19	6	0	0	0	2	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	52
Background Conditions	0	71	925	12	0	0	8	958	195	0	0	16	107	31	0	0	241	109	119	0	0	0	0	0	0	0	0	0	0	0	2792
<b>Background Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trips	0	3	0	0	0	0	0	0	4	0	0	0	2	0	0	0	7	0	10	0	0	0	0	0	0	0	0	0	0	0	26
Existing + Project	0	73	907	12	0	0	8	939	193	0	0	16	107	31	0	0	244	107	129	0	0	0	0	0	0	0	0	0	0	0	2766
Background + Project	0	74	925	12	0	0	8	958	199	0	0	16	109	31	0	0	248	109	129	0	0	0	0	0	0	0	0	0	0	0	2818
<b>Existing + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Background+Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Baseline Conditions	0	78	1020	13	0	0	9	1056	215	0	0	18	118	34	0	0	266	120	131	0	0	0	0	0	0	0	0	0	0	0	3078
Cumulative + Proj Conditions	0	81	1020	13	0	0	9	1056	219	0	0	18	120	34	0	0	273	120	141	0	0	0	0	0	0	0	0	0	0	0	3104
<b>Cumulative Baseline Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Cumulative + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

220 Park Road Feasibility Study

Intersection Number:	<b>11</b>																								
Traffic Node Number:	11																								
Intersection Name:	El Camino Real	&	Bayswater Avenue																						
Peak Hour:	PM																								
Count Date:	03/28/18																								
Scenario:	220 Park Road																								

Future Growth % Per Year: 1%  
Number of Years to Cumulative Horizon: 10

Scenario:	Movements																								Total					
	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound				
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2
<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27
Existing Conditions	8	49	919	4	1	7	8	928	30	3	1	7	48	9	18	11	35	43	3	18	3	3	1	7	0	4	9	3	78	16
<b>Existing Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Approved Project Trips</b>	5	0	14	0	0	0	0	10	9	0	0	0	1	0	0	0	5	3	0	6	0	0	0	0	0	0	0	0	0	0
Background Conditions	13	49	933	4	1	7	8	938	39	3	1	7	49	9	18	11	40	46	3	24	3	3	1	7	0	4	9	3	78	16
<b>Background Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Project Trips</b>	0	0	2	0	0	0	3	7	0	0	0	0	1	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Existing + Project	8	49	921	4	1	7	11	935	30	3	1	7	49	10	18	11	35	47	3	18	3	3	1	7	0	4	9	3	78	16
Background + Project	13	49	935	4	1	7	11	945	39	3	1	7	50	10	18	11	40	50	3	24	3	3	1	7	0	4	9	3	78	16
<b>Existing + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Background+Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Baseline Conditions	14	54	1029	4	1	8	9	1035	42	3	1	8	54	10	20	12	44	50	3	26	3	3	1	8	0	4	10	3	86	18
Cumulative + Proj Conditions	14	54	1031	4	1	8	12	1042	42	3	1	8	55	11	20	12	44	54	3	26	3	3	1	8	0	4	10	3	86	18
<b>Cumulative Baseline Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Cumulative + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Number:	<b>12</b>																								
Traffic Node Number:	12																								
Intersection Name:	California Drive	&	Oak Grove Avenue																						
Peak Hour:	PM																								
Count Date:	04/24/19																								
Scenario:	220 Park Road																								

Future Growth % Per Year: 1%  
Number of Years to Cumulative Horizon: 10

Scenario:	Movements																								Total					
	Northbound					Southbound					Eastbound					Westbound					Northeastbound					Southwestbound				
	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2	RT2	RT	TH	LT	LT2
<b>INDEX</b>	6	5	4	3	2	11	10	9	8	7	16	15	14	13	12	21	20	19	18	17	26	25	24	23	22	31	30	29	28	27
Existing Conditions	0	190	596	30	0	0	32	595	54	0	0	16	133	29	0	0	50	91	179	0	0	0	0	0	0	0	0	0	0	0
<b>Existing Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Approved Project Trips</b>	0	4	14	3	0	0	2	14	0	0	0	1	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0
Background Conditions	0	194	610	33	0	0	34	609	54	0	0	17	136	30	0	0	50	95	183	0	0	0	0	0	0	0	0	0	0	0
<b>Background Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Project Trips</b>	0	0	20	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing + Project	0	190	616	30	0	0	32	600	54	0	0	16	133	29	0	0	50	91	179	0	0	0	0	0	0	0	0	0	0	0
Background + Project	0	194	630	33	0	0	34	614	54	0	0	17	136	30	0	0	50	95	183	0	0	0	0	0	0	0	0	0	0	0
<b>Existing + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Background+Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Baseline Conditions	0	214	672	36	0	0	37	671	60	0	0	19	150	33	0	0	55	105	202	0	0	0	0	0	0	0	0	0	0	0
Cumulative + Proj Conditions	0	214	692	36	0	0	37	676	60	0	0	19	150	33	0	0	55	105	202	0	0	0	0	0	0	0	0	0	0	0
<b>Cumulative Baseline Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Cumulative + Project Check</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
















**Appendix B**  
**Level of Service Calculations**



HCM 2010 Signalized Intersection Summary  
1: California Drive & Burlingame Avenue

Existing AM Conditions  
06/21/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	162	49	57	673	621	40		
Future Volume (veh/h)	162	49	57	673	621	40		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	162	49	57	673	621	40		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	543	164	97	1442	886	57		
Arrive On Green	0.41	0.41	0.05	0.41	0.26	0.26		
Sat Flow, veh/h	1319	399	1774	3632	3470	217		
Grp Volume(v), veh/h	212	0	57	673	325	336		
Grp Sat Flow(s),veh/h/ln	1726	0	1774	1770	1770	1824		
Q Serve(g_s), s	4.1	0.0	1.6	6.9	8.3	8.3		
Cycle Q Clear(g_c), s	4.1	0.0	1.6	6.9	8.3	8.3		
Prop In Lane	0.76	0.23	1.00			0.12		
Lane Grp Cap(c), veh/h	711	0	97	1442	464	479		
V/C Ratio(X)	0.30	0.00	0.59	0.47	0.70	0.70		
Avail Cap(c_a), veh/h	711	0	232	2168	693	714		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.8	0.0	23.0	10.8	16.6	16.6		
Incr Delay (d2), s/veh	1.1	0.0	5.5	0.2	1.9	1.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.9	3.4	4.2	4.4		
LnGrp Delay(d),s/veh	10.9	0.0	28.5	11.0	18.5	18.5		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	212			730	661			
Approach Delay, s/veh	10.9			12.4	18.5			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		25.0	7.2	17.6				24.8
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		20.5	6.5	19.5				30.5
Max Q Clear Time (g_c+I1), s		6.1	3.6	10.3				8.9
Green Ext Time (p_c), s		0.5	0.0	2.8				4.5
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			14.7					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
 2: California Drive & Howard Avenue

Existing AM Conditions  
 06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	111	77	42	125	81	61	588	43	30	541	87
Future Volume (veh/h)	80	111	77	42	125	81	61	588	43	30	541	87
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	80	111	77	42	125	81	61	588	43	30	541	87
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	509	402	279	196	540	620	154	1324	95	98	1312	206
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.92	0.92	0.92	0.46	0.46	0.46
Sat Flow, veh/h	1171	1026	712	310	1378	1583	181	2890	206	71	2863	449
Grp Volume(v), veh/h	80	0	188	167	0	81	346	0	346	345	0	313
Grp Sat Flow(s),veh/h/ln	1171	0	1737	1688	0	1583	1619	0	1659	1767	0	1616
Q Serve(g_s), s	2.9	0.0	4.4	0.0	0.0	2.0	0.0	0.0	1.8	0.0	0.0	7.8
Cycle Q Clear(g_c), s	6.5	0.0	4.4	3.6	0.0	2.0	1.5	0.0	1.8	7.4	0.0	7.8
Prop In Lane	1.00		0.41	0.25		1.00	0.18		0.12	0.09		0.28
Lane Grp Cap(c), veh/h	509	0	680	736	0	620	813	0	760	875	0	741
V/C Ratio(X)	0.16	0.00	0.28	0.23	0.00	0.13	0.43	0.00	0.45	0.39	0.00	0.42
Avail Cap(c_a), veh/h	509	0	680	736	0	620	813	0	760	875	0	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	12.4	12.2	0.0	11.7	1.4	0.0	1.4	10.8	0.0	10.9
Incr Delay (d2), s/veh	0.7	0.0	1.0	0.7	0.0	0.4	1.6	0.0	2.0	1.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.3	2.0	0.0	0.9	0.9	0.0	1.0	4.1	0.0	3.8
LnGrp Delay(d),s/veh	15.0	0.0	13.5	12.9	0.0	12.1	3.0	0.0	3.4	12.1	0.0	12.7
LnGrp LOS	B		B	B		B	A		A	B		B
Approach Vol, veh/h		268			248			692			658	
Approach Delay, s/veh		13.9			12.7			3.2			12.4	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		8.5		9.8		5.6		3.8				
Green Ext Time (p_c), s		1.2		4.0		1.1		4.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.2								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Existing AM Conditions  
06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↖↗			↖↗	
Traffic Volume (veh/h)	60	87	44	35	68	55	36	587	19	18	601	21
Future Volume (veh/h)	60	87	44	35	68	55	36	587	19	18	601	21
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	87	44	35	68	55	36	587	19	18	601	21
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	407	620	258	465	620	110	1475	47	80	1531	53
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.46	0.46	0.46	0.92	0.92	0.92
Sat Flow, veh/h	558	1039	1583	454	1188	1583	94	3218	102	36	3340	115
Grp Volume(v), veh/h	147	0	44	103	0	55	329	0	313	334	0	306
Grp Sat Flow(s),veh/h/ln	1598	0	1583	1642	0	1583	1737	0	1677	1816	0	1675
Q Serve(g_s), s	0.3	0.0	1.0	0.0	0.0	1.3	0.0	0.0	7.5	0.0	0.0	1.4
Cycle Q Clear(g_c), s	3.2	0.0	1.0	2.1	0.0	1.3	7.0	0.0	7.5	1.4	0.0	1.4
Prop In Lane	0.41		1.00	0.34		1.00	0.11		0.06	0.05		0.07
Lane Grp Cap(c), veh/h	710	0	620	724	0	620	863	0	769	896	0	768
V/C Ratio(X)	0.21	0.00	0.07	0.14	0.00	0.09	0.38	0.00	0.41	0.37	0.00	0.40
Avail Cap(c_a), veh/h	710	0	620	724	0	620	863	0	769	896	0	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	11.4	11.8	0.0	11.5	10.7	0.0	10.8	1.4	0.0	1.4
Incr Delay (d2), s/veh	0.7	0.0	0.2	0.4	0.0	0.3	1.3	0.0	1.6	1.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.5	1.2	0.0	0.6	3.9	0.0	3.7	0.9	0.0	0.8
LnGrp Delay(d),s/veh	12.7	0.0	11.6	12.2	0.0	11.8	12.0	0.0	12.4	2.6	0.0	3.0
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		191			158			642			640	
Approach Delay, s/veh		12.5			12.0			12.2			2.8	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		5.2		3.4		4.1		9.5				
Green Ext Time (p_c), s		0.9		4.2		0.6		3.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				8.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Existing AM Conditions  
 06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	258	19	69	250	245	9	386	176	144	466	38
Future Volume (veh/h)	32	258	19	69	250	245	9	386	176	144	466	38
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	258	19	69	250	245	9	386	176	144	466	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	687	584	383	687	584	61	1772	821	336	1077	90
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	899	1863	1583	1098	1863	1583	27	3416	1583	517	2077	173
Grp Volume(v), veh/h	32	258	19	69	250	245	211	184	176	283	0	365
Grp Sat Flow(s),veh/h/ln	899	1863	1583	1098	1863	1583	1833	1610	1583	1103	0	1665
Q Serve(g_s), s	2.2	8.1	0.6	3.9	7.8	9.2	0.0	5.0	4.8	10.0	0.0	10.8
Cycle Q Clear(g_c), s	10.0	8.1	0.6	12.1	7.8	9.2	4.9	5.0	4.8	15.0	0.0	10.8
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.51		0.10
Lane Grp Cap(c), veh/h	333	687	584	383	687	584	998	835	821	640	0	863
V/C Ratio(X)	0.10	0.38	0.03	0.18	0.36	0.42	0.21	0.22	0.21	0.44	0.00	0.42
Avail Cap(c_a), veh/h	333	687	584	383	687	584	998	835	821	640	0	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	18.5	16.1	22.9	18.4	18.9	10.4	10.5	10.4	13.1	0.0	11.9
Incr Delay (d2), s/veh	0.6	1.6	0.1	1.0	1.5	2.2	0.5	0.6	0.6	2.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.5	0.3	1.3	4.3	4.4	2.7	2.3	2.2	4.6	0.0	5.3
LnGrp Delay(d),s/veh	22.6	20.1	16.2	23.9	19.9	21.1	10.9	11.1	11.0	15.3	0.0	13.4
LnGrp LOS	C	C	B	C	B	C	B	B	B	B		B
Approach Vol, veh/h		309			564			571			648	
Approach Delay, s/veh		20.1			20.9			11.0			14.2	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		46.0		34.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		29.5		41.5		29.5		41.5				
Max Q Clear Time (g_c+I1), s		12.0		17.0		14.1		7.0				
Green Ext Time (p_c), s		1.6		4.8		2.3		3.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	138	19	18	56	16	9	29	26	29	52	56
Future Vol, veh/h	20	138	19	18	56	16	9	29	26	29	52	56
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	138	19	18	56	16	9	29	26	29	52	56
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	8.1	7.9	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	11%	20%	21%
Vol Thru, %	45%	78%	62%	38%
Vol Right, %	41%	11%	18%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	177	90	137
LT Vol	9	20	18	29
Through Vol	29	138	56	52
RT Vol	26	19	16	56
Lane Flow Rate	64	177	90	137
Geometry Grp	1	1	1	1
Degree of Util (X)	0.08	0.219	0.113	0.168
Departure Headway (Hd)	4.49	4.452	4.524	4.419
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	797	807	792	812
Service Time	2.519	2.477	2.553	2.444
HCM Lane V/C Ratio	0.08	0.219	0.114	0.169
HCM Control Delay	7.9	8.7	8.1	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.8	0.4	0.6

<b>Intersection</b>												
Intersection Delay, s/veh	9.6											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	216	22	23	206	40	18	22	9	31	26	22
Future Vol, veh/h	31	216	22	23	206	40	18	22	9	31	26	22
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	216	22	23	206	40	18	22	9	31	26	22
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	9.9	9.8	8.7	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	12%	9%	39%
Vol Thru, %	45%	80%	77%	33%
Vol Right, %	18%	8%	15%	28%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	269	269	79
LT Vol	18	31	23	31
Through Vol	22	216	206	26
RT Vol	9	22	40	22
Lane Flow Rate	49	269	269	79
Geometry Grp	1	1	1	1
Degree of Util (X)	0.071	0.339	0.335	0.112
Departure Headway (Hd)	5.217	4.532	4.488	5.117
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	791	799	697
Service Time	3.278	2.569	2.527	3.175
HCM Lane V/C Ratio	0.072	0.34	0.337	0.113
HCM Control Delay	8.7	9.9	9.8	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.5	1.5	0.4



Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	147	34	33	78	44	48
Future Vol, veh/h	147	34	33	78	44	48
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	147	34	33	78	44	48
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.2	8.1	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	48%	0%	30%
Vol Thru, %	0%	81%	70%
Vol Right, %	52%	19%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	92	181	111
LT Vol	44	0	33
Through Vol	0	147	78
RT Vol	48	34	0
Lane Flow Rate	92	181	111
Geometry Grp	1	1	1
Degree of Util (X)	0.111	0.205	0.132
Departure Headway (Hd)	4.355	4.069	4.295
Convergence, Y/N	Yes	Yes	Yes
Cap	828	869	821
Service Time	2.355	2.156	2.393
HCM Lane V/C Ratio	0.111	0.208	0.135
HCM Control Delay	7.9	8.2	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.8	0.5

HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Existing AM Conditions  
06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	21	220	48	20	195	23	39	63	48	12	28	20
Future Volume (veh/h)	21	220	48	20	195	23	39	63	48	12	28	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	220	48	20	195	23	39	63	48	12	28	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	630	130	93	686	76	208	325	215	164	361	226
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	55	1427	295	63	1553	173	324	796	527	225	883	554
Grp Volume(v), veh/h	289	0	0	238	0	0	150	0	0	60	0	0
Grp Sat Flow(s),veh/h/ln1777	0	0	1789	0	0	1647	0	0	1662	0	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	5.0	0.0	0.0	3.3	0.0	0.0	1.3	0.0	0.0
Prop In Lane	0.07		0.17	0.08		0.10	0.26		0.32	0.20		0.33
Lane Grp Cap(c), veh/h	849	0	0	855	0	0	748	0	0	751	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.28	0.00	0.00	0.20	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	849	0	0	855	0	0	748	0	0	751	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	0.0	10.7	0.0	0.0	11.5	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.8	0.0	0.0	0.6	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln3.4	0.0	0.0	2.7	0.0	0.0	1.7	0.0	0.0	0.6	0.0	0.0	0.0
LnGrp Delay(d),s/veh	12.2	0.0	0.0	11.6	0.0	0.0	12.1	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		289			238			150			60	
Approach Delay, s/veh		12.2			11.6			12.1			11.1	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.0		31.0		29.0		31.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.5		26.5		24.5		26.5				
Max Q Clear Time (g_c+I1), s		5.3		8.4		3.3		7.0				
Green Ext Time (p_c), s		0.7		1.6		0.2		1.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Existing AM Conditions  
06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	13	58	11	21	23	42	8	857	18	63	964	5
Future Volume (veh/h)	13	58	11	21	23	42	8	857	18	63	964	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	13	58	11	21	23	12	8	857	18	63	964	5
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	356	62	236	242	413	46	2316	48	143	2091	11
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	161	1365	236	677	926	1583	9	3446	72	145	3111	16
Grp Volume(v), veh/h	82	0	0	44	0	12	462	0	421	500	0	532
Grp Sat Flow(s),veh/h/ln	1763	0	0	1603	0	1583	1844	0	1682	1580	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	9.9	0.0	0.0	13.5
Cycle Q Clear(g_c), s	3.2	0.0	0.0	1.6	0.0	0.5	9.8	0.0	9.9	11.0	0.0	13.5
Prop In Lane	0.16		0.13	0.48		1.00	0.02		0.04	0.13		0.01
Lane Grp Cap(c), veh/h	477	0	0	451	0	413	1249	0	1131	1081	0	1138
V/C Ratio(X)	0.17	0.00	0.00	0.10	0.00	0.03	0.37	0.00	0.37	0.46	0.00	0.47
Avail Cap(c_a), veh/h	477	0	0	451	0	413	1249	0	1131	1081	0	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	25.4	0.0	24.8	6.4	0.0	6.5	6.7	0.0	7.1
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.4	0.0	0.1	0.8	0.0	0.9	1.4	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.9	0.0	0.2	5.5	0.0	4.9	6.3	0.0	6.6
LnGrp Delay(d),s/veh	26.7	0.0	0.0	25.9	0.0	24.9	7.3	0.0	7.4	8.1	0.0	8.4
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		82			56			883			1032	
Approach Delay, s/veh		26.7			25.7			7.3			8.3	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		11.9		5.2		15.5		3.6				
Green Ext Time (p_c), s		6.6		0.3		9.3		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.1								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 10: El Camino Real & Howard Avenue

Existing AM Conditions  
 06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↑	↕		↕			↕	
Traffic Volume (veh/h)	19	108	33	54	67	126	7	822	45	131	880	3
Future Volume (veh/h)	19	108	33	54	67	126	7	822	45	131	880	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	108	33	54	67	126	7	822	45	131	880	3
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	320	90	378	466	396	45	2161	118	243	1627	6
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	101	1281	359	1243	1863	1583	7	3324	181	293	2503	9
Grp Volume(v), veh/h	160	0	0	54	67	126	460	0	414	431	0	583
Grp Sat Flow(s),veh/h/ln1741	0	0	0	1243	1863	1583	1849	0	1663	1111	0	1694
Q Serve(g_s), s	0.0	0.0	0.0	0.0	2.5	5.8	0.0	0.0	10.4	7.6	0.0	0.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	3.6	2.5	5.8	10.3	0.0	10.4	18.0	0.0	0.0
Prop In Lane	0.12		0.21	1.00		1.00	0.02		0.11	0.30		0.01
Lane Grp Cap(c), veh/h	480	0	0	378	466	396	1242	0	1081	774	0	1101
V/C Ratio(X)	0.33	0.00	0.00	0.14	0.14	0.32	0.37	0.00	0.38	0.56	0.00	0.53
Avail Cap(c_a), veh/h	480	0	0	378	466	396	1242	0	1081	774	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh 27.8	0.0	0.0	0.0	26.7	26.3	27.5	7.3	0.0	7.3	0.7	0.0	0.0
Incr Delay (d2), s/veh 1.9	0.0	0.0	0.0	0.8	0.6	2.1	0.8	0.0	1.0	2.9	0.0	1.8
Initial Q Delay(d3),s/veh 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln3.5	0.0	0.0	1.1	1.4	2.8	5.5	0.0	5.0	2.6	0.0	0.6	
LnGrp Delay(d),s/veh 29.6	0.0	0.0	0.0	27.5	26.9	29.6	8.2	0.0	8.4	3.6	0.0	1.8
LnGrp LOS	C			C	C	C	A		A	A		A
Approach Vol, veh/h		160			247			874			1014	
Approach Delay, s/veh		29.6			28.4			8.3			2.6	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		63.0		27.0		63.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		58.5		22.5		58.5				
Max Q Clear Time (g_c+I1), s		8.6		20.0		7.8		12.4				
Green Ext Time (p_c), s		0.7		9.7		0.8		6.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.4								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Existing AM Conditions  
 06/21/2020

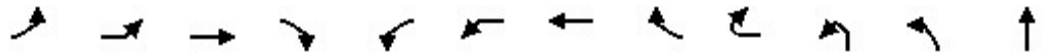


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	18	225	27	106	91	91	8	529	265	114	624	50
Future Volume (veh/h)	18	225	27	106	91	91	8	529	265	114	624	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	18	225	27	106	91	91	8	529	0	114	624	50
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	352	42	325	157	157	71	904	404	198	1159	518
Arrive On Green	0.22	0.22	0.22	0.18	0.18	0.18	0.04	0.26	0.00	0.11	0.33	0.33
Sat Flow, veh/h	1774	1632	196	1774	856	856	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	18	0	252	106	0	182	8	529	0	114	624	50
Grp Sat Flow(s),veh/h/ln	1774	0	1828	1774	0	1712	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.4	0.0	6.4	2.7	0.0	5.0	0.2	6.7	0.0	3.1	7.4	1.1
Cycle Q Clear(g_c), s	0.4	0.0	6.4	2.7	0.0	5.0	0.2	6.7	0.0	3.1	7.4	1.1
Prop In Lane	1.00		0.11	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	382	0	394	325	0	314	71	904	404	198	1159	518
V/C Ratio(X)	0.05	0.00	0.64	0.33	0.00	0.58	0.11	0.59	0.00	0.57	0.54	0.10
Avail Cap(c_a), veh/h	858	0	884	678	0	654	228	1671	747	498	2209	988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	0.0	18.3	18.2	0.0	19.1	23.7	16.7	0.0	21.6	14.1	12.0
Incr Delay (d2), s/veh	0.1	0.0	1.7	0.6	0.0	1.7	0.7	0.6	0.0	2.6	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.4	1.3	0.0	2.5	0.1	3.3	0.0	1.7	3.6	0.5
LnGrp Delay(d),s/veh	16.0	0.0	20.0	18.8	0.0	20.8	24.4	17.3	0.0	24.2	14.5	12.1
LnGrp LOS	B		C	B		C	C	B		C	B	B
Approach Vol, veh/h		270			288			537			788	
Approach Delay, s/veh		19.8			20.1			17.4			15.7	
Approach LOS		B			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	16.1		14.1	5.0	19.8		12.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.9	22.7		23.3	5.1	30.5		18.1				
Max Q Clear Time (g_c+1/3), s	15.1	8.7		8.4	2.2	9.4		7.0				
Green Ext Time (p_c), s	0.1	2.9		1.3	0.0	4.3		1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.5									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis

Existing AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/21/2020



Movement	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations			↕				↕					↕
Traffic Volume (vph)	22	9	65	7	20	1	26	40	15	2	3	831
Future Volume (vph)	22	9	65	7	20	1	26	40	15	2	3	831
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5				4.5					4.5
Lane Util. Factor			1.00				1.00					0.95
Frt			0.99				0.93					0.99
Flt Protected			0.99				0.99					1.00
Satd. Flow (prot)			1818				1710					3497
Flt Permitted			0.83				0.91					0.95
Satd. Flow (perm)			1531				1567					3327
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	9	65	7	20	1	26	40	15	2	3	831
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	103	0	0	0	102	0	0	0	0	906
Turn Type	Perm	Perm	NA		Perm	Perm	NA			Perm	Perm	NA
Protected Phases			4				8					1
Permitted Phases	4	4			8	8				1	1	
Actuated Green, G (s)			9.2				9.2					59.6
Effective Green, g (s)			9.2				9.2					59.6
Actuated g/C Ratio			0.11				0.11					0.69
Clearance Time (s)			4.5				4.5					4.5
Vehicle Extension (s)			3.0				3.0					3.0
Lane Grp Cap (vph)			161				165					2279
v/s Ratio Prot												
v/s Ratio Perm			c0.07				0.07					0.27
v/c Ratio			0.64				0.62					0.40
Uniform Delay, d1			37.3				37.2					5.9
Progression Factor			1.00				1.00					1.00
Incremental Delay, d2			8.1				6.7					0.5
Delay (s)			45.4				44.0					6.4
Level of Service			D				D					A
Approach Delay (s)			45.4				44.0					6.4
Approach LOS			D				D					A
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			87.0				Sum of lost time (s)		13.5			
Intersection Capacity Utilization			82.6%				ICU Level of Service		E			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Existing AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/21/2020



Movement	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2
Lane Configurations					←↑↑				↕			
Traffic Volume (vph)	63	7	3	36	900	9	7	16	8	9	2	5
Future Volume (vph)	63	7	3	36	900	9	7	16	8	9	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5				4.5			
Lane Util. Factor					0.95				1.00			
Frt					1.00				0.96			
Flt Protected					1.00				0.98			
Satd. Flow (prot)					3523				1744			
Flt Permitted					0.88				0.84			
Satd. Flow (perm)					3123				1497			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	7	3	36	900	9	7	16	8	9	2	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	955	0	0	0	35	0	0	0
Turn Type			Perm	Perm	NA			Perm	NA			Perm
Protected Phases					5				9			
Permitted Phases			5	5				9				13
Actuated Green, G (s)					59.6				4.7			
Effective Green, g (s)					59.6				4.7			
Actuated g/C Ratio					0.69				0.05			
Clearance Time (s)					4.5				4.5			
Vehicle Extension (s)					3.0				3.0			
Lane Grp Cap (vph)					2139				80			
v/s Ratio Prot												
v/s Ratio Perm					c0.31				c0.02			
v/c Ratio					0.45				0.44			
Uniform Delay, d1					6.2				39.9			
Progression Factor					1.00				1.00			
Incremental Delay, d2					0.7				3.8			
Delay (s)					6.9				43.7			
Level of Service					A				D			
Approach Delay (s)					6.9				43.7			
Approach LOS					A				D			
Intersection Summary												

# HCM Signalized Intersection Capacity Analysis

Existing AM Conditions

## 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue

06/01/2020














Movement	SWL	SWT	SWR	SWR2
Lane Configurations				
Traffic Volume (vph)	39	3	7	4
Future Volume (vph)	39	3	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		
Lane Util. Factor	0.95	0.95		
Frt	1.00	0.94		
Flt Protected	0.95	0.98		
Satd. Flow (prot)	1681	1625		
Flt Permitted	0.85	0.82		
Satd. Flow (perm)	1506	1372		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00
Adj. Flow (vph)	39	3	7	4
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	30	28	0	0
Turn Type	Perm	NA		
Protected Phases		13		
Permitted Phases	13			
Actuated Green, G (s)	4.7	4.7		
Effective Green, g (s)	4.7	4.7		
Actuated g/C Ratio	0.05	0.05		
Clearance Time (s)	4.5	4.5		
Vehicle Extension (s)	3.0	3.0		
Lane Grp Cap (vph)	81	74		
v/s Ratio Prot				
v/s Ratio Perm	0.02	0.02		
v/c Ratio	0.37	0.38		
Uniform Delay, d1	39.7	39.7		
Progression Factor	1.00	1.00		
Incremental Delay, d2	2.8	3.2		
Delay (s)	42.6	43.0		
Level of Service	D	D		
Approach Delay (s)		42.8		
Approach LOS		D		
<b>Intersection Summary</b>				



HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

Existing PM Conditions  
 06/21/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	149	72	100	737	575	115		
Future Volume (veh/h)	149	72	100	737	575	115		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	149	72	100	737	575	115		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	440	212	133	1543	795	159		
Arrive On Green	0.38	0.38	0.08	0.44	0.27	0.27		
Sat Flow, veh/h	1146	554	1774	3632	3035	587		
Grp Volume(v), veh/h	222	0	100	737	345	345		
Grp Sat Flow(s),veh/h/ln	1708	0	1774	1770	1770	1759		
Q Serve(g_s), s	4.6	0.0	2.8	7.4	8.8	8.9		
Cycle Q Clear(g_c), s	4.6	0.0	2.8	7.4	8.8	8.9		
Prop In Lane	0.67	0.32	1.00			0.33		
Lane Grp Cap(c), veh/h	655	0	133	1543	478	475		
V/C Ratio(X)	0.34	0.00	0.75	0.48	0.72	0.73		
Avail Cap(c_a), veh/h	655	0	317	2267	657	653		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.9	0.0	22.6	10.0	16.5	16.5		
Incr Delay (d2), s/veh	1.4	0.0	8.1	0.2	2.4	2.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.0	1.6	3.6	4.5	4.6		
LnGrp Delay(d),s/veh	12.3	0.0	30.7	10.2	18.9	19.0		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	222			837	690			
Approach Delay, s/veh	12.3			12.7	19.0			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.6	8.2	18.0				26.2
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.1	8.9	18.5				31.9
Max Q Clear Time (g_c+I1), s		6.6	4.8	10.9				9.4
Green Ext Time (p_c), s		0.5	0.1	2.6				5.1
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			15.1					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue

Existing PM Conditions  
06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	108	113	64	121	64	116	668	35	23	488	142
Future Volume (veh/h)	111	108	113	64	121	64	116	668	35	23	488	142
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	111	108	113	64	121	64	116	668	35	23	488	142
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	285	298	210	361	541	235	1281	68	88	1311	371
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	1.00	1.00	1.00	0.51	0.51	0.51
Sat Flow, veh/h	1194	835	874	380	1057	1583	308	2520	134	47	2580	730
Grp Volume(v), veh/h	111	0	221	185	0	64	381	0	438	348	0	305
Grp Sat Flow(s),veh/h/ln	1194	0	1709	1436	0	1583	1290	0	1672	1791	0	1566
Q Serve(g_s), s	4.8	0.0	5.9	1.1	0.0	1.7	3.4	0.0	0.0	0.0	0.0	7.1
Cycle Q Clear(g_c), s	11.7	0.0	5.9	6.9	0.0	1.7	10.5	0.0	0.0	6.8	0.0	7.1
Prop In Lane	1.00		0.51	0.35		1.00	0.30		0.08	0.07		0.47
Lane Grp Cap(c), veh/h	390	0	584	571	0	541	734	0	850	974	0	796
V/C Ratio(X)	0.28	0.00	0.38	0.32	0.00	0.12	0.52	0.00	0.52	0.36	0.00	0.38
Avail Cap(c_a), veh/h	390	0	584	571	0	541	734	0	850	974	0	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	14.9	14.7	0.0	13.5	0.3	0.0	0.0	8.9	0.0	9.0
Incr Delay (d2), s/veh	1.8	0.0	1.9	1.5	0.0	0.4	2.6	0.0	2.2	1.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	3.1	2.6	0.0	0.8	1.2	0.0	0.5	3.8	0.0	3.4
LnGrp Delay(d),s/veh	21.6	0.0	16.8	16.2	0.0	14.0	2.9	0.0	2.2	9.9	0.0	10.4
LnGrp LOS	C		B	B		B	A		A	A		B
Approach Vol, veh/h		332			249			819			653	
Approach Delay, s/veh		18.4			15.6			2.5			10.2	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		13.7		9.1		8.9		12.5				
Green Ext Time (p_c), s		0.9		4.3		0.9		5.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.1								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 3: California Drive & Bayswater Avenue

Existing PM Conditions  
 06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	↔
Traffic Volume (veh/h)	42	84	72	15	65	57	31	707	24	14	617	37
Future Volume (veh/h)	42	84	72	15	65	57	31	707	24	14	617	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	42	84	72	15	65	57	31	707	24	14	617	37
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	454	594	149	580	594	96	1555	52	74	1553	92
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.47	0.47	0.47	0.95	0.95	0.95
Sat Flow, veh/h	442	1212	1583	208	1547	1583	65	3273	109	24	3269	193
Grp Volume(v), veh/h	126	0	72	80	0	57	393	0	369	350	0	318
Grp Sat Flow(s),veh/h/ln	1653	0	1583	1755	0	1583	1771	0	1676	1825	0	1661
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	1.4	0.0	0.0	8.9	0.0	0.0	0.9
Cycle Q Clear(g_c), s	2.7	0.0	1.8	1.7	0.0	1.4	8.4	0.0	8.9	0.9	0.0	0.9
Prop In Lane	0.33		1.00	0.19		1.00	0.08		0.07	0.04		0.12
Lane Grp Cap(c), veh/h	700	0	594	729	0	594	906	0	796	929	0	789
V/C Ratio(X)	0.18	0.00	0.12	0.11	0.00	0.10	0.43	0.00	0.46	0.38	0.00	0.40
Avail Cap(c_a), veh/h	700	0	594	729	0	594	906	0	796	929	0	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	12.3	12.2	0.0	12.2	10.5	0.0	10.6	0.8	0.0	0.8
Incr Delay (d2), s/veh	0.6	0.0	0.4	0.3	0.0	0.3	1.5	0.0	1.9	1.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.8	0.9	0.0	0.7	4.6	0.0	4.5	0.7	0.0	0.7
LnGrp Delay(d),s/veh	13.1	0.0	12.7	12.5	0.0	12.5	12.0	0.0	12.5	2.0	0.0	2.3
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		198			137			762			668	
Approach Delay, s/veh		13.0			12.5			12.3			2.1	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		4.7		2.9		3.7		10.9				
Green Ext Time (p_c), s		0.8		4.5		0.5		4.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				8.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Existing PM Conditions  
 06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	268	33	110	295	313	16	462	177	207	470	35
Future Volume (veh/h)	21	268	33	110	295	313	16	462	177	207	470	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	21	268	33	110	295	313	16	462	177	207	470	35
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	850	722	482	850	722	68	1456	683	310	757	59
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	809	1863	1583	1074	1863	1583	46	3377	1583	537	1755	136
Grp Volume(v), veh/h	21	268	33	110	295	313	254	224	177	282	0	430
Grp Sat Flow(s),veh/h/ln	809	1863	1583	1074	1863	1583	1813	1610	1583	756	0	1671
Q Serve(g_s), s	1.4	7.3	0.9	5.8	8.2	10.7	0.0	7.4	5.7	21.6	0.0	15.8
Cycle Q Clear(g_c), s	9.6	7.3	0.9	13.1	8.2	10.7	7.2	7.4	5.7	29.0	0.0	15.8
Prop In Lane	1.00		1.00	1.00		1.00	0.06		1.00	0.73		0.08
Lane Grp Cap(c), veh/h	376	850	722	482	850	722	829	694	683	404	0	721
V/C Ratio(X)	0.06	0.32	0.05	0.23	0.35	0.43	0.31	0.32	0.26	0.70	0.00	0.60
Avail Cap(c_a), veh/h	376	850	722	482	850	722	829	694	683	404	0	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	13.8	12.1	18.0	14.1	14.7	15.0	15.0	14.6	23.9	0.0	17.4
Incr Delay (d2), s/veh	0.3	1.0	0.1	1.1	1.1	1.9	1.0	1.2	0.9	9.6	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.0	0.4	1.9	4.4	5.0	3.9	3.5	2.7	6.9	0.0	7.9
LnGrp Delay(d),s/veh	17.4	14.8	12.2	19.1	15.2	16.6	15.9	16.3	15.5	33.5	0.0	21.1
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		C
Approach Vol, veh/h		322			718			655			712	
Approach Delay, s/veh		14.7			16.4			15.9			26.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		39.0		41.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		36.5		34.5		36.5		34.5				
Max Q Clear Time (g_c+I1), s		11.6		31.0		15.1		9.4				
Green Ext Time (p_c), s		1.8		1.7		3.4		3.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				18.9								
HCM 2010 LOS				B								

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	144	36	22	105	60	22	18	35	33	85	78
Future Vol, veh/h	34	144	36	22	105	60	22	18	35	33	85	78
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	144	36	22	105	60	22	18	35	33	85	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	9.7	9.3	8.5	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	16%	12%	17%
Vol Thru, %	24%	67%	56%	43%
Vol Right, %	47%	17%	32%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	214	187	196
LT Vol	22	34	22	33
Through Vol	18	144	105	85
RT Vol	35	36	60	78
Lane Flow Rate	75	214	187	196
Geometry Grp	1	1	1	1
Degree of Util (X)	0.102	0.282	0.243	0.259
Departure Headway (Hd)	4.91	4.741	4.678	4.762
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	753	763	749
Service Time	2.984	2.801	2.739	2.824
HCM Lane V/C Ratio	0.104	0.284	0.245	0.262
HCM Control Delay	8.5	9.7	9.3	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.2	1	1

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	263	37	27	261	86	21	27	17	42	35	51
Future Vol, veh/h	40	263	37	27	261	86	21	27	17	42	35	51
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	263	37	27	261	86	21	27	17	42	35	51
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	12.3	12.7	9.6	10.1
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	12%	7%	33%
Vol Thru, %	42%	77%	70%	27%
Vol Right, %	26%	11%	23%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	340	374	128
LT Vol	21	40	27	42
Through Vol	27	263	261	35
RT Vol	17	37	86	51
Lane Flow Rate	65	340	374	128
Geometry Grp	1	1	1	1
Degree of Util (X)	0.105	0.469	0.503	0.2
Departure Headway (Hd)	5.836	4.961	4.845	5.619
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	731	748	639
Service Time	3.879	2.971	2.855	3.656
HCM Lane V/C Ratio	0.106	0.465	0.5	0.2
HCM Control Delay	9.6	12.3	12.7	10.1
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.4	2.5	2.9	0.7

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	55	65	153	63	78
Future Vol, veh/h	153	55	65	153	63	78
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	153	55	65	153	63	78
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.9	9.3	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	45%	0%	30%
Vol Thru, %	0%	74%	70%
Vol Right, %	55%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	141	208	218
LT Vol	63	0	65
Through Vol	0	153	153
RT Vol	78	55	0
Lane Flow Rate	141	208	218
Geometry Grp	1	1	1
Degree of Util (X)	0.182	0.252	0.276
Departure Headway (Hd)	4.64	4.358	4.555
Convergence, Y/N	Yes	Yes	Yes
Cap	773	824	789
Service Time	2.673	2.385	2.582
HCM Lane V/C Ratio	0.182	0.252	0.276
HCM Control Delay	8.7	8.9	9.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	1	1.1

HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Existing PM Conditions  
06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	29	240	54	24	263	50	49	55	70	32	32	54
Future Volume (veh/h)	29	240	54	24	263	50	49	55	70	32	32	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	29	240	54	24	263	50	49	55	70	32	32	54
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	593	125	94	622	113	224	252	264	214	220	296
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	74	1387	293	56	1457	263	343	615	645	321	537	724
Grp Volume(v), veh/h	323	0	0	337	0	0	174	0	0	118	0	0
Grp Sat Flow(s),veh/h/ln	1755	0	0	1776	0	0	1603	0	0	1582	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.0	7.2	0.0	0.0	3.6	0.0	0.0	2.4	0.0	0.0
Prop In Lane	0.09		0.17	0.07		0.15	0.28		0.40	0.27		0.46
Lane Grp Cap(c), veh/h	821	0	0	829	0	0	740	0	0	730	0	0
V/C Ratio(X)	0.39	0.00	0.00	0.41	0.00	0.00	0.24	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	821	0	0	829	0	0	740	0	0	730	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	0.0	11.1	0.0	0.0	10.7	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	1.5	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	3.9	0.0	0.0	1.9	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	0.0	12.6	0.0	0.0	11.4	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		323			337			174			118	
Approach Delay, s/veh		12.4			12.6			11.4			10.8	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		5.6		8.8		4.4		9.2				
Green Ext Time (p_c), s		0.9		1.7		0.5		1.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.1								
HCM 2010 LOS				B								



HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Existing PM Conditions  
06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	22	54	3	42	29	81	21	1090	34	81	946	6
Future Volume (veh/h)	22	54	3	42	29	81	21	1090	34	81	946	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	22	54	3	42	29	23	21	1090	34	81	946	6
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	337	17	286	184	413	60	2250	70	159	1851	12
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	359	1289	65	852	705	1583	28	3347	103	167	2754	18
Grp Volume(v), veh/h	79	0	0	71	0	23	594	0	551	462	0	571
Grp Sat Flow(s),veh/h/ln	1714	0	0	1558	0	1583	1802	0	1677	1246	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14.5	4.0	0.0	15.0
Cycle Q Clear(g_c), s	3.0	0.0	0.0	2.7	0.0	1.0	14.0	0.0	14.5	18.5	0.0	15.0
Prop In Lane	0.28		0.04	0.59		1.00	0.04		0.06	0.18		0.01
Lane Grp Cap(c), veh/h	470	0	0	444	0	413	1222	0	1127	864	0	1137
V/C Ratio(X)	0.17	0.00	0.00	0.16	0.00	0.06	0.49	0.00	0.49	0.53	0.00	0.50
Avail Cap(c_a), veh/h	470	0	0	444	0	413	1222	0	1127	864	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	25.9	0.0	24.9	7.1	0.0	7.2	6.9	0.0	7.3
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.8	0.0	0.3	1.4	0.0	1.5	2.4	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	1.5	0.0	0.5	8.0	0.0	7.1	6.9	0.0	7.5
LnGrp Delay(d),s/veh	26.6	0.0	0.0	26.7	0.0	25.2	8.5	0.0	8.8	9.3	0.0	8.9
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		79			94			1145			1033	
Approach Delay, s/veh		26.6			26.3			8.6			9.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		16.5		5.0		20.5		4.7				
Green Ext Time (p_c), s		9.7		0.3		9.8		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 10: El Camino Real & Howard Avenue

Existing PM Conditions  
 06/21/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↑	↕		↕			↕	
Traffic Volume (veh/h)	31	105	16	119	107	237	12	907	70	189	939	8
Future Volume (veh/h)	31	105	16	119	107	237	12	907	70	189	939	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	105	16	119	107	237	12	907	70	189	939	8
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	278	38	345	404	343	51	2203	169	289	1477	13
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	1.00	1.00	1.00
Sat Flow, veh/h	207	1284	175	1265	1863	1583	14	3223	247	338	2161	19
Grp Volume(v), veh/h	152	0	0	119	107	237	520	0	469	425	0	711
Grp Sat Flow(s),veh/h/ln	1666	0	0	1265	1863	1583	1832	0	1652	827	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	1.6	4.3	12.4	0.0	0.0	11.3	18.3	0.0	0.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	8.0	4.3	12.4	11.0	0.0	11.3	29.6	0.0	0.0
Prop In Lane	0.20		0.11	1.00		1.00	0.02		0.15	0.44		0.01
Lane Grp Cap(c), veh/h	409	0	0	345	404	343	1293	0	1129	623	0	1156
V/C Ratio(X)	0.37	0.00	0.00	0.34	0.27	0.69	0.40	0.00	0.42	0.68	0.00	0.62
Avail Cap(c_a), veh/h	409	0	0	345	404	343	1293	0	1129	623	0	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	0.0	30.8	29.3	32.5	6.3	0.0	6.3	2.0	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0	2.7	1.6	10.9	0.9	0.0	1.1	6.0	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	2.8	2.4	6.4	6.0	0.0	5.4	5.3	0.0	0.8
LnGrp Delay(d),s/veh	32.7	0.0	0.0	33.5	30.9	43.3	7.2	0.0	7.4	8.0	0.0	2.5
LnGrp LOS	C			C	C	D	A		A	A		A
Approach Vol, veh/h		152			463			989			1136	
Approach Delay, s/veh		32.7			37.9			7.3			4.5	
Approach LOS		C			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		66.0		24.0		66.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		61.5		19.5		61.5				
Max Q Clear Time (g_c+I1), s		8.4		31.6		14.4		13.3				
Green Ext Time (p_c), s		0.6		11.5		0.9		8.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.7								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Existing PM Conditions  
 06/21/2020

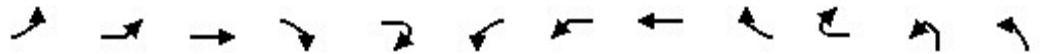


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	133	16	179	91	50	30	596	190	54	595	32
Future Volume (veh/h)	29	133	16	179	91	50	30	596	190	54	595	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	29	133	16	179	91	50	30	596	0	54	595	32
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	257	31	344	219	120	118	1087	487	152	1156	517
Arrive On Green	0.16	0.16	0.13	0.19	0.19	0.16	0.07	0.31	0.00	0.09	0.33	0.33
Sat Flow, veh/h	1774	1632	196	1774	1131	622	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	29	0	149	179	0	141	30	596	0	54	595	32
Grp Sat Flow(s),veh/h/ln	1774	0	1828	1774	0	1753	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.7	0.0	3.5	4.2	0.0	3.3	0.8	6.6	0.0	1.3	6.4	0.7
Cycle Q Clear(g_c), s	0.7	0.0	3.5	4.2	0.0	3.3	0.8	6.6	0.0	1.3	6.4	0.7
Prop In Lane	1.00		0.11	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	0	288	344	0	339	118	1087	487	152	1156	517
V/C Ratio(X)	0.10	0.00	0.52	0.52	0.00	0.42	0.25	0.55	0.00	0.35	0.51	0.06
Avail Cap(c_a), veh/h	1701	0	1753	1701	0	1681	246	3319	1485	246	3319	1485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	18.2	17.0	0.0	16.8	20.8	13.5	0.0	20.2	12.8	10.9
Incr Delay (d2), s/veh	0.2	0.0	1.4	1.2	0.0	0.8	1.1	0.4	0.0	1.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.9	2.2	0.0	1.7	0.4	3.2	0.0	0.7	3.1	0.3
LnGrp Delay(d),s/veh	17.1	0.0	19.6	18.2	0.0	17.6	21.9	14.0	0.0	21.6	13.1	10.9
LnGrp LOS	B		B	B		B	C	B		C	B	B
Approach Vol, veh/h		178			320			626			681	
Approach Delay, s/veh		19.2			18.0			14.4			13.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	17.4		10.4	6.1	18.3		12.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	42.5	42.5		43.5	5.0	42.5		43.5				
Max Q Clear Time (g_c+I), s	8.6	8.6		5.5	2.8	8.4		6.2				
Green Ext Time (p_c), s	0.0	4.3		1.0	0.0	4.4		1.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				15.2								
HCM 2010 LOS				B								

HCM Signalized Intersection Capacity Analysis

Existing PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/21/2020




















Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations			↔					↔				
Traffic Volume (vph)	18	9	48	7	1	18	3	43	35	11	1	4
Future Volume (vph)	18	9	48	7	1	18	3	43	35	11	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5					4.5				
Lane Util. Factor			1.00					1.00				
Frt			0.99					0.94				
Flt Protected			0.98					0.99				
Satd. Flow (prot)			1809					1741				
Flt Permitted			0.83					0.94				
Satd. Flow (perm)			1534					1654				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	9	48	7	1	18	3	43	35	11	1	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	83	0	0	0	0	110	0	0	0	0
Turn Type	Perm	Perm	NA			Perm	Perm	NA			Perm	Perm
Protected Phases			4					8				
Permitted Phases	4	4				8	8				1	1
Actuated Green, G (s)			9.0					9.0				
Effective Green, g (s)			9.0					9.0				
Actuated g/C Ratio			0.11					0.11				
Clearance Time (s)			4.5					4.5				
Vehicle Extension (s)			3.0					3.0				
Lane Grp Cap (vph)			171					184				
v/s Ratio Prot												
v/s Ratio Perm			0.05					0.07				
v/c Ratio			0.49					0.60				
Uniform Delay, d1			33.6					34.1				
Progression Factor			1.00					1.00				
Incremental Delay, d2			2.2					5.1				
Delay (s)			35.8					39.2				
Level of Service			D					D				
Approach Delay (s)			35.8					39.2				
Approach LOS			D					D				
<b>Intersection Summary</b>												
HCM 2000 Control Delay			12.5					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			80.6					Sum of lost time (s)		13.5		
Intersection Capacity Utilization			76.1%					ICU Level of Service		D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Existing PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/21/2020

												
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2
Lane Configurations	 					 				 		
Traffic Volume (vph)	919	49	8	3	30	928	8	7	7	1	3	3
Future Volume (vph)	919	49	8	3	30	928	8	7	7	1	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5					4.5				4.5		
Lane Util. Factor	0.95					0.95				1.00		
Frt	0.99					1.00				0.94		
Flt Protected	1.00					1.00				0.98		
Satd. Flow (prot)	3507					3525				1712		
Flt Permitted	0.95					0.90				0.83		
Satd. Flow (perm)	3337					3164				1457		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	919	49	8	3	30	928	8	7	7	1	3	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	981	0	0	0	0	976	0	0	0	14	0	0
Turn Type	NA			Perm	Perm	NA			Perm	NA		
Protected Phases	1					5				9		
Permitted Phases				5	5				9			
Actuated Green, G (s)	51.4					51.4				6.7		
Effective Green, g (s)	51.4					51.4				6.7		
Actuated g/C Ratio	0.64					0.64				0.08		
Clearance Time (s)	4.5					4.5				4.5		
Vehicle Extension (s)	3.0					3.0				3.0		
Lane Grp Cap (vph)	2128					2017				121		
v/s Ratio Prot												
v/s Ratio Perm	0.29					0.31				0.01		
v/c Ratio	0.46					0.48				0.12		
Uniform Delay, d1	7.5					7.6				34.2		
Progression Factor	1.00					1.00				1.00		
Incremental Delay, d2	0.7					0.8				0.4		
Delay (s)	8.2					8.5				34.6		
Level of Service	A					A				C		
Approach Delay (s)	8.2					8.5				34.6		
Approach LOS	A					A				C		
Intersection Summary												

# HCM Signalized Intersection Capacity Analysis

Existing PM Conditions

## 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue












06/21/2020



Movement	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	16	78	3	9	4
Future Volume (vph)	16	78	3	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		
Lane Util. Factor		0.95	0.95		
Frt		1.00	0.96		
Flt Protected		0.95	0.97		
Satd. Flow (prot)		1681	1648		
Flt Permitted		0.75	0.78		
Satd. Flow (perm)		1324	1334		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	78	3	9	4
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	56	54	0	0
Turn Type	Perm	Perm	NA		
Protected Phases			13		
Permitted Phases	13	13			
Actuated Green, G (s)		6.7	6.7		
Effective Green, g (s)		6.7	6.7		
Actuated g/C Ratio		0.08	0.08		
Clearance Time (s)		4.5	4.5		
Vehicle Extension (s)		3.0	3.0		
Lane Grp Cap (vph)		110	110		
v/s Ratio Prot					
v/s Ratio Perm		0.04	0.04		
v/c Ratio		0.51	0.49		
Uniform Delay, d1		35.4	35.3		
Progression Factor		1.00	1.00		
Incremental Delay, d2		3.7	3.4		
Delay (s)		39.0	38.7		
Level of Service		D	D		
Approach Delay (s)			38.9		
Approach LOS			D		
<b>Intersection Summary</b>					

HCM 2010 Signalized Intersection Summary  
1: California Drive & Burlingame Avenue

Existing+Project AM Conditions  
06/22/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	164	49	57	673	621	49		
Future Volume (veh/h)	164	49	57	673	621	49		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	164	49	57	673	621	49		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	543	162	97	1450	881	69		
Arrive On Green	0.41	0.41	0.05	0.41	0.26	0.26		
Sat Flow, veh/h	1323	395	1774	3632	3417	262		
Grp Volume(v), veh/h	214	0	57	673	330	340		
Grp Sat Flow(s),veh/h/ln	1727	0	1774	1770	1770	1817		
Q Serve(g_s), s	4.2	0.0	1.6	6.9	8.4	8.5		
Cycle Q Clear(g_c), s	4.2	0.0	1.6	6.9	8.4	8.5		
Prop In Lane	0.77	0.23	1.00			0.14		
Lane Grp Cap(c), veh/h	708	0	97	1450	469	481		
V/C Ratio(X)	0.30	0.00	0.59	0.46	0.70	0.71		
Avail Cap(c_a), veh/h	708	0	231	2160	690	709		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.9	0.0	23.1	10.8	16.6	16.6		
Incr Delay (d2), s/veh	1.1	0.0	5.5	0.2	1.9	1.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.9	3.4	4.4	4.5		
LnGrp Delay(d),s/veh	11.0	0.0	28.6	11.0	18.5	18.5		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	214			730	670			
Approach Delay, s/veh	11.0			12.4	18.5			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		25.0	7.2	17.7				25.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		20.5	6.5	19.5				30.5
Max Q Clear Time (g_c+I1), s		6.2	3.6	10.5				8.9
Green Ext Time (p_c), s		0.5	0.0	2.8				4.5
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			14.7					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue

Existing+Project AM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	112	80	42	132	81	78	588	43	30	541	87
Future Volume (veh/h)	80	112	80	42	132	81	78	588	43	30	541	87
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	80	112	80	42	132	81	78	588	43	30	541	87
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	503	396	283	189	549	620	179	1241	90	98	1312	206
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.92	0.92	0.92	0.46	0.46	0.46
Sat Flow, veh/h	1164	1012	723	294	1402	1583	231	2708	197	71	2863	449
Grp Volume(v), veh/h	80	0	192	174	0	81	346	0	363	345	0	313
Grp Sat Flow(s),veh/h/ln	1164	0	1735	1695	0	1583	1475	0	1660	1767	0	1616
Q Serve(g_s), s	3.0	0.0	4.5	0.0	0.0	2.0	1.1	0.0	1.9	0.0	0.0	7.8
Cycle Q Clear(g_c), s	6.7	0.0	4.5	3.8	0.0	2.0	8.9	0.0	1.9	7.4	0.0	7.8
Prop In Lane	1.00		0.42	0.24		1.00	0.23		0.12	0.09		0.28
Lane Grp Cap(c), veh/h	503	0	680	738	0	620	750	0	761	875	0	741
V/C Ratio(X)	0.16	0.00	0.28	0.24	0.00	0.13	0.46	0.00	0.48	0.39	0.00	0.42
Avail Cap(c_a), veh/h	503	0	680	738	0	620	750	0	761	875	0	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.5	0.0	12.5	12.2	0.0	11.7	1.5	0.0	1.4	10.8	0.0	10.9
Incr Delay (d2), s/veh	0.7	0.0	1.0	0.7	0.0	0.4	2.0	0.0	2.1	1.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.3	2.1	0.0	0.9	1.0	0.0	1.1	4.1	0.0	3.8
LnGrp Delay(d),s/veh	15.2	0.0	13.5	13.0	0.0	12.1	3.5	0.0	3.6	12.1	0.0	12.7
LnGrp LOS	B		B	B		B	A		A	B		B
Approach Vol, veh/h		272			255			709			658	
Approach Delay, s/veh		14.0			12.7			3.5			12.4	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		8.7		9.8		5.8		10.9				
Green Ext Time (p_c), s		1.2		4.0		1.1		4.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.4								
HCM 2010 LOS				A								



HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Existing+Project AM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↖↗			↖↗	
Traffic Volume (veh/h)	60	87	44	35	68	55	36	604	19	18	604	21
Future Volume (veh/h)	60	87	44	35	68	55	36	604	19	18	604	21
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	87	44	35	68	55	36	604	19	18	604	21
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	407	620	258	465	620	109	1478	45	80	1531	52
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.46	0.46	0.46	0.92	0.92	0.92
Sat Flow, veh/h	558	1039	1583	454	1188	1583	92	3226	99	36	3340	114
Grp Volume(v), veh/h	147	0	44	103	0	55	338	0	321	335	0	308
Grp Sat Flow(s),veh/h/ln	1598	0	1583	1642	0	1583	1739	0	1678	1815	0	1675
Q Serve(g_s), s	0.3	0.0	1.0	0.0	0.0	1.3	0.0	0.0	7.7	0.0	0.0	1.5
Cycle Q Clear(g_c), s	3.2	0.0	1.0	2.1	0.0	1.3	7.2	0.0	7.7	1.4	0.0	1.5
Prop In Lane	0.41		1.00	0.34		1.00	0.11		0.06	0.05		0.07
Lane Grp Cap(c), veh/h	710	0	620	724	0	620	864	0	769	895	0	768
V/C Ratio(X)	0.21	0.00	0.07	0.14	0.00	0.09	0.39	0.00	0.42	0.37	0.00	0.40
Avail Cap(c_a), veh/h	710	0	620	724	0	620	864	0	769	895	0	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	11.4	11.8	0.0	11.5	10.8	0.0	10.9	1.4	0.0	1.4
Incr Delay (d2), s/veh	0.7	0.0	0.2	0.4	0.0	0.3	1.3	0.0	1.7	1.2	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.5	1.2	0.0	0.6	4.0	0.0	3.8	0.9	0.0	0.8
LnGrp Delay(d),s/veh	12.7	0.0	11.6	12.2	0.0	11.8	12.1	0.0	12.6	2.6	0.0	3.0
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		191			158			659			643	
Approach Delay, s/veh		12.5			12.0			12.3			2.8	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		5.2		3.5		4.1		9.7				
Green Ext Time (p_c), s		0.9		4.2		0.6		3.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				8.6								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Existing+Project AM Conditions  
 06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	259	21	69	256	252	18	396	176	145	468	38
Future Volume (veh/h)	32	259	21	69	256	252	18	396	176	145	468	38
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	259	21	69	256	252	18	396	176	145	468	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	687	584	382	687	584	89	1717	821	333	1071	89
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	888	1863	1583	1095	1863	1583	78	3310	1583	511	2064	172
Grp Volume(v), veh/h	32	259	21	69	256	252	218	196	176	283	0	368
Grp Sat Flow(s),veh/h/ln	888	1863	1583	1095	1863	1583	1777	1610	1583	1082	0	1665
Q Serve(g_s), s	2.2	8.2	0.7	3.9	8.0	9.6	0.0	5.3	4.8	10.3	0.0	10.9
Cycle Q Clear(g_c), s	10.2	8.2	0.7	12.1	8.0	9.6	5.1	5.3	4.8	15.6	0.0	10.9
Prop In Lane	1.00		1.00	1.00		1.00	0.08		1.00	0.51		0.10
Lane Grp Cap(c), veh/h	328	687	584	382	687	584	971	835	821	630	0	864
V/C Ratio(X)	0.10	0.38	0.04	0.18	0.37	0.43	0.22	0.23	0.21	0.45	0.00	0.43
Avail Cap(c_a), veh/h	328	687	584	382	687	584	971	835	821	630	0	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	18.5	16.2	22.9	18.5	19.0	10.5	10.5	10.4	13.3	0.0	11.9
Incr Delay (d2), s/veh	0.6	1.6	0.1	1.0	1.5	2.3	0.5	0.7	0.6	2.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.5	0.3	1.3	4.4	4.5	2.8	2.5	2.2	4.6	0.0	5.4
LnGrp Delay(d),s/veh	22.8	20.1	16.3	24.0	20.0	21.3	11.0	11.2	11.0	15.6	0.0	13.4
LnGrp LOS	C	C	B	C	C	C	B	B	B	B		B
Approach Vol, veh/h		312			577			590			651	
Approach Delay, s/veh		20.1			21.0			11.1			14.4	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		46.0		34.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		29.5		41.5		29.5		41.5				
Max Q Clear Time (g_c+I1), s		12.2		17.6		14.1		7.3				
Green Ext Time (p_c), s		1.6		4.8		2.4		3.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.1								
HCM 2010 LOS				B								

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	138	39	27	56	16	14	31	28	29	62	56
Future Vol, veh/h	20	138	39	27	56	16	14	31	28	29	62	56
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	138	39	27	56	16	14	31	28	29	62	56
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	8.9	8.3	8.1	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	10%	27%	20%
Vol Thru, %	42%	70%	57%	42%
Vol Right, %	38%	20%	16%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	197	99	147
LT Vol	14	20	27	29
Through Vol	31	138	56	62
RT Vol	28	39	16	56
Lane Flow Rate	73	197	99	147
Geometry Grp	1	1	1	1
Degree of Util (X)	0.093	0.244	0.127	0.184
Departure Headway (Hd)	4.6	4.461	4.626	4.514
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	777	806	774	794
Service Time	2.635	2.489	2.659	2.545
HCM Lane V/C Ratio	0.094	0.244	0.128	0.185
HCM Control Delay	8.1	8.9	8.3	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1	0.4	0.7

Intersection												
Intersection Delay, s/veh	10.4											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	61	216	22	23	206	64	18	60	9	35	34	24
Future Vol, veh/h	61	216	22	23	206	64	18	60	9	35	34	24
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	216	22	23	206	64	18	60	9	35	34	24
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	10.9	10.6	9.3	9.3
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	20%	8%	38%
Vol Thru, %	69%	72%	70%	37%
Vol Right, %	10%	7%	22%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	299	293	93
LT Vol	18	61	23	35
Through Vol	60	216	206	34
RT Vol	9	22	64	24
Lane Flow Rate	87	299	293	93
Geometry Grp	1	1	1	1
Degree of Util (X)	0.131	0.394	0.378	0.138
Departure Headway (Hd)	5.411	4.747	4.649	5.344
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	655	753	768	664
Service Time	3.505	2.811	2.714	3.436
HCM Lane V/C Ratio	0.133	0.397	0.382	0.14
HCM Control Delay	9.3	10.9	10.6	9.3
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.4	1.9	1.8	0.5

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	167	34	33	83	44	48
Future Vol, veh/h	167	34	33	83	44	48
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	167	34	33	83	44	48
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.4	8.1	8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	48%	0%	28%
Vol Thru, %	0%	83%	72%
Vol Right, %	52%	17%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	92	201	116
LT Vol	44	0	33
Through Vol	0	167	83
RT Vol	48	34	0
Lane Flow Rate	92	201	116
Geometry Grp	1	1	1
Degree of Util (X)	0.113	0.228	0.142
Departure Headway (Hd)	4.411	4.083	4.415
Convergence, Y/N	Yes	Yes	Yes
Cap	817	864	817
Service Time	2.416	2.18	2.415
HCM Lane V/C Ratio	0.113	0.233	0.142
HCM Control Delay	8	8.4	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.9	0.5

HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Existing+Project AM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	21	250	48	20	197	23	39	63	48	12	28	20
Future Volume (veh/h)	21	250	48	20	197	23	39	63	48	12	28	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	250	48	20	197	23	39	63	48	12	28	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	648	119	92	686	76	208	325	215	164	361	226
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	50	1466	269	62	1554	171	324	796	527	225	883	554
Grp Volume(v), veh/h	319	0	0	240	0	0	150	0	0	60	0	0
Grp Sat Flow(s),veh/h/ln	1785	0	0	1787	0	0	1647	0	0	1662	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	5.1	0.0	0.0	3.3	0.0	0.0	1.3	0.0	0.0
Prop In Lane	0.07		0.15	0.08		0.10	0.26		0.32	0.20		0.33
Lane Grp Cap(c), veh/h	852	0	0	854	0	0	748	0	0	751	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.28	0.00	0.00	0.20	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	852	0	0	854	0	0	748	0	0	751	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.3	0.0	0.0	10.8	0.0	0.0	11.5	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.8	0.0	0.0	0.6	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	2.7	0.0	0.0	1.7	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	12.6	0.0	0.0	11.6	0.0	0.0	12.1	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		319			240			150				60
Approach Delay, s/veh		12.6			11.6			12.1				11.1
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.0		31.0		29.0		31.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.5		26.5		24.5		26.5				
Max Q Clear Time (g_c+I1), s		5.3		9.1		3.3		7.1				
Green Ext Time (p_c), s		0.7		1.8		0.2		1.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Existing+Project AM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Volume (veh/h)	13	58	11	23	23	45	8	857	18	83	964	5
Future Volume (veh/h)	13	58	11	23	23	45	8	857	18	83	964	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	13	58	11	23	23	15	8	857	18	83	964	5
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	356	62	246	230	413	46	2316	48	179	1989	10
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	161	1365	236	711	881	1583	9	3446	72	197	2959	15
Grp Volume(v), veh/h	82	0	0	46	0	15	462	0	421	493	0	559
Grp Sat Flow(s),veh/h/ln	1762	0	0	1592	0	1583	1844	0	1682	1478	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	9.9	1.5	0.0	14.6
Cycle Q Clear(g_c), s	3.2	0.0	0.0	1.7	0.0	0.6	9.8	0.0	9.9	11.3	0.0	14.6
Prop In Lane	0.16		0.13	0.50		1.00	0.02		0.04	0.17		0.01
Lane Grp Cap(c), veh/h	477	0	0	449	0	413	1249	0	1131	1016	0	1138
V/C Ratio(X)	0.17	0.00	0.00	0.10	0.00	0.04	0.37	0.00	0.37	0.49	0.00	0.49
Avail Cap(c_a), veh/h	477	0	0	449	0	413	1249	0	1131	1016	0	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	25.5	0.0	24.8	6.4	0.0	6.5	6.7	0.0	7.2
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.5	0.0	0.2	0.8	0.0	0.9	1.7	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.9	0.0	0.3	5.5	0.0	4.9	6.3	0.0	7.2
LnGrp Delay(d),s/veh	26.7	0.0	0.0	25.9	0.0	25.0	7.3	0.0	7.4	8.3	0.0	8.7
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		82			61			883			1052	
Approach Delay, s/veh		26.7			25.7			7.3			8.5	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		11.9		5.2		16.6		3.7				
Green Ext Time (p_c), s		6.6		0.3		9.8		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.3								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
10: El Camino Real & Howard Avenue

Existing+Project AM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↑	↕		↕			↕	
Traffic Volume (veh/h)	19	115	33	55	67	127	7	822	55	144	880	3
Future Volume (veh/h)	19	115	33	55	67	127	7	822	55	144	880	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	115	33	55	67	127	7	822	55	144	880	3
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	326	86	373	466	396	45	2132	142	255	1571	5
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	97	1304	345	1235	1863	1583	7	3280	218	310	2417	8
Grp Volume(v), veh/h	167	0	0	55	67	127	466	0	418	426	0	601
Grp Sat Flow(s),veh/h/ln1746	0	0	0	1235	1863	1583	1849	0	1657	1042	0	1694
Q Serve(g_s), s	0.0	0.0	0.0	0.0	2.5	5.9	0.0	0.0	10.6	9.4	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	0.0	3.8	2.5	5.9	10.5	0.0	10.6	20.1	0.0	0.0
Prop In Lane	0.11		0.20	1.00		1.00	0.02		0.13	0.34		0.00
Lane Grp Cap(c), veh/h	481	0	0	373	466	396	1242	0	1077	731	0	1101
V/C Ratio(X)	0.35	0.00	0.00	0.15	0.14	0.32	0.38	0.00	0.39	0.58	0.00	0.55
Avail Cap(c_a), veh/h	481	0	0	373	466	396	1242	0	1077	731	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh 27.9	0.0	0.0	0.0	26.7	26.3	27.5	7.4	0.0	7.4	0.9	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.8	0.6	2.1	0.9	0.0	1.1	3.4	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln3.7	0.0	0.0	0.0	1.2	1.4	2.8	5.6	0.0	5.1	3.2	0.0	0.6
LnGrp Delay(d),s/veh	29.9	0.0	0.0	27.6	26.9	29.7	8.2	0.0	8.4	4.3	0.0	1.9
LnGrp LOS	C			C	C	C	A		A	A		A
Approach Vol, veh/h		167			249			884			1027	
Approach Delay, s/veh		29.9			28.5			8.3			2.9	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		63.0		27.0		63.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		58.5		22.5		58.5				
Max Q Clear Time (g_c+I1), s		8.9		22.1		7.9		12.6				
Green Ext Time (p_c), s		0.7		9.9		0.8		7.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.6								
HCM 2010 LOS				A								



HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Existing+Project AM Conditions  
 06/22/2020

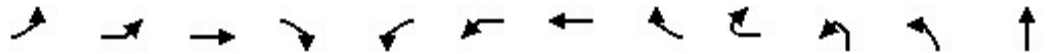


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	18	225	27	106	91	91	8	533	265	114	643	50
Future Volume (veh/h)	18	225	27	106	91	91	8	533	265	114	643	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	18	225	27	106	91	91	8	533	0	114	643	50
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	352	42	325	157	157	70	908	406	198	1162	520
Arrive On Green	0.22	0.22	0.22	0.18	0.18	0.18	0.04	0.26	0.00	0.11	0.33	0.33
Sat Flow, veh/h	1774	1632	196	1774	856	856	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	18	0	252	106	0	182	8	533	0	114	643	50
Grp Sat Flow(s),veh/h/ln	1774	0	1828	1774	0	1712	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.4	0.0	6.4	2.7	0.0	5.0	0.2	6.8	0.0	3.1	7.7	1.1
Cycle Q Clear(g_c), s	0.4	0.0	6.4	2.7	0.0	5.0	0.2	6.8	0.0	3.1	7.7	1.1
Prop In Lane	1.00		0.11	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	382	0	394	325	0	313	70	908	406	198	1162	520
V/C Ratio(X)	0.05	0.00	0.64	0.33	0.00	0.58	0.11	0.59	0.00	0.58	0.55	0.10
Avail Cap(c_a), veh/h	856	0	882	676	0	653	228	1666	745	497	2203	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	18.4	18.2	0.0	19.2	23.8	16.7	0.0	21.7	14.2	12.0
Incr Delay (d2), s/veh	0.1	0.0	1.7	0.6	0.0	1.7	0.7	0.6	0.0	2.6	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.4	1.3	0.0	2.5	0.1	3.3	0.0	1.7	3.8	0.5
LnGrp Delay(d),s/veh	16.0	0.0	20.1	18.8	0.0	20.9	24.5	17.3	0.0	24.3	14.6	12.0
LnGrp LOS	B		C	B		C	C	B		C	B	B
Approach Vol, veh/h		270			288			541			807	
Approach Delay, s/veh		19.8			20.1			17.4			15.8	
Approach LOS		B			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	16.2		14.1	5.0	19.9		12.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.9	22.7		23.3	5.1	30.5		18.1				
Max Q Clear Time (g_c+1/3), s	15.1	8.8		8.4	2.2	9.7		7.0				
Green Ext Time (p_c), s	0.1	2.9		1.3	0.0	4.4		1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.5									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis

Existing+Project AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/02/2020



Movement	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations			↕				↕					↕
Traffic Volume (vph)	22	12	69	7	20	1	27	40	15	2	3	838
Future Volume (vph)	22	12	69	7	20	1	27	40	15	2	3	838
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5				4.5					4.5
Lane Util. Factor			1.00				1.00					0.95
Frt			0.99				0.93					0.99
Flt Protected			0.98				0.99					1.00
Satd. Flow (prot)			1819				1711					3498
Flt Permitted			0.82				0.90					0.95
Satd. Flow (perm)			1523				1562					3327
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	12	69	7	20	1	27	40	15	2	3	838
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	110	0	0	0	103	0	0	0	0	913
Turn Type	Perm	Perm	NA		Perm	Perm	NA			Perm	Perm	NA
Protected Phases			4				8					1
Permitted Phases	4	4			8	8				1	1	
Actuated Green, G (s)			9.5				9.5					59.5
Effective Green, g (s)			9.5				9.5					59.5
Actuated g/C Ratio			0.11				0.11					0.68
Clearance Time (s)			4.5				4.5					4.5
Vehicle Extension (s)			3.0				3.0					3.0
Lane Grp Cap (vph)			165				170					2270
v/s Ratio Prot												
v/s Ratio Perm			c0.07				0.07					0.27
v/c Ratio			0.67				0.61					0.40
Uniform Delay, d1			37.3				37.1					6.1
Progression Factor			1.00				1.00					1.00
Incremental Delay, d2			9.8				6.0					0.5
Delay (s)			47.1				43.0					6.6
Level of Service			D				D					A
Approach Delay (s)			47.1				43.0					6.6
Approach LOS			D				D					A
<b>Intersection Summary</b>												
HCM 2000 Control Delay			12.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			87.2				Sum of lost time (s)		13.5			
Intersection Capacity Utilization			83.4%				ICU Level of Service		E			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Existing+Project AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/02/2020














Movement	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2
Lane Configurations					←↑↑				↕			
Traffic Volume (vph)	63	7	3	36	901	9	7	16	8	9	2	5
Future Volume (vph)	63	7	3	36	901	9	7	16	8	9	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5				4.5			
Lane Util. Factor					0.95				1.00			
Frt					1.00				0.96			
Flt Protected					1.00				0.98			
Satd. Flow (prot)					3523				1744			
Flt Permitted					0.88				0.84			
Satd. Flow (perm)					3121				1497			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	7	3	36	901	9	7	16	8	9	2	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	956	0	0	0	35	0	0	0
Turn Type			Perm	Perm	NA			Perm	NA			Perm
Protected Phases					5				9			
Permitted Phases			5	5				9				13
Actuated Green, G (s)					59.5				4.7			
Effective Green, g (s)					59.5				4.7			
Actuated g/C Ratio					0.68				0.05			
Clearance Time (s)					4.5				4.5			
Vehicle Extension (s)					3.0				3.0			
Lane Grp Cap (vph)					2129				80			
v/s Ratio Prot												
v/s Ratio Perm					c0.31				c0.02			
v/c Ratio					0.45				0.44			
Uniform Delay, d1					6.3				40.0			
Progression Factor					1.00				1.00			
Incremental Delay, d2					0.7				3.8			
Delay (s)					7.0				43.8			
Level of Service					A				D			
Approach Delay (s)					7.0				43.8			
Approach LOS					A				D			
Intersection Summary												



Movement	SWL	SWT	SWR	SWR2
Lane Configurations				
Traffic Volume (vph)	39	3	7	4
Future Volume (vph)	39	3	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		
Lane Util. Factor	0.95	0.95		
Frt	1.00	0.94		
Flt Protected	0.95	0.98		
Satd. Flow (prot)	1681	1625		
Flt Permitted	0.85	0.82		
Satd. Flow (perm)	1506	1372		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00
Adj. Flow (vph)	39	3	7	4
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	30	28	0	0
Turn Type	Perm	NA		
Protected Phases		13		
Permitted Phases	13			
Actuated Green, G (s)	4.7	4.7		
Effective Green, g (s)	4.7	4.7		
Actuated g/C Ratio	0.05	0.05		
Clearance Time (s)	4.5	4.5		
Vehicle Extension (s)	3.0	3.0		
Lane Grp Cap (vph)	81	73		
v/s Ratio Prot				
v/s Ratio Perm	0.02	0.02		
v/c Ratio	0.37	0.38		
Uniform Delay, d1	39.8	39.9		
Progression Factor	1.00	1.00		
Incremental Delay, d2	2.8	3.3		
Delay (s)	42.7	43.2		
Level of Service	D	D		
Approach Delay (s)		42.9		
Approach LOS		D		
<b>Intersection Summary</b>				

HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

Existing+Project PM Conditions  
 06/22/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	159	72	100	737	575	117		
Future Volume (veh/h)	159	72	100	737	575	117		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	159	72	100	737	575	117		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	449	203	133	1544	794	161		
Arrive On Green	0.38	0.38	0.08	0.44	0.27	0.27		
Sat Flow, veh/h	1172	531	1774	3632	3026	595		
Grp Volume(v), veh/h	232	0	100	737	346	346		
Grp Sat Flow(s),veh/h/ln	1710	0	1774	1770	1770	1758		
Q Serve(g_s), s	4.8	0.0	2.8	7.4	8.8	8.9		
Cycle Q Clear(g_c), s	4.8	0.0	2.8	7.4	8.8	8.9		
Prop In Lane	0.69	0.31	1.00			0.34		
Lane Grp Cap(c), veh/h	655	0	133	1544	479	476		
V/C Ratio(X)	0.35	0.00	0.75	0.48	0.72	0.73		
Avail Cap(c_a), veh/h	655	0	317	2265	657	652		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.0	0.0	22.6	10.0	16.5	16.5		
Incr Delay (d2), s/veh	1.5	0.0	8.1	0.2	2.5	2.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.6	3.6	4.7	4.7		
LnGrp Delay(d),s/veh	12.5	0.0	30.7	10.2	19.0	19.1		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	232			837	692			
Approach Delay, s/veh	12.5			12.7	19.0			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.6	8.2	18.0				26.2
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.1	8.9	18.5				31.9
Max Q Clear Time (g_c+I1), s		6.8	4.8	10.9				9.4
Green Ext Time (p_c), s		0.5	0.1	2.6				5.1
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			15.1					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue

Existing+Project PM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	115	130	64	123	64	121	668	35	23	488	142
Future Volume (veh/h)	111	115	130	64	123	64	121	668	35	23	488	142
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	111	115	130	64	123	64	121	668	35	23	488	142
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	273	309	201	349	541	240	1262	67	88	1311	371
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	1.00	1.00	1.00	0.51	0.51	0.51
Sat Flow, veh/h	1192	799	904	353	1023	1583	318	2483	132	47	2580	730
Grp Volume(v), veh/h	111	0	245	187	0	64	381	0	443	348	0	305
Grp Sat Flow(s),veh/h/ln	1192	0	1703	1376	0	1583	1261	0	1672	1791	0	1566
Q Serve(g_s), s	4.9	0.0	6.6	1.2	0.0	1.7	3.8	0.0	0.0	0.0	0.0	7.1
Cycle Q Clear(g_c), s	12.7	0.0	6.6	7.8	0.0	1.7	11.0	0.0	0.0	6.8	0.0	7.1
Prop In Lane	1.00		0.53	0.34		1.00	0.32		0.08	0.07		0.47
Lane Grp Cap(c), veh/h	372	0	582	551	0	541	720	0	850	974	0	796
V/C Ratio(X)	0.30	0.00	0.42	0.34	0.00	0.12	0.53	0.00	0.52	0.36	0.00	0.38
Avail Cap(c_a), veh/h	372	0	582	551	0	541	720	0	850	974	0	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	15.2	14.8	0.0	13.5	0.3	0.0	0.0	8.9	0.0	9.0
Incr Delay (d2), s/veh	2.0	0.0	2.2	1.7	0.0	0.4	2.8	0.0	2.3	1.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	3.4	2.7	0.0	0.8	1.6	0.0	0.5	3.8	0.0	3.4
LnGrp Delay(d),s/veh	22.6	0.0	17.4	16.5	0.0	14.0	3.1	0.0	2.3	9.9	0.0	10.4
LnGrp LOS	C		B	B		B	A		A	A		B
Approach Vol, veh/h		356			251			824			653	
Approach Delay, s/veh		19.0			15.9			2.7			10.2	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		14.7		9.1		9.8		13.0				
Green Ext Time (p_c), s		0.9		4.3		0.9		5.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.4								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Existing+Project PM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	↔
Traffic Volume (veh/h)	42	84	72	15	65	57	31	712	24	14	634	37
Future Volume (veh/h)	42	84	72	15	65	57	31	712	24	14	634	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	42	84	72	15	65	57	31	712	24	14	634	37
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	454	594	149	580	594	95	1555	51	73	1556	90
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.47	0.47	0.47	0.95	0.95	0.95
Sat Flow, veh/h	442	1212	1583	208	1547	1583	65	3273	108	23	3276	189
Grp Volume(v), veh/h	126	0	72	80	0	57	395	0	372	359	0	326
Grp Sat Flow(s),veh/h/ln	1653	0	1583	1755	0	1583	1770	0	1676	1826	0	1662
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	1.4	0.0	0.0	9.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s	2.7	0.0	1.8	1.7	0.0	1.4	8.5	0.0	9.0	0.9	0.0	1.0
Prop In Lane	0.33		1.00	0.19		1.00	0.08		0.06	0.04		0.11
Lane Grp Cap(c), veh/h	700	0	594	729	0	594	905	0	796	930	0	789
V/C Ratio(X)	0.18	0.00	0.12	0.11	0.00	0.10	0.44	0.00	0.47	0.39	0.00	0.41
Avail Cap(c_a), veh/h	700	0	594	729	0	594	905	0	796	930	0	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	12.3	12.2	0.0	12.2	10.5	0.0	10.6	0.8	0.0	0.8
Incr Delay (d2), s/veh	0.6	0.0	0.4	0.3	0.0	0.3	1.5	0.0	2.0	1.2	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.8	0.9	0.0	0.7	4.7	0.0	4.6	0.7	0.0	0.7
LnGrp Delay(d),s/veh	13.1	0.0	12.7	12.5	0.0	12.5	12.0	0.0	12.6	2.0	0.0	2.4
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		198			137			767			685	
Approach Delay, s/veh		13.0			12.5			12.3			2.2	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		4.7		3.0		3.7		11.0				
Green Ext Time (p_c), s		0.8		4.6		0.5		4.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				8.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Existing+Project PM Conditions  
 06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	275	43	110	297	315	19	465	177	214	480	35
Future Volume (veh/h)	21	275	43	110	297	315	19	465	177	214	480	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	21	275	43	110	297	315	19	465	177	214	480	35
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	850	722	473	850	722	74	1443	683	310	750	57
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	806	1863	1583	1057	1863	1583	60	3347	1583	538	1738	132
Grp Volume(v), veh/h	21	275	43	110	297	315	256	228	177	286	0	443
Grp Sat Flow(s),veh/h/ln	806	1863	1583	1057	1863	1583	1796	1610	1583	736	0	1672
Q Serve(g_s), s	1.4	7.5	1.2	5.9	8.3	10.8	0.0	7.5	5.7	23.0	0.0	16.4
Cycle Q Clear(g_c), s	9.6	7.5	1.2	13.5	8.3	10.8	7.3	7.5	5.7	30.5	0.0	16.4
Prop In Lane	1.00		1.00	1.00		1.00	0.07		1.00	0.75		0.08
Lane Grp Cap(c), veh/h	375	850	722	473	850	722	823	694	683	396	0	721
V/C Ratio(X)	0.06	0.32	0.06	0.23	0.35	0.44	0.31	0.33	0.26	0.72	0.00	0.61
Avail Cap(c_a), veh/h	375	850	722	473	850	722	823	694	683	396	0	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	13.9	12.2	18.2	14.1	14.8	15.0	15.1	14.6	24.7	0.0	17.6
Incr Delay (d2), s/veh	0.3	1.0	0.2	1.2	1.1	1.9	1.0	1.3	0.9	10.9	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.1	0.6	1.9	4.5	5.1	3.9	3.5	2.7	7.2	0.0	8.3
LnGrp Delay(d),s/veh	17.5	14.9	12.3	19.3	15.2	16.7	16.0	16.3	15.5	35.6	0.0	21.5
LnGrp LOS	B	B	B	B	B	B	B	B	B	D		C
Approach Vol, veh/h		339			722			661			729	
Approach Delay, s/veh		14.7			16.5			16.0			27.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		39.0		41.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		36.5		34.5		36.5		34.5				
Max Q Clear Time (g_c+I1), s		11.6		32.5		15.5		9.5				
Green Ext Time (p_c), s		1.9		1.0		3.4		3.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								



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	34	144	42	24	105	60	57	28	45	33	88	78
Future Vol, veh/h	34	144	42	24	105	60	57	28	45	33	88	78
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	144	42	24	105	60	57	28	45	33	88	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	10.1	9.6	9.3	9.8
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	15%	13%	17%
Vol Thru, %	22%	65%	56%	44%
Vol Right, %	35%	19%	32%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	220	189	199
LT Vol	57	34	24	33
Through Vol	28	144	105	88
RT Vol	45	42	60	78
Lane Flow Rate	130	220	189	199
Geometry Grp	1	1	1	1
Degree of Util (X)	0.183	0.299	0.255	0.27
Departure Headway (Hd)	5.062	4.894	4.857	4.887
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	701	726	731	726
Service Time	3.156	2.978	2.943	2.973
HCM Lane V/C Ratio	0.185	0.303	0.259	0.274
HCM Control Delay	9.3	10.1	9.6	9.8
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.7	1.3	1	1.1

Intersection												
Intersection Delay, s/veh	13.5											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	263	37	27	261	93	21	38	17	66	76	68
Future Vol, veh/h	49	263	37	27	261	93	21	38	17	66	76	68
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	263	37	27	261	93	21	38	17	66	76	68
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14	14.5	10.2	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	14%	7%	31%
Vol Thru, %	50%	75%	69%	36%
Vol Right, %	22%	11%	24%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	76	349	381	210
LT Vol	21	49	27	66
Through Vol	38	263	261	76
RT Vol	17	37	93	68
Lane Flow Rate	76	349	381	210
Geometry Grp	1	1	1	1
Degree of Util (X)	0.131	0.517	0.551	0.341
Departure Headway (Hd)	6.21	5.337	5.203	5.842
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	574	674	690	613
Service Time	4.287	3.389	3.254	3.903
HCM Lane V/C Ratio	0.132	0.518	0.552	0.343
HCM Control Delay	10.2	14	14.5	11.9
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.4	3	3.4	1.5

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	159	55	65	188	63	78
Future Vol, veh/h	159	55	65	188	63	78
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	159	55	65	188	63	78
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9	9.7	8.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	45%	0%	26%
Vol Thru, %	0%	74%	74%
Vol Right, %	55%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	141	214	253
LT Vol	63	0	65
Through Vol	0	159	188
RT Vol	78	55	0
Lane Flow Rate	141	214	253
Geometry Grp	1	1	1
Degree of Util (X)	0.185	0.262	0.32
Departure Headway (Hd)	4.73	4.404	4.559
Convergence, Y/N	Yes	Yes	Yes
Cap	757	815	789
Service Time	2.769	2.435	2.59
HCM Lane V/C Ratio	0.186	0.263	0.321
HCM Control Delay	8.8	9	9.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	1.1	1.4

HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Existing+Project PM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	29	249	54	24	280	50	49	55	70	32	32	54
Future Volume (veh/h)	29	249	54	24	280	50	49	55	70	32	32	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	29	249	54	24	280	50	49	55	70	32	32	54
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	597	122	93	630	107	224	252	264	214	220	296
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	72	1398	286	53	1475	251	343	615	645	321	537	724
Grp Volume(v), veh/h	332	0	0	354	0	0	174	0	0	118	0	0
Grp Sat Flow(s),veh/h/ln	1756	0	0	1779	0	0	1603	0	0	1582	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	7.6	0.0	0.0	3.6	0.0	0.0	2.4	0.0	0.0
Prop In Lane	0.09		0.16	0.07		0.14	0.28		0.40	0.27		0.46
Lane Grp Cap(c), veh/h	821	0	0	830	0	0	740	0	0	730	0	0
V/C Ratio(X)	0.40	0.00	0.00	0.43	0.00	0.00	0.24	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	821	0	0	830	0	0	740	0	0	730	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	0.0	11.2	0.0	0.0	10.7	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.6	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	4.1	0.0	0.0	1.9	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	12.5	0.0	0.0	12.8	0.0	0.0	11.4	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		332			354			174			118	
Approach Delay, s/veh		12.5			12.8			11.4			10.8	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		5.6		9.1		4.4		9.6				
Green Ext Time (p_c), s		0.9		1.7		0.5		1.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Existing+Project PM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Volume (veh/h)	22	54	3	56	29	102	21	1090	34	87	946	6
Future Volume (veh/h)	22	54	3	56	29	102	21	1090	34	87	946	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	22	54	3	56	29	44	21	1090	34	87	946	6
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	335	17	314	151	413	60	2250	70	166	1810	12
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	357	1284	65	950	579	1583	28	3347	103	176	2692	17
Grp Volume(v), veh/h	79	0	0	85	0	44	594	0	551	458	0	581
Grp Sat Flow(s),veh/h/ln1705	0	0	1529	0	1583	1802	0	1677	1193	0	1692	
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	1.9	0.0	0.0	14.5	6.0	0.0	15.4
Cycle Q Clear(g_c), s	3.0	0.0	0.0	3.4	0.0	1.9	14.0	0.0	14.5	20.5	0.0	15.4
Prop In Lane	0.28		0.04	0.66		1.00	0.04		0.06	0.19		0.01
Lane Grp Cap(c), veh/h	468	0	0	440	0	413	1222	0	1127	830	0	1137
V/C Ratio(X)	0.17	0.00	0.00	0.19	0.00	0.11	0.49	0.00	0.49	0.55	0.00	0.51
Avail Cap(c_a), veh/h	468	0	0	440	0	413	1222	0	1127	830	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh 25.9	0.0	0.0	26.2	0.0	25.3	7.1	0.0	7.2	7.3	0.0	7.4	
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.0	0.0	0.5	1.4	0.0	1.5	2.6	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.7	0.0	0.0	1.8	0.0	0.9	8.0	0.0	7.1	7.2	0.0	7.6	
LnGrp Delay(d),s/veh	26.6	0.0	0.0	27.1	0.0	25.8	8.5	0.0	8.8	9.9	0.0	9.0
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		79			129			1145			1039	
Approach Delay, s/veh		26.6			26.7			8.6			9.4	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		16.5		5.0		22.5		5.4				
Green Ext Time (p_c), s		9.7		0.3		9.9		0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
10: El Camino Real & Howard Avenue

Existing+Project PM Conditions  
06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Volume (veh/h)	31	107	16	129	107	244	12	907	73	193	939	8
Future Volume (veh/h)	31	107	16	129	107	244	12	907	73	193	939	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	107	16	129	107	244	12	907	73	193	939	8
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	280	38	344	404	343	50	2195	175	292	1463	13
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	1.00	1.00	1.00
Sat Flow, veh/h	202	1291	173	1263	1863	1583	14	3212	256	342	2141	19
Grp Volume(v), veh/h	154	0	0	129	107	244	522	0	470	423	0	717
Grp Sat Flow(s),veh/h/ln	1667	0	0	1263	1863	1583	1833	0	1650	809	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	2.3	4.3	12.8	0.0	0.0	11.3	19.3	0.0	0.0
Cycle Q Clear(g_c), s	6.5	0.0	0.0	8.8	4.3	12.8	11.1	0.0	11.3	30.6	0.0	0.0
Prop In Lane	0.20		0.10	1.00		1.00	0.02		0.16	0.46		0.01
Lane Grp Cap(c), veh/h	409	0	0	344	404	343	1293	0	1127	611	0	1156
V/C Ratio(X)	0.38	0.00	0.00	0.38	0.27	0.71	0.40	0.00	0.42	0.69	0.00	0.62
Avail Cap(c_a), veh/h	409	0	0	344	404	343	1293	0	1127	611	0	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	0.0	0.0	31.1	29.3	32.6	6.3	0.0	6.3	2.2	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0	3.1	1.6	11.8	0.9	0.0	1.1	6.3	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	3.1	2.4	6.8	6.0	0.0	5.4	5.5	0.0	0.8
LnGrp Delay(d),s/veh	32.8	0.0	0.0	34.3	30.9	44.5	7.2	0.0	7.4	8.5	0.0	2.5
LnGrp LOS	C			C	C	D	A		A	A		A
Approach Vol, veh/h		154			480			992			1140	
Approach Delay, s/veh		32.8			38.7			7.3			4.7	
Approach LOS		C			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		66.0		24.0		66.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		61.5		19.5		61.5				
Max Q Clear Time (g_c+I1), s		8.5		32.6		14.8		13.3				
Green Ext Time (p_c), s		0.6		11.5		0.9		8.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				13.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Existing+Project PM Conditions  
 06/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	29	133	16	179	91	50	30	616	190	54	600	32
Future Volume (veh/h)	29	133	16	179	91	50	30	616	190	54	600	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	29	133	16	179	91	50	30	616	0	54	600	32
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	256	31	342	218	120	117	1108	496	151	1176	526
Arrive On Green	0.16	0.16	0.13	0.19	0.19	0.16	0.07	0.31	0.00	0.09	0.33	0.33
Sat Flow, veh/h	1774	1632	196	1774	1131	622	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	29	0	149	179	0	141	30	616	0	54	600	32
Grp Sat Flow(s),veh/h/ln	1774	0	1828	1774	0	1753	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.7	0.0	3.6	4.3	0.0	3.4	0.8	6.9	0.0	1.4	6.5	0.7
Cycle Q Clear(g_c), s	0.7	0.0	3.6	4.3	0.0	3.4	0.8	6.9	0.0	1.4	6.5	0.7
Prop In Lane	1.00		0.11	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	278	0	287	342	0	337	117	1108	496	151	1176	526
V/C Ratio(X)	0.10	0.00	0.52	0.52	0.00	0.42	0.26	0.56	0.00	0.36	0.51	0.06
Avail Cap(c_a), veh/h	1679	0	1730	1679	0	1659	243	3275	1465	243	3275	1465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	18.5	17.2	0.0	17.1	21.1	13.6	0.0	20.5	12.8	10.8
Incr Delay (d2), s/veh	0.2	0.0	1.5	1.2	0.0	0.8	1.1	0.4	0.0	1.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.9	2.2	0.0	1.7	0.4	3.4	0.0	0.7	3.2	0.3
LnGrp Delay(d),s/veh	17.3	0.0	19.9	18.5	0.0	17.9	22.2	14.0	0.0	21.9	13.1	10.9
LnGrp LOS	B		B	B		B	C	B		C	B	B
Approach Vol, veh/h		178			320			646			686	
Approach Delay, s/veh		19.5			18.2			14.4			13.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	17.9		10.5	6.1	18.8		12.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	42.5	42.5		43.5	5.0	42.5		43.5				
Max Q Clear Time (g_c+1), s	13.4	8.9		5.6	2.8	8.5		6.3				
Green Ext Time (p_c), s	0.0	4.5		1.0	0.0	4.5		1.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				15.3								
HCM 2010 LOS				B								

HCM Signalized Intersection Capacity Analysis

Existing+Project PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/02/2020



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations			↔					↔				
Traffic Volume (vph)	18	10	49	7	1	18	3	47	35	11	1	4
Future Volume (vph)	18	10	49	7	1	18	3	47	35	11	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5					4.5				
Lane Util. Factor			1.00					1.00				
Frt			0.99					0.95				
Flt Protected			0.98					0.99				
Satd. Flow (prot)			1809					1745				
Flt Permitted			0.82					0.94				
Satd. Flow (perm)			1516					1661				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	10	49	7	1	18	3	47	35	11	1	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	85	0	0	0	0	114	0	0	0	0
Turn Type	Perm	Perm	NA			Perm	Perm	NA			Perm	Perm
Protected Phases			4					8				
Permitted Phases	4	4				8	8				1	1
Actuated Green, G (s)			9.2					9.2				
Effective Green, g (s)			9.2					9.2				
Actuated g/C Ratio			0.11					0.11				
Clearance Time (s)			4.5					4.5				
Vehicle Extension (s)			3.0					3.0				
Lane Grp Cap (vph)			172					189				
v/s Ratio Prot												
v/s Ratio Perm			0.06					0.07				
v/c Ratio			0.49					0.60				
Uniform Delay, d1			33.6					34.1				
Progression Factor			1.00					1.00				
Incremental Delay, d2			2.2					5.3				
Delay (s)			35.8					39.4				
Level of Service			D					D				
Approach Delay (s)			35.8					39.4				
Approach LOS			D					D				
<b>Intersection Summary</b>												
HCM 2000 Control Delay			12.7					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			80.8					Sum of lost time (s)		13.5		
Intersection Capacity Utilization			76.7%					ICU Level of Service		D		
Analysis Period (min)			15									

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis

Existing+Project PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/02/2020












Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2
Lane Configurations												
Traffic Volume (vph)	921	49	8	3	30	935	11	7	7	1	3	3
Future Volume (vph)	921	49	8	3	30	935	11	7	7	1	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5					4.5				4.5		
Lane Util. Factor	0.95					0.95				1.00		
Frt	0.99					1.00				0.94		
Flt Protected	1.00					1.00				0.98		
Satd. Flow (prot)	3508					3524				1712		
Flt Permitted	0.95					0.90				0.83		
Satd. Flow (perm)	3337					3164				1457		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	921	49	8	3	30	935	11	7	7	1	3	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	983	0	0	0	0	986	0	0	0	14	0	0
Turn Type	NA			Perm	Perm	NA			Perm	NA		
Protected Phases	1					5				9		
Permitted Phases				5	5				9			
Actuated Green, G (s)	51.4					51.4				6.7		
Effective Green, g (s)	51.4					51.4				6.7		
Actuated g/C Ratio	0.64					0.64				0.08		
Clearance Time (s)	4.5					4.5				4.5		
Vehicle Extension (s)	3.0					3.0				3.0		
Lane Grp Cap (vph)	2122					2012				120		
v/s Ratio Prot												
v/s Ratio Perm	0.29					0.31				0.01		
v/c Ratio	0.46					0.49				0.12		
Uniform Delay, d1	7.6					7.8				34.3		
Progression Factor	1.00					1.00				1.00		
Incremental Delay, d2	0.7					0.9				0.4		
Delay (s)	8.3					8.6				34.7		
Level of Service	A					A				C		
Approach Delay (s)	8.3					8.6				34.7		
Approach LOS	A					A				C		
Intersection Summary												



Movement	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	16	78	3	9	4
Future Volume (vph)	16	78	3	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		
Lane Util. Factor		0.95	0.95		
Frt		1.00	0.96		
Flt Protected		0.95	0.97		
Satd. Flow (prot)		1681	1648		
Flt Permitted		0.75	0.78		
Satd. Flow (perm)		1324	1334		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	78	3	9	4
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	56	54	0	0
Turn Type	Perm	Perm	NA		
Protected Phases			13		
Permitted Phases	13	13			
Actuated Green, G (s)		6.7	6.7		
Effective Green, g (s)		6.7	6.7		
Actuated g/C Ratio		0.08	0.08		
Clearance Time (s)		4.5	4.5		
Vehicle Extension (s)		3.0	3.0		
Lane Grp Cap (vph)		109	110		
v/s Ratio Prot					
v/s Ratio Perm		0.04	0.04		
v/c Ratio		0.51	0.49		
Uniform Delay, d1		35.5	35.4		
Progression Factor		1.00	1.00		
Incremental Delay, d2		4.0	3.4		
Delay (s)		39.5	38.8		
Level of Service		D	D		
Approach Delay (s)			39.2		
Approach LOS			D		
<b>Intersection Summary</b>					



















HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

Background AM Conditions  
 07/10/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	162	57	58	690	652	40		
Future Volume (veh/h)	162	57	58	690	652	40		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	162	57	58	690	652	40		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	516	181	98	1467	914	56		
Arrive On Green	0.41	0.41	0.06	0.41	0.27	0.27		
Sat Flow, veh/h	1267	446	1774	3632	3481	208		
Grp Volume(v), veh/h	220	0	58	690	340	352		
Grp Sat Flow(s),veh/h/ln	1721	0	1774	1770	1770	1826		
Q Serve(g_s), s	4.4	0.0	1.6	7.1	8.8	8.8		
Cycle Q Clear(g_c), s	4.4	0.0	1.6	7.1	8.8	8.8		
Prop In Lane	0.74	0.26	1.00			0.11		
Lane Grp Cap(c), veh/h	700	0	98	1467	478	493		
V/C Ratio(X)	0.31	0.00	0.59	0.47	0.71	0.71		
Avail Cap(c_a), veh/h	700	0	229	2143	685	707		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.2	0.0	23.2	10.7	16.6	16.6		
Incr Delay (d2), s/veh	1.2	0.0	5.6	0.2	2.0	1.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.9	3.5	4.5	4.7		
LnGrp Delay(d),s/veh	11.3	0.0	28.9	11.0	18.6	18.6		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	220			748	692			
Approach Delay, s/veh	11.3			12.4	18.6			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		25.0	7.3	18.1				25.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		20.5	6.5	19.5				30.5
Max Q Clear Time (g_c+I1), s		6.4	3.6	10.8				9.1
Green Ext Time (p_c), s		0.5	0.0	2.8				4.6
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			14.8					
HCM 2010 LOS			B					



















HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue

Background AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	112	77	42	128	84	61	606	43	31	566	88
Future Volume (veh/h)	91	112	77	42	128	84	61	606	43	31	566	88
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	91	112	77	42	128	84	61	606	43	31	566	88
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	505	403	277	193	544	620	150	1330	92	98	1317	200
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.92	0.92	0.92	0.46	0.46	0.46
Sat Flow, veh/h	1165	1030	708	303	1389	1583	175	2902	201	71	2874	436
Grp Volume(v), veh/h	91	0	189	170	0	84	355	0	355	358	0	327
Grp Sat Flow(s),veh/h/ln	1165	0	1738	1691	0	1583	1618	0	1660	1764	0	1618
Q Serve(g_s), s	3.4	0.0	4.5	0.0	0.0	2.0	0.0	0.0	1.9	0.0	0.0	8.2
Cycle Q Clear(g_c), s	7.1	0.0	4.5	3.7	0.0	2.0	1.5	0.0	1.9	7.7	0.0	8.2
Prop In Lane	1.00		0.41	0.25		1.00	0.17		0.12	0.09		0.27
Lane Grp Cap(c), veh/h	505	0	681	737	0	620	812	0	761	874	0	742
V/C Ratio(X)	0.18	0.00	0.28	0.23	0.00	0.14	0.44	0.00	0.47	0.41	0.00	0.44
Avail Cap(c_a), veh/h	505	0	681	737	0	620	812	0	761	874	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	12.5	12.2	0.0	11.7	1.4	0.0	1.4	10.9	0.0	11.0
Incr Delay (d2), s/veh	0.8	0.0	1.0	0.7	0.0	0.5	1.7	0.0	2.1	1.4	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	2.3	2.0	0.0	1.0	1.0	0.0	1.0	4.3	0.0	4.0
LnGrp Delay(d),s/veh	15.4	0.0	13.5	12.9	0.0	12.2	3.1	0.0	3.5	12.3	0.0	12.9
LnGrp LOS	B		B	B		B	A		A	B		B
Approach Vol, veh/h		280			254			710				685
Approach Delay, s/veh		14.1			12.7			3.3				12.6
Approach LOS		B			B			A				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		9.1		10.2		5.7		3.9				
Green Ext Time (p_c), s		1.2		4.2		1.1		4.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Background AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	93	52	40	85	60	38	600	21	20	624	21
Future Volume (veh/h)	60	93	52	40	85	60	38	600	21	20	624	21
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	93	52	40	85	60	38	600	21	20	624	21
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	417	620	244	481	620	112	1464	50	82	1528	51
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.46	0.46	0.46	0.92	0.92	0.92
Sat Flow, veh/h	530	1066	1583	421	1229	1583	99	3194	109	40	3334	110
Grp Volume(v), veh/h	153	0	52	125	0	60	337	0	322	346	0	319
Grp Sat Flow(s),veh/h/ln	1596	0	1583	1650	0	1583	1726	0	1676	1809	0	1676
Q Serve(g_s), s	0.2	0.0	1.2	0.0	0.0	1.4	0.0	0.0	7.7	0.0	0.0	1.5
Cycle Q Clear(g_c), s	3.3	0.0	1.2	2.6	0.0	1.4	7.2	0.0	7.7	1.5	0.0	1.5
Prop In Lane	0.39		1.00	0.32		1.00	0.11		0.07	0.06		0.07
Lane Grp Cap(c), veh/h	708	0	620	725	0	620	858	0	768	893	0	768
V/C Ratio(X)	0.22	0.00	0.08	0.17	0.00	0.10	0.39	0.00	0.42	0.39	0.00	0.42
Avail Cap(c_a), veh/h	708	0	620	725	0	620	858	0	768	893	0	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	11.5	11.9	0.0	11.5	10.7	0.0	10.9	1.4	0.0	1.4
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.5	0.0	0.3	1.3	0.0	1.7	1.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.6	1.5	0.0	0.7	4.0	0.0	3.8	0.9	0.0	0.9
LnGrp Delay(d),s/veh	12.8	0.0	11.7	12.4	0.0	11.9	12.1	0.0	12.6	2.7	0.0	3.1
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		205			185			659			665	
Approach Delay, s/veh		12.5			12.2			12.3			2.9	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		5.3		3.5		4.6		9.7				
Green Ext Time (p_c), s		0.9		4.4		0.8		3.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Background AM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	262	19	69	255	250	9	399	179	149	497	38
Future Volume (veh/h)	32	262	19	69	255	250	9	399	179	149	497	38
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	262	19	69	255	250	9	399	179	149	497	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	687	584	380	687	584	60	1773	821	330	1085	85
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	890	1863	1583	1094	1863	1583	26	3418	1583	505	2092	163
Grp Volume(v), veh/h	32	262	19	69	255	250	218	190	179	297	0	387
Grp Sat Flow(s),veh/h/ln	890	1863	1583	1094	1863	1583	1833	1610	1583	1095	0	1666
Q Serve(g_s), s	2.2	8.3	0.6	4.0	8.0	9.5	0.0	5.2	4.9	10.9	0.0	11.7
Cycle Q Clear(g_c), s	10.2	8.3	0.6	12.2	8.0	9.5	5.1	5.2	4.9	16.0	0.0	11.7
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.50		0.10
Lane Grp Cap(c), veh/h	329	687	584	380	687	584	998	835	821	635	0	864
V/C Ratio(X)	0.10	0.38	0.03	0.18	0.37	0.43	0.22	0.23	0.22	0.47	0.00	0.45
Avail Cap(c_a), veh/h	329	687	584	380	687	584	998	835	821	635	0	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	18.5	16.1	23.0	18.5	18.9	10.5	10.5	10.4	13.4	0.0	12.1
Incr Delay (d2), s/veh	0.6	1.6	0.1	1.0	1.5	2.3	0.5	0.6	0.6	2.5	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.5	0.3	1.3	4.4	4.5	2.7	2.4	2.3	4.9	0.0	5.7
LnGrp Delay(d),s/veh	22.8	20.2	16.2	24.1	20.0	21.2	11.0	11.1	11.1	15.8	0.0	13.7
LnGrp LOS	C	C	B	C	C	C	B	B	B	B		B
Approach Vol, veh/h		313			574			587				684
Approach Delay, s/veh		20.2			21.0			11.1				14.7
Approach LOS		C			C			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		46.0		34.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		29.5		41.5		29.5		41.5				
Max Q Clear Time (g_c+I1), s		12.2		18.0		14.2		7.2				
Green Ext Time (p_c), s		1.6		5.1		2.4		3.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	140	27	18	57	16	10	29	28	33	62	56
Future Vol, veh/h	20	140	27	18	57	16	10	29	28	33	62	56
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	140	27	18	57	16	10	29	28	33	62	56
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	8.9	8.2	8	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	11%	20%	22%
Vol Thru, %	43%	75%	63%	41%
Vol Right, %	42%	14%	18%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	187	91	151
LT Vol	10	20	18	33
Through Vol	29	140	57	62
RT Vol	28	27	16	56
Lane Flow Rate	67	187	91	151
Geometry Grp	1	1	1	1
Degree of Util (X)	0.084	0.232	0.116	0.188
Departure Headway (Hd)	4.532	4.475	4.582	4.474
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	790	802	782	802
Service Time	2.565	2.503	2.614	2.503
HCM Lane V/C Ratio	0.085	0.233	0.116	0.188
HCM Control Delay	8	8.9	8.2	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.9	0.4	0.7

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	31	227	39	23	206	40	22	25	9	32	42	23
Future Vol, veh/h	31	227	39	23	206	40	22	25	9	32	42	23
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	227	39	23	206	40	22	25	9	32	42	23
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	10.4	10.1	8.9	9.2
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	10%	9%	33%
Vol Thru, %	45%	76%	77%	43%
Vol Right, %	16%	13%	15%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	297	269	97
LT Vol	22	31	23	32
Through Vol	25	227	206	42
RT Vol	9	39	40	23
Lane Flow Rate	56	297	269	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.083	0.378	0.343	0.141
Departure Headway (Hd)	5.341	4.581	4.597	5.215
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	665	781	777	683
Service Time	3.419	2.63	2.648	3.286
HCM Lane V/C Ratio	0.084	0.38	0.346	0.142
HCM Control Delay	8.9	10.4	10.1	9.2
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.3	1.8	1.5	0.5



Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	157	34	33	80	44	48
Future Vol, veh/h	157	34	33	80	44	48
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	34	33	80	44	48
Number of Lanes	1	0	0	1	1	0

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

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	48%	0%	29%
Vol Thru, %	0%	82%	71%
Vol Right, %	52%	18%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	92	191	113
LT Vol	44	0	33
Through Vol	0	157	80
RT Vol	48	34	0
Lane Flow Rate	92	191	113
Geometry Grp	1	1	1
Degree of Util (X)	0.112	0.216	0.138
Departure Headway (Hd)	4.381	4.075	4.404
Convergence, Y/N	Yes	Yes	Yes
Cap	822	867	819
Service Time	2.387	2.169	2.404
HCM Lane V/C Ratio	0.112	0.22	0.138
HCM Control Delay	7.9	8.3	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.8	0.5


















HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Background AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	242	41	19	200	23	43	62	54	12	20	20
Future Volume (veh/h)	21	242	41	19	200	23	43	62	54	12	20	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	242	41	19	200	23	43	62	54	12	20	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	660	107	90	691	75	215	303	227	184	298	255
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	52	1494	241	57	1565	170	341	742	557	270	731	626
Grp Volume(v), veh/h	304	0	0	242	0	0	159	0	0	52	0	0
Grp Sat Flow(s),veh/h/ln	1788	0	0	1793	0	0	1639	0	0	1627	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	5.1	0.0	0.0	3.5	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.07		0.13	0.08		0.10	0.27		0.34	0.23		0.38
Lane Grp Cap(c), veh/h	854	0	0	856	0	0	746	0	0	738	0	0
V/C Ratio(X)	0.36	0.00	0.00	0.28	0.00	0.00	0.21	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	854	0	0	856	0	0	746	0	0	738	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.2	0.0	0.0	10.8	0.0	0.0	11.5	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	2.8	0.0	0.0	1.8	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	0.0	11.6	0.0	0.0	12.2	0.0	0.0	11.0	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		304			242			159				52
Approach Delay, s/veh		12.4			11.6			12.2				11.0
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.0		31.0		29.0		31.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.5		26.5		24.5		26.5				
Max Q Clear Time (g_c+I1), s		5.5		8.7		3.1		7.1				
Green Ext Time (p_c), s		0.8		1.7		0.2		1.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.0								
HCM 2010 LOS				B								





















HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Background AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	61	11	21	24	43	8	876	18	70	983	5
Future Volume (veh/h)	13	61	11	21	24	43	8	876	18	70	983	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	13	61	11	21	24	13	8	876	18	70	983	5
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	362	60	231	247	413	46	2317	47	153	2057	10
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	153	1386	229	660	947	1583	8	3447	70	159	3061	15
Grp Volume(v), veh/h	85	0	0	45	0	13	472	0	430	507	0	551
Grp Sat Flow(s),veh/h/ln	1767	0	0	1607	0	1583	1844	0	1683	1543	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	10.2	0.0	0.0	14.3
Cycle Q Clear(g_c), s	3.3	0.0	0.0	1.7	0.0	0.6	10.1	0.0	10.2	11.2	0.0	14.3
Prop In Lane	0.15		0.13	0.47		1.00	0.02		0.04	0.14		0.01
Lane Grp Cap(c), veh/h	478	0	0	452	0	413	1249	0	1131	1057	0	1138
V/C Ratio(X)	0.18	0.00	0.00	0.10	0.00	0.03	0.38	0.00	0.38	0.48	0.00	0.48
Avail Cap(c_a), veh/h	478	0	0	452	0	413	1249	0	1131	1057	0	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	25.4	0.0	24.8	6.5	0.0	6.5	6.7	0.0	7.2
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.4	0.0	0.1	0.9	0.0	1.0	1.6	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.9	0.0	0.3	5.7	0.0	5.0	6.4	0.0	7.1
LnGrp Delay(d),s/veh	26.8	0.0	0.0	25.9	0.0	24.9	7.4	0.0	7.5	8.3	0.0	8.7
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		85			58			902			1058	
Approach Delay, s/veh		26.8			25.7			7.4			8.5	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		12.2		5.3		16.3		3.7				
Green Ext Time (p_c), s		6.8		0.3		9.7		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.2									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary  
10: El Camino Real & Howard Avenue

Background AM Conditions  
07/10/2020

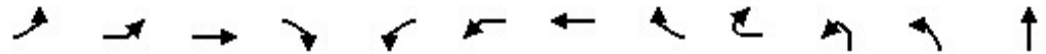
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	107	33	54	68	132	7	835	49	133	897	3
Future Volume (veh/h)	19	107	33	54	68	132	7	835	49	133	897	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	107	33	54	68	132	7	835	49	133	897	3
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	319	90	379	466	396	45	2151	125	240	1620	6
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	102	1277	361	1244	1863	1583	7	3310	193	289	2492	9
Grp Volume(v), veh/h	159	0	0	54	68	132	469	0	422	437	0	596
Grp Sat Flow(s),veh/h/ln	1740	0	0	1244	1863	1583	1849	0	1661	1096	0	1694
Q Serve(g_s), s	0.0	0.0	0.0	0.0	2.6	6.1	0.0	0.0	10.7	8.4	0.0	0.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	3.6	2.6	6.1	10.6	0.0	10.7	19.1	0.0	0.0
Prop In Lane	0.12		0.21	1.00		1.00	0.01		0.12	0.30		0.01
Lane Grp Cap(c), veh/h	480	0	0	379	466	396	1242	0	1080	765	0	1101
V/C Ratio(X)	0.33	0.00	0.00	0.14	0.15	0.33	0.38	0.00	0.39	0.57	0.00	0.54
Avail Cap(c_a), veh/h	480	0	0	379	466	396	1242	0	1080	765	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	0.0	26.6	26.3	27.6	7.4	0.0	7.4	0.8	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.8	0.7	2.3	0.9	0.0	1.1	3.1	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	1.1	1.4	2.9	5.6	0.0	5.1	2.9	0.0	0.6
LnGrp Delay(d),s/veh	29.6	0.0	0.0	27.4	26.9	29.9	8.2	0.0	8.5	3.9	0.0	1.9
LnGrp LOS	C			C	C	C	A		A	A		A
Approach Vol, veh/h		159			254			891			1033	
Approach Delay, s/veh		29.6			28.6			8.3			2.7	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		63.0		27.0		63.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		58.5		22.5		58.5				
Max Q Clear Time (g_c+I1), s		8.6		21.1		8.1		12.7				
Green Ext Time (p_c), s		0.7		9.9		0.8		7.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Background AM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	228	30	114	95	91	9	544	268	114	633	51
Future Volume (veh/h)	21	228	30	114	95	91	9	544	268	114	633	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	21	228	30	114	95	91	9	544	0	114	633	51
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	387	352	46	327	162	155	72	912	408	197	1162	520
Arrive On Green	0.22	0.22	0.22	0.18	0.18	0.18	0.04	0.26	0.00	0.11	0.33	0.33
Sat Flow, veh/h	1774	1613	212	1774	876	839	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	21	0	258	114	0	186	9	544	0	114	633	51
Grp Sat Flow(s),veh/h/ln	1774	0	1825	1774	0	1715	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.5	0.0	6.8	2.9	0.0	5.2	0.3	7.1	0.0	3.2	7.7	1.2
Cycle Q Clear(g_c), s	0.5	0.0	6.8	2.9	0.0	5.2	0.3	7.1	0.0	3.2	7.7	1.2
Prop In Lane	1.00		0.12	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	387	0	398	327	0	316	72	912	408	197	1162	520
V/C Ratio(X)	0.05	0.00	0.65	0.35	0.00	0.59	0.13	0.60	0.00	0.58	0.54	0.10
Avail Cap(c_a), veh/h	839	0	863	663	0	641	223	1633	730	487	2159	966
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	0.0	18.7	18.6	0.0	19.6	24.3	17.1	0.0	22.1	14.4	12.2
Incr Delay (d2), s/veh	0.1	0.0	1.8	0.6	0.0	1.7	0.8	0.6	0.0	2.7	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.6	1.5	0.0	2.6	0.1	3.5	0.0	1.7	3.8	0.5
LnGrp Delay(d),s/veh	16.3	0.0	20.5	19.3	0.0	21.3	25.1	17.7	0.0	24.8	14.8	12.3
LnGrp LOS	B		C	B		C	C	B		C	B	B
Approach Vol, veh/h		279			300			553			798	
Approach Delay, s/veh		20.1			20.5			17.8			16.1	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	16.5		14.4	5.1	20.2		12.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.9	22.7		23.3	5.1	30.5		18.1				
Max Q Clear Time (g_c+I1), s	5.2	9.1		8.8	2.3	9.7		7.2				
Green Ext Time (p_c), s	0.1	2.9		1.4	0.0	4.3		1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.9									
HCM 2010 LOS			B									















HCM Signalized Intersection Capacity Analysis Background AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations			↕				↕					↕
Traffic Volume (vph)	22	9	68	7	29	1	26	49	15	2	3	839
Future Volume (vph)	22	9	68	7	29	1	26	49	15	2	3	839
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5				4.5					4.5
Lane Util. Factor			1.00				1.00					0.95
Frt			0.99				0.93					0.99
Flt Protected			0.99				0.99					1.00
Satd. Flow (prot)			1820				1707					3497
Flt Permitted			0.86				0.90					0.95
Satd. Flow (perm)			1592				1561					3326
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	9	68	7	29	1	26	49	15	2	3	839
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	106	0	0	0	120	0	0	0	0	916
Turn Type	Perm	Perm	NA		Perm	Perm	NA			Perm	Perm	NA
Protected Phases			4				8					1
Permitted Phases	4	4			8	8				1	1	
Actuated Green, G (s)			12.0				12.0					59.0
Effective Green, g (s)			12.0				12.0					59.0
Actuated g/C Ratio			0.13				0.13					0.66
Clearance Time (s)			4.5				4.5					4.5
Vehicle Extension (s)			3.0				3.0					3.0
Lane Grp Cap (vph)			213				209					2197
v/s Ratio Prot												
v/s Ratio Perm			0.07				0.08					0.28
v/c Ratio			0.50				0.57					0.42
Uniform Delay, d1			35.9				36.3					7.1
Progression Factor			1.00				1.00					1.00
Incremental Delay, d2			1.8				3.8					0.6
Delay (s)			37.7				40.0					7.7
Level of Service			D				D					A
Approach Delay (s)			37.7				40.0					7.7
Approach LOS			D				D					A
<b>Intersection Summary</b>												
HCM 2000 Control Delay			12.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			89.3				Sum of lost time (s)		13.5			
Intersection Capacity Utilization			85.0%				ICU Level of Service		E			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Background AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020

												
Movement	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2
Lane Configurations												
Traffic Volume (vph)	63	9	3	39	914	9	7	16	8	9	2	5
Future Volume (vph)	63	9	3	39	914	9	7	16	8	9	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5				4.5			
Lane Util. Factor					0.95				1.00			
Frt					1.00				0.96			
Flt Protected					1.00				0.98			
Satd. Flow (prot)					3523				1744			
Flt Permitted					0.88				0.84			
Satd. Flow (perm)					3094				1497			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	9	3	39	914	9	7	16	8	9	2	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	972	0	0	0	35	0	0	0
Turn Type			Perm	Perm	NA			Perm	NA			Perm
Protected Phases					5				9			
Permitted Phases			5	5				9				13
Actuated Green, G (s)					59.0				4.8			
Effective Green, g (s)					59.0				4.8			
Actuated g/C Ratio					0.66				0.05			
Clearance Time (s)					4.5				4.5			
Vehicle Extension (s)					3.0				3.0			
Lane Grp Cap (vph)					2044				80			
v/s Ratio Prot												
v/s Ratio Perm					c0.31				c0.02			
v/c Ratio					0.48				0.44			
Uniform Delay, d1					7.5				40.9			
Progression Factor					1.00				1.00			
Incremental Delay, d2					0.8				3.8			
Delay (s)					8.3				44.7			
Level of Service					A				D			
Approach Delay (s)					8.3				44.7			
Approach LOS					A				D			
Intersection Summary												

HCM Signalized Intersection Capacity Analysis Background AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020














Movement	SWL	SWT	SWR	SWR2
Lane Configurations				
Traffic Volume (vph)	39	3	7	4
Future Volume (vph)	39	3	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		
Lane Util. Factor	0.95	0.95		
Frt	1.00	0.94		
Flt Protected	0.95	0.98		
Satd. Flow (prot)	1681	1625		
Flt Permitted	0.83	0.82		
Satd. Flow (perm)	1475	1372		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00
Adj. Flow (vph)	39	3	7	4
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	30	28	0	0
Turn Type	Perm	NA		
Protected Phases		13		
Permitted Phases	13			
Actuated Green, G (s)	4.8	4.8		
Effective Green, g (s)	4.8	4.8		
Actuated g/C Ratio	0.05	0.05		
Clearance Time (s)	4.5	4.5		
Vehicle Extension (s)	3.0	3.0		
Lane Grp Cap (vph)	79	73		
v/s Ratio Prot				
v/s Ratio Perm	0.02	0.02		
v/c Ratio	0.38	0.38		
Uniform Delay, d1	40.8	40.8		
Progression Factor	1.00	1.00		
Incremental Delay, d2	3.0	3.3		
Delay (s)	43.8	44.2		
Level of Service	D	D		
Approach Delay (s)		44.0		
Approach LOS		D		
<b>Intersection Summary</b>				




















HCM 2010 Signalized Intersection Summary  
1: California Drive & Burlingame Avenue

Background PM Conditions  
07/10/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	149	76	110	767	595	115		
Future Volume (veh/h)	149	76	110	767	595	115		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	149	76	110	767	595	115		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	425	217	142	1569	811	156		
Arrive On Green	0.38	0.38	0.08	0.44	0.27	0.27		
Sat Flow, veh/h	1124	573	1774	3632	3054	571		
Grp Volume(v), veh/h	226	0	110	767	355	355		
Grp Sat Flow(s),veh/h/ln	1705	0	1774	1770	1770	1762		
Q Serve(g_s), s	4.8	0.0	3.1	7.8	9.2	9.2		
Cycle Q Clear(g_c), s	4.8	0.0	3.1	7.8	9.2	9.2		
Prop In Lane	0.66	0.34	1.00			0.32		
Lane Grp Cap(c), veh/h	645	0	142	1569	485	483		
V/C Ratio(X)	0.35	0.00	0.77	0.49	0.73	0.74		
Avail Cap(c_a), veh/h	645	0	313	2237	649	646		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	0.0	22.8	10.0	16.6	16.7		
Incr Delay (d2), s/veh	1.5	0.0	8.6	0.2	2.9	3.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.8	3.8	4.8	4.8		
LnGrp Delay(d),s/veh	12.7	0.0	31.4	10.2	19.5	19.6		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	226			877	710			
Approach Delay, s/veh	12.7			12.9	19.6			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.6	8.5	18.3				26.9
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.1	8.9	18.5				31.9
Max Q Clear Time (g_c+I1), s		6.8	5.1	11.2				9.8
Green Ext Time (p_c), s		0.5	0.1	2.6				5.3
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			15.5					
HCM 2010 LOS			B					





















HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue

Background PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	111	113	67	123	67	116	686	35	29	510	146
Future Volume (veh/h)	121	111	113	67	123	67	116	686	35	29	510	146
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	121	111	113	67	123	67	116	686	35	29	510	146
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	290	295	212	353	541	228	1279	66	97	1301	362
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	1.00	1.00	1.00	0.51	0.51	0.51
Sat Flow, veh/h	1188	848	863	383	1033	1583	294	2517	130	63	2560	712
Grp Volume(v), veh/h	121	0	224	190	0	67	388	0	449	363	0	322
Grp Sat Flow(s),veh/h/ln	1188	0	1710	1415	0	1583	1270	0	1672	1765	0	1569
Q Serve(g_s), s	5.3	0.0	6.0	1.4	0.0	1.7	4.1	0.0	0.0	0.0	0.0	7.6
Cycle Q Clear(g_c), s	12.7	0.0	6.0	7.4	0.0	1.7	11.7	0.0	0.0	7.1	0.0	7.6
Prop In Lane	1.00		0.50	0.35		1.00	0.30		0.08	0.08		0.45
Lane Grp Cap(c), veh/h	380	0	584	565	0	541	723	0	850	962	0	798
V/C Ratio(X)	0.32	0.00	0.38	0.34	0.00	0.12	0.54	0.00	0.53	0.38	0.00	0.40
Avail Cap(c_a), veh/h	380	0	584	565	0	541	723	0	850	962	0	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	15.0	14.9	0.0	13.6	0.3	0.0	0.0	9.0	0.0	9.1
Incr Delay (d2), s/veh	2.2	0.0	1.9	1.6	0.0	0.5	2.8	0.0	2.3	1.1	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.1	2.7	0.0	0.8	1.4	0.0	0.6	3.9	0.0	3.6
LnGrp Delay(d),s/veh	22.6	0.0	16.9	16.5	0.0	14.0	3.2	0.0	2.3	10.1	0.0	10.6
LnGrp LOS	C		B	B		B	A		A	B		B
Approach Vol, veh/h		345			257			837			685	
Approach Delay, s/veh		18.9			15.8			2.7			10.4	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		14.7		9.6		9.4		13.7				
Green Ext Time (p_c), s		0.9		4.5		1.0		5.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Background PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	98	78	18	76	60	35	722	29	19	634	37
Future Volume (veh/h)	42	98	78	18	76	60	35	722	29	19	634	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	42	98	78	18	76	60	35	722	29	19	634	37
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	482	594	151	575	594	101	1532	60	80	1542	89
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.47	0.47	0.47	0.95	0.95	0.95
Sat Flow, veh/h	388	1284	1583	213	1533	1583	75	3226	127	35	3246	186
Grp Volume(v), veh/h	140	0	78	94	0	60	404	0	382	360	0	330
Grp Sat Flow(s),veh/h/ln	1672	0	1583	1746	0	1583	1755	0	1673	1805	0	1662
Q Serve(g_s), s	0.0	0.0	1.9	0.0	0.0	1.5	0.0	0.0	9.3	0.0	0.0	1.0
Cycle Q Clear(g_c), s	3.0	0.0	1.9	2.0	0.0	1.5	8.7	0.0	9.3	0.9	0.0	1.0
Prop In Lane	0.30		1.00	0.19		1.00	0.09		0.08	0.05		0.11
Lane Grp Cap(c), veh/h	705	0	594	726	0	594	899	0	795	921	0	790
V/C Ratio(X)	0.20	0.00	0.13	0.13	0.00	0.10	0.45	0.00	0.48	0.39	0.00	0.42
Avail Cap(c_a), veh/h	705	0	594	726	0	594	899	0	795	921	0	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	12.3	12.3	0.0	12.2	10.6	0.0	10.7	0.8	0.0	0.8
Incr Delay (d2), s/veh	0.6	0.0	0.5	0.4	0.0	0.3	1.6	0.0	2.1	1.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.9	1.1	0.0	0.7	4.8	0.0	4.7	0.7	0.0	0.7
LnGrp Delay(d),s/veh	13.3	0.0	12.8	12.7	0.0	12.5	12.2	0.0	12.8	2.1	0.0	2.4
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		218			154			786			690	
Approach Delay, s/veh		13.1			12.6			12.5			2.2	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.0		3.0		4.0		11.3				
Green Ext Time (p_c), s		0.9		4.7		0.6		4.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Background PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	271	33	110	300	314	16	485	177	214	485	39
Future Volume (veh/h)	21	271	33	110	300	314	16	485	177	214	485	39
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	21	271	33	110	300	314	16	485	177	214	485	39
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	850	722	479	850	722	66	1459	683	304	743	62
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	805	1863	1583	1071	1863	1583	42	3383	1583	522	1722	145
Grp Volume(v), veh/h	21	271	33	110	300	314	266	235	177	287	0	451
Grp Sat Flow(s),veh/h/ln	805	1863	1583	1071	1863	1583	1815	1610	1583	719	0	1670
Q Serve(g_s), s	1.4	7.4	0.9	5.8	8.4	10.8	0.0	7.8	5.7	23.8	0.0	16.8
Cycle Q Clear(g_c), s	9.7	7.4	0.9	13.2	8.4	10.8	7.6	7.8	5.7	31.6	0.0	16.8
Prop In Lane	1.00		1.00	1.00		1.00	0.06		1.00	0.74		0.09
Lane Grp Cap(c), veh/h	373	850	722	479	850	722	830	694	683	389	0	720
V/C Ratio(X)	0.06	0.32	0.05	0.23	0.35	0.43	0.32	0.34	0.26	0.74	0.00	0.63
Avail Cap(c_a), veh/h	373	850	722	479	850	722	830	694	683	389	0	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.3	13.8	12.1	18.1	14.1	14.8	15.1	15.1	14.6	25.1	0.0	17.7
Incr Delay (d2), s/veh	0.3	1.0	0.1	1.1	1.2	1.9	1.0	1.3	0.9	11.9	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.0	0.4	1.9	4.5	5.1	4.1	3.7	2.7	7.4	0.0	8.5
LnGrp Delay(d),s/veh	17.5	14.8	12.2	19.2	15.2	16.7	16.1	16.5	15.5	37.1	0.0	21.8
LnGrp LOS	B	B	B	B	B	B	B	B	B	D		C
Approach Vol, veh/h		325			724			678				738
Approach Delay, s/veh		14.7			16.5			16.1				27.8
Approach LOS		B			B			B				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		39.0		41.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		36.5		34.5		36.5		34.5				
Max Q Clear Time (g_c+I1), s		11.7		33.6		15.2		9.8				
Green Ext Time (p_c), s		1.8		0.5		3.4		3.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.5									
HCM 2010 LOS			B									

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	34	144	37	25	112	60	22	27	39	33	86	78
Future Vol, veh/h	34	144	37	25	112	60	22	27	39	33	86	78
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	144	37	25	112	60	22	27	39	33	86	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	9.8	9.5	8.7	9.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	16%	13%	17%
Vol Thru, %	31%	67%	57%	44%
Vol Right, %	44%	17%	30%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	215	197	197
LT Vol	22	34	25	33
Through Vol	27	144	112	86
RT Vol	39	37	60	78
Lane Flow Rate	88	215	197	197
Geometry Grp	1	1	1	1
Degree of Util (X)	0.121	0.286	0.259	0.263
Departure Headway (Hd)	4.952	4.791	4.732	4.814
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	716	744	753	741
Service Time	3.033	2.86	2.801	2.883
HCM Lane V/C Ratio	0.123	0.289	0.262	0.266
HCM Control Delay	8.7	9.8	9.5	9.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	1.2	1	1.1

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	269	44	27	270	86	35	40	17	42	40	51
Future Vol, veh/h	40	269	44	27	270	86	35	40	17	42	40	51
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	269	44	27	270	86	35	40	17	42	40	51
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	13.1	13.6	10.2	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	11%	7%	32%
Vol Thru, %	43%	76%	70%	30%
Vol Right, %	18%	12%	22%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	353	383	133
LT Vol	35	40	27	42
Through Vol	40	269	270	40
RT Vol	17	44	86	51
Lane Flow Rate	92	353	383	133
Geometry Grp	1	1	1	1
Degree of Util (X)	0.154	0.499	0.531	0.214
Departure Headway (Hd)	6.01	5.087	4.987	5.786
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	595	710	724	618
Service Time	4.064	3.124	3.022	3.837
HCM Lane V/C Ratio	0.155	0.497	0.529	0.215
HCM Control Delay	10.2	13.1	13.6	10.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.5	2.8	3.2	0.8

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	55	65	160	63	78
Future Vol, veh/h	154	55	65	160	63	78
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	55	65	160	63	78
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.9	9.4	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	45%	0%	29%
Vol Thru, %	0%	74%	71%
Vol Right, %	55%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	141	209	225
LT Vol	63	0	65
Through Vol	0	154	160
RT Vol	78	55	0
Lane Flow Rate	141	209	225
Geometry Grp	1	1	1
Degree of Util (X)	0.182	0.253	0.285
Departure Headway (Hd)	4.658	4.366	4.555
Convergence, Y/N	Yes	Yes	Yes
Cap	770	823	790
Service Time	2.691	2.394	2.582
HCM Lane V/C Ratio	0.183	0.254	0.285
HCM Control Delay	8.7	8.9	9.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	1	1.2

HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue


















Background PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	250	57	31	279	50	47	49	73	32	30	54
Future Volume (veh/h)	29	250	57	31	279	50	47	49	73	32	30	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	29	250	57	31	279	50	47	49	73	32	30	54
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	592	127	103	618	105	221	234	282	217	211	301
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	71	1385	298	74	1446	245	336	572	690	327	516	735
Grp Volume(v), veh/h	336	0	0	360	0	0	169	0	0	116	0	0
Grp Sat Flow(s),veh/h/ln	1754	0	0	1765	0	0	1598	0	0	1578	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	7.8	0.0	0.0	3.5	0.0	0.0	2.3	0.0	0.0
Prop In Lane	0.09		0.17	0.09		0.14	0.28		0.43	0.28		0.47
Lane Grp Cap(c), veh/h	821	0	0	825	0	0	738	0	0	729	0	0
V/C Ratio(X)	0.41	0.00	0.00	0.44	0.00	0.00	0.23	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	821	0	0	825	0	0	738	0	0	729	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	0.0	11.2	0.0	0.0	10.6	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.7	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	4.3	0.0	0.0	1.8	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	12.6	0.0	0.0	12.9	0.0	0.0	11.4	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		336			360			169				116
Approach Delay, s/veh		12.6			12.9			11.4				10.8
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		5.5		9.2		4.3		9.8				
Green Ext Time (p_c), s		0.8		1.8		0.5		1.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.3								
HCM 2010 LOS				B								





















HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Background PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	54	3	42	29	88	21	1112	34	82	971	6
Future Volume (veh/h)	22	54	3	42	29	88	21	1112	34	82	971	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	22	54	3	42	29	30	21	1112	34	82	971	6
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	336	17	286	184	413	60	2251	68	156	1847	12
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	358	1287	65	852	705	1583	28	3349	101	162	2748	17
Grp Volume(v), veh/h	79	0	0	71	0	30	605	0	562	473	0	586
Grp Sat Flow(s),veh/h/ln	1711	0	0	1558	0	1583	1801	0	1677	1236	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	14.9	4.6	0.0	15.6
Cycle Q Clear(g_c), s	3.0	0.0	0.0	2.7	0.0	1.3	14.4	0.0	14.9	19.6	0.0	15.6
Prop In Lane	0.28		0.04	0.59		1.00	0.03		0.06	0.17		0.01
Lane Grp Cap(c), veh/h	469	0	0	444	0	413	1222	0	1127	857	0	1137
V/C Ratio(X)	0.17	0.00	0.00	0.16	0.00	0.07	0.50	0.00	0.50	0.55	0.00	0.52
Avail Cap(c_a), veh/h	469	0	0	444	0	413	1222	0	1127	857	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	25.9	0.0	25.0	7.2	0.0	7.3	7.0	0.0	7.4
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.8	0.0	0.3	1.4	0.0	1.6	2.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	1.5	0.0	0.6	8.1	0.0	7.2	7.4	0.0	7.7
LnGrp Delay(d),s/veh	26.6	0.0	0.0	26.7	0.0	25.4	8.6	0.0	8.9	9.6	0.0	9.1
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		79			101			1167			1059	
Approach Delay, s/veh		26.6			26.3			8.8			9.3	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		16.9		5.0		21.6		4.7				
Green Ext Time (p_c), s		10.0		0.3		10.1		0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.3								
HCM 2010 LOS				B								























HCM 2010 Signalized Intersection Summary  
 10: El Camino Real & Howard Avenue

Background PM Conditions  
 07/10/2020

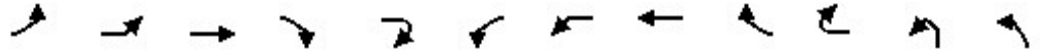
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	107	16	119	109	241	12	925	71	195	958	8
Future Volume (veh/h)	31	107	16	119	109	241	12	925	71	195	958	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	107	16	119	109	241	12	925	71	195	958	8
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	280	38	344	404	343	50	2204	168	288	1458	13
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	1.00	1.00	1.00
Sat Flow, veh/h	203	1292	173	1263	1863	1583	14	3225	245	336	2134	18
Grp Volume(v), veh/h	154	0	0	119	109	241	530	0	478	428	0	733
Grp Sat Flow(s),veh/h/ln	1667	0	0	1263	1863	1583	1832	0	1652	796	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	1.6	4.4	12.7	0.0	0.0	11.6	21.5	0.0	0.0
Cycle Q Clear(g_c), s	6.5	0.0	0.0	8.1	4.4	12.7	11.3	0.0	11.6	33.1	0.0	0.0
Prop In Lane	0.20		0.10	1.00		1.00	0.02		0.15	0.46		0.01
Lane Grp Cap(c), veh/h	409	0	0	344	404	343	1293	0	1129	602	0	1156
V/C Ratio(X)	0.38	0.00	0.00	0.35	0.27	0.70	0.41	0.00	0.42	0.71	0.00	0.63
Avail Cap(c_a), veh/h	409	0	0	344	404	343	1293	0	1129	602	0	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	0.0	0.0	30.9	29.3	32.6	6.3	0.0	6.3	2.4	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0	2.7	1.6	11.4	1.0	0.0	1.2	7.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	2.8	2.4	6.6	6.1	0.0	5.5	6.0	0.0	0.9
LnGrp Delay(d),s/veh	32.8	0.0	0.0	33.6	31.0	44.0	7.3	0.0	7.5	9.4	0.0	2.7
LnGrp LOS	C			C	C	D	A		A	A		A
Approach Vol, veh/h		154			469			1008			1161	
Approach Delay, s/veh		32.8			38.3			7.4			5.2	
Approach LOS		C			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		66.0		24.0		66.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		61.5		19.5		61.5				
Max Q Clear Time (g_c+I1), s		8.5		35.1		14.7		13.6				
Green Ext Time (p_c), s		0.6		11.4		0.9		8.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				13.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Background PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	136	17	183	95	50	33	610	194	54	609	34
Future Volume (veh/h)	30	136	17	183	95	50	33	610	194	54	609	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	30	136	17	183	95	50	33	610	0	54	609	34
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	259	32	346	224	118	121	1097	491	151	1155	517
Arrive On Green	0.16	0.16	0.13	0.19	0.19	0.16	0.07	0.31	0.00	0.08	0.33	0.33
Sat Flow, veh/h	1774	1624	203	1774	1150	605	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	30	0	153	183	0	145	33	610	0	54	609	34
Grp Sat Flow(s),veh/h/ln	1774	0	1827	1774	0	1756	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.7	0.0	3.7	4.4	0.0	3.5	0.8	6.9	0.0	1.4	6.7	0.7
Cycle Q Clear(g_c), s	0.7	0.0	3.7	4.4	0.0	3.5	0.8	6.9	0.0	1.4	6.7	0.7
Prop In Lane	1.00		0.11	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	0	292	346	0	342	121	1097	491	151	1155	517
V/C Ratio(X)	0.11	0.00	0.52	0.53	0.00	0.42	0.27	0.56	0.00	0.36	0.53	0.07
Avail Cap(c_a), veh/h	1668	0	1717	1668	0	1651	241	3253	1455	241	3253	1455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	18.5	17.3	0.0	17.1	21.2	13.8	0.0	20.7	13.1	11.1
Incr Delay (d2), s/veh	0.2	0.0	1.5	1.3	0.0	0.8	1.2	0.4	0.0	1.4	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.0	2.3	0.0	1.8	0.5	3.4	0.0	0.7	3.3	0.3
LnGrp Delay(d),s/veh	17.4	0.0	20.0	18.6	0.0	18.0	22.4	14.2	0.0	22.1	13.5	11.2
LnGrp LOS	B		B	B		B	C	B		C	B	B
Approach Vol, veh/h		183			328			643			697	
Approach Delay, s/veh		19.6			18.3			14.6			14.1	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	17.8		10.6	6.3	18.6		12.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	42.5		43.5	5.0	42.5		43.5				
Max Q Clear Time (g_c+I1), s	3.4	8.9		5.7	2.8	8.7		6.4				
Green Ext Time (p_c), s	0.0	4.5		1.1	0.0	4.6		1.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis Background PM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations			↔					↔				
Traffic Volume (vph)	18	9	49	7	1	24	3	46	40	11	1	4
Future Volume (vph)	18	9	49	7	1	24	3	46	40	11	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5					4.5				
Lane Util. Factor			1.00					1.00				
Frt			0.99					0.94				
Flt Protected			0.98					0.99				
Satd. Flow (prot)			1810					1740				
Flt Permitted			0.83					0.93				
Satd. Flow (perm)			1520					1635				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	9	49	7	1	24	3	46	40	11	1	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	84	0	0	0	0	124	0	0	0	0
Turn Type	Perm	Perm	NA			Perm	Perm	NA			Perm	Perm
Protected Phases			4					8				
Permitted Phases	4	4				8	8				1	1
Actuated Green, G (s)			9.7					9.7				
Effective Green, g (s)			9.7					9.7				
Actuated g/C Ratio			0.12					0.12				
Clearance Time (s)			4.5					4.5				
Vehicle Extension (s)			3.0					3.0				
Lane Grp Cap (vph)			181					195				
v/s Ratio Prot												
v/s Ratio Perm			0.06					0.08				
v/c Ratio			0.46					0.64				
Uniform Delay, d1			33.4					34.1				
Progression Factor			1.00					1.00				
Incremental Delay, d2			1.9					6.6				
Delay (s)			35.3					40.7				
Level of Service			D					D				
Approach Delay (s)			35.3					40.7				
Approach LOS			D					D				
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.1					HCM 2000 Level of Service				B
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			81.3					Sum of lost time (s)			13.5	
Intersection Capacity Utilization			84.0%					ICU Level of Service				E
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Background PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020

Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2
Lane Configurations												
Traffic Volume (vph)	933	49	13	3	39	938	8	7	7	1	3	3
Future Volume (vph)	933	49	13	3	39	938	8	7	7	1	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5					4.5				4.5		
Lane Util. Factor	0.95					0.95				1.00		
Frt	0.99					1.00				0.94		
Flt Protected	1.00					1.00				0.98		
Satd. Flow (prot)	3505					3524				1712		
Flt Permitted	0.95					0.87				0.83		
Satd. Flow (perm)	3335					3082				1456		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	933	49	13	3	39	938	8	7	7	1	3	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1000	0	0	0	0	995	0	0	0	14	0	0
Turn Type	NA			Perm	Perm	NA			Perm	NA		
Protected Phases	1					5				9		
Permitted Phases				5	5				9			
Actuated Green, G (s)	51.4					51.4				6.7		
Effective Green, g (s)	51.4					51.4				6.7		
Actuated g/C Ratio	0.63					0.63				0.08		
Clearance Time (s)	4.5					4.5				4.5		
Vehicle Extension (s)	3.0					3.0				3.0		
Lane Grp Cap (vph)	2108					1948				119		
v/s Ratio Prot												
v/s Ratio Perm	0.30					0.32				0.01		
v/c Ratio	0.47					0.51				0.12		
Uniform Delay, d1	7.9					8.1				34.6		
Progression Factor	1.00					1.00				1.00		
Incremental Delay, d2	0.8					1.0				0.4		
Delay (s)	8.6					9.1				35.0		
Level of Service	A					A				D		
Approach Delay (s)	8.6					9.1				35.0		
Approach LOS	A					A				D		
<b>Intersection Summary</b>												












HCM Signalized Intersection Capacity Analysis Background PM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	16	78	3	9	4
Future Volume (vph)	16	78	3	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		
Lane Util. Factor		0.95	0.95		
Frt		1.00	0.96		
Flt Protected		0.95	0.97		
Satd. Flow (prot)		1681	1648		
Flt Permitted		0.75	0.78		
Satd. Flow (perm)		1324	1334		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	78	3	9	4
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	56	54	0	0
Turn Type	Perm	Perm	NA		
Protected Phases			13		
Permitted Phases	13	13			
Actuated Green, G (s)		6.7	6.7		
Effective Green, g (s)		6.7	6.7		
Actuated g/C Ratio		0.08	0.08		
Clearance Time (s)		4.5	4.5		
Vehicle Extension (s)		3.0	3.0		
Lane Grp Cap (vph)		109	109		
v/s Ratio Prot					
v/s Ratio Perm		0.04	0.04		
v/c Ratio		0.51	0.50		
Uniform Delay, d1		35.7	35.7		
Progression Factor		1.00	1.00		
Incremental Delay, d2		4.0	3.5		
Delay (s)		39.8	39.2		
Level of Service		D	D		
Approach Delay (s)			39.5		
Approach LOS			D		
<b>Intersection Summary</b>					




















HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

Background+Project AM Conditions  
 07/10/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	164	57	58	690	652	49		
Future Volume (veh/h)	164	57	58	690	652	49		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	164	57	58	690	652	49		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	516	179	98	1474	909	68		
Arrive On Green	0.41	0.41	0.06	0.42	0.27	0.27		
Sat Flow, veh/h	1272	442	1774	3632	3431	251		
Grp Volume(v), veh/h	222	0	58	690	345	356		
Grp Sat Flow(s),veh/h/ln	1721	0	1774	1770	1770	1819		
Q Serve(g_s), s	4.5	0.0	1.6	7.1	8.9	8.9		
Cycle Q Clear(g_c), s	4.5	0.0	1.6	7.1	8.9	8.9		
Prop In Lane	0.74	0.26	1.00			0.14		
Lane Grp Cap(c), veh/h	698	0	98	1474	482	495		
V/C Ratio(X)	0.32	0.00	0.59	0.47	0.72	0.72		
Avail Cap(c_a), veh/h	698	0	228	2135	683	701		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.3	0.0	23.3	10.7	16.6	16.6		
Incr Delay (d2), s/veh	1.2	0.0	5.6	0.2	2.1	2.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.9	3.5	4.6	4.7		
LnGrp Delay(d),s/veh	11.5	0.0	29.0	10.9	18.7	18.7		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	222			748	701			
Approach Delay, s/veh	11.5			12.3	18.7			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		25.0	7.3	18.3				25.6
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		20.5	6.5	19.5				30.5
Max Q Clear Time (g_c+I1), s		6.5	3.6	10.9				9.1
Green Ext Time (p_c), s		0.5	0.0	2.8				4.6
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			14.9					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue



















Background+Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	113	80	42	135	84	78	606	43	31	566	88
Future Volume (veh/h)	91	113	80	42	135	84	78	606	43	31	566	88
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	91	113	80	42	135	84	78	606	43	31	566	88
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	499	398	282	187	553	620	174	1243	88	98	1317	200
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.92	0.92	0.92	0.46	0.46	0.46
Sat Flow, veh/h	1157	1016	719	287	1411	1583	220	2712	192	71	2874	436
Grp Volume(v), veh/h	91	0	193	177	0	84	354	0	373	358	0	327
Grp Sat Flow(s),veh/h/ln	1157	0	1736	1699	0	1583	1462	0	1661	1764	0	1618
Q Serve(g_s), s	3.4	0.0	4.6	0.0	0.0	2.0	1.4	0.0	2.0	0.0	0.0	8.2
Cycle Q Clear(g_c), s	7.3	0.0	4.6	3.8	0.0	2.0	9.6	0.0	2.0	7.7	0.0	8.2
Prop In Lane	1.00		0.41	0.24		1.00	0.22		0.12	0.09		0.27
Lane Grp Cap(c), veh/h	499	0	680	740	0	620	743	0	761	874	0	742
V/C Ratio(X)	0.18	0.00	0.28	0.24	0.00	0.14	0.48	0.00	0.49	0.41	0.00	0.44
Avail Cap(c_a), veh/h	499	0	680	740	0	620	743	0	761	874	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	12.5	12.3	0.0	11.7	1.5	0.0	1.4	10.9	0.0	11.0
Incr Delay (d2), s/veh	0.8	0.0	1.0	0.8	0.0	0.5	2.2	0.0	2.2	1.4	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	2.3	2.1	0.0	1.0	1.0	0.0	1.1	4.3	0.0	4.0
LnGrp Delay(d),s/veh	15.5	0.0	13.5	13.0	0.0	12.2	3.7	0.0	3.7	12.3	0.0	12.9
LnGrp LOS	B		B	B		B	A		A	B		B
Approach Vol, veh/h		284			261			727				685
Approach Delay, s/veh		14.2			12.8			3.7				12.6
Approach LOS		B			B			A				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		9.3		10.2		5.8		11.6				
Green Ext Time (p_c), s		1.2		4.2		1.2		4.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									
























HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Background+Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	93	52	40	85	60	38	617	21	20	627	21
Future Volume (veh/h)	60	93	52	40	85	60	38	617	21	20	627	21
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	93	52	40	85	60	38	617	21	20	627	21
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	417	620	244	481	620	111	1468	49	82	1528	50
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.46	0.46	0.46	0.92	0.92	0.92
Sat Flow, veh/h	530	1066	1583	421	1229	1583	97	3202	107	40	3334	110
Grp Volume(v), veh/h	153	0	52	125	0	60	346	0	330	348	0	320
Grp Sat Flow(s),veh/h/ln	1596	0	1583	1650	0	1583	1729	0	1676	1808	0	1676
Q Serve(g_s), s	0.2	0.0	1.2	0.0	0.0	1.4	0.0	0.0	8.0	0.0	0.0	1.5
Cycle Q Clear(g_c), s	3.3	0.0	1.2	2.6	0.0	1.4	7.4	0.0	8.0	1.5	0.0	1.5
Prop In Lane	0.39		1.00	0.32		1.00	0.11		0.06	0.06		0.07
Lane Grp Cap(c), veh/h	708	0	620	725	0	620	859	0	768	892	0	768
V/C Ratio(X)	0.22	0.00	0.08	0.17	0.00	0.10	0.40	0.00	0.43	0.39	0.00	0.42
Avail Cap(c_a), veh/h	708	0	620	725	0	620	859	0	768	892	0	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	11.5	11.9	0.0	11.5	10.8	0.0	11.0	1.4	0.0	1.4
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.5	0.0	0.3	1.4	0.0	1.8	1.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.6	1.5	0.0	0.7	4.1	0.0	4.0	0.9	0.0	0.9
LnGrp Delay(d),s/veh	12.8	0.0	11.7	12.4	0.0	11.9	12.2	0.0	12.7	2.7	0.0	3.1
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		205			185			676			668	
Approach Delay, s/veh		12.5			12.2			12.5			2.9	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		5.3		3.5		4.6		10.0				
Green Ext Time (p_c), s		0.9		4.4		0.8		3.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Background+Project AM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	263	21	69	261	257	18	409	179	150	499	38
Future Volume (veh/h)	32	263	21	69	261	257	18	409	179	150	499	38
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	263	21	69	261	257	18	409	179	150	499	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	687	584	379	687	584	87	1719	821	327	1079	84
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	880	1863	1583	1091	1863	1583	74	3313	1583	499	2079	162
Grp Volume(v), veh/h	32	263	21	69	261	257	225	202	179	296	0	391
Grp Sat Flow(s),veh/h/ln	880	1863	1583	1091	1863	1583	1777	1610	1583	1074	0	1666
Q Serve(g_s), s	2.2	8.3	0.7	4.0	8.2	9.8	0.0	5.5	4.9	11.2	0.0	11.8
Cycle Q Clear(g_c), s	10.4	8.3	0.7	12.3	8.2	9.8	5.3	5.5	4.9	16.7	0.0	11.8
Prop In Lane	1.00		1.00	1.00		1.00	0.08		1.00	0.51		0.10
Lane Grp Cap(c), veh/h	324	687	584	379	687	584	970	835	821	625	0	864
V/C Ratio(X)	0.10	0.38	0.04	0.18	0.38	0.44	0.23	0.24	0.22	0.47	0.00	0.45
Avail Cap(c_a), veh/h	324	687	584	379	687	584	970	835	821	625	0	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	18.6	16.2	23.1	18.5	19.0	10.5	10.6	10.4	13.6	0.0	12.1
Incr Delay (d2), s/veh	0.6	1.6	0.1	1.1	1.6	2.4	0.6	0.7	0.6	2.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.5	0.3	1.3	4.5	4.7	2.8	2.6	2.3	4.9	0.0	5.7
LnGrp Delay(d),s/veh	23.0	20.2	16.3	24.1	20.1	21.4	11.1	11.3	11.1	16.2	0.0	13.8
LnGrp LOS	C	C	B	C	C	C	B	B	B	B		B
Approach Vol, veh/h		316			587			606			687	
Approach Delay, s/veh		20.2			21.2			11.1			14.8	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		46.0		34.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		29.5		41.5		29.5		41.5				
Max Q Clear Time (g_c+I1), s		12.4		18.7		14.3		7.5				
Green Ext Time (p_c), s		1.6		5.1		2.4		3.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			16.3									
HCM 2010 LOS			B									

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	140	47	27	57	16	15	31	30	33	72	56
Future Vol, veh/h	20	140	47	27	57	16	15	31	30	33	72	56
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	140	47	27	57	16	15	31	30	33	72	56
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	9.1	8.4	8.2	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	10%	27%	20%
Vol Thru, %	41%	68%	57%	45%
Vol Right, %	39%	23%	16%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	76	207	100	161
LT Vol	15	20	27	33
Through Vol	31	140	57	72
RT Vol	30	47	16	56
Lane Flow Rate	76	207	100	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.098	0.258	0.13	0.204
Departure Headway (Hd)	4.643	4.489	4.686	4.568
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	770	799	764	784
Service Time	2.683	2.523	2.724	2.604
HCM Lane V/C Ratio	0.099	0.259	0.131	0.205
HCM Control Delay	8.2	9.1	8.4	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1	0.4	0.8

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	61	227	39	23	206	64	22	63	9	36	50	25
Future Vol, veh/h	61	227	39	23	206	64	22	63	9	36	50	25
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	227	39	23	206	64	22	63	9	36	50	25
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	11.6	10.9	9.6	9.7
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	19%	8%	32%
Vol Thru, %	67%	69%	70%	45%
Vol Right, %	10%	12%	22%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	327	293	111
LT Vol	22	61	23	36
Through Vol	63	227	206	50
RT Vol	9	39	64	25
Lane Flow Rate	94	327	293	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.148	0.436	0.388	0.171
Departure Headway (Hd)	5.65	4.799	4.763	5.556
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	638	739	744	649
Service Time	3.654	2.894	2.86	3.562
HCM Lane V/C Ratio	0.147	0.442	0.394	0.171
HCM Control Delay	9.6	11.6	10.9	9.7
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.5	2.2	1.8	0.6

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Traffic Vol, veh/h	177	34	33	85	44	48
Future Vol, veh/h	177	34	33	85	44	48
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	177	34	33	85	44	48
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	8.2	8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	48%	0%	28%
Vol Thru, %	0%	84%	72%
Vol Right, %	52%	16%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	92	211	118
LT Vol	44	0	33
Through Vol	0	177	85
RT Vol	48	34	0
Lane Flow Rate	92	211	118
Geometry Grp	1	1	1
Degree of Util (X)	0.113	0.24	0.145
Departure Headway (Hd)	4.437	4.09	4.416
Convergence, Y/N	Yes	Yes	Yes
Cap	811	863	815
Service Time	2.444	2.188	2.425
HCM Lane V/C Ratio	0.113	0.244	0.145
HCM Control Delay	8	8.5	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.9	0.5


















HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Background+Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	272	41	19	202	23	43	62	54	12	20	20
Future Volume (veh/h)	21	272	41	19	202	23	43	62	54	12	20	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	272	41	19	202	23	43	62	54	12	20	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	674	97	89	691	75	215	303	227	184	298	255
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	48	1526	220	56	1566	169	341	742	557	270	731	626
Grp Volume(v), veh/h	334	0	0	244	0	0	159	0	0	52	0	0
Grp Sat Flow(s),veh/h/ln	1794	0	0	1791	0	0	1639	0	0	1627	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.5	0.0	0.0	5.1	0.0	0.0	3.5	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.06		0.12	0.08		0.09	0.27		0.34	0.23		0.38
Lane Grp Cap(c), veh/h	856	0	0	856	0	0	746	0	0	738	0	0
V/C Ratio(X)	0.39	0.00	0.00	0.29	0.00	0.00	0.21	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	856	0	0	856	0	0	746	0	0	738	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.4	0.0	0.0	10.8	0.0	0.0	11.5	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	2.8	0.0	0.0	1.8	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	12.8	0.0	0.0	11.6	0.0	0.0	12.2	0.0	0.0	11.0	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		334			244			159				52
Approach Delay, s/veh		12.8			11.6			12.2				11.0
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.0		31.0		29.0		31.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.5		26.5		24.5		26.5				
Max Q Clear Time (g_c+I1), s		5.5		9.5		3.1		7.1				
Green Ext Time (p_c), s		0.8		1.9		0.2		1.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.2								
HCM 2010 LOS				B								




















HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Background+Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	61	11	23	24	46	8	876	18	90	983	5
Future Volume (veh/h)	13	61	11	23	24	46	8	876	18	90	983	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	13	61	11	23	24	16	8	876	18	90	983	5
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	362	60	241	235	413	46	2317	47	184	1945	10
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	152	1385	229	695	902	1583	8	3447	70	204	2893	15
Grp Volume(v), veh/h	85	0	0	47	0	16	472	0	430	499	0	579
Grp Sat Flow(s),veh/h/ln	1766	0	0	1596	0	1583	1844	0	1683	1419	0	1693
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	10.2	3.7	0.0	15.3
Cycle Q Clear(g_c), s	3.3	0.0	0.0	1.7	0.0	0.7	10.1	0.0	10.2	13.8	0.0	15.3
Prop In Lane	0.15		0.13	0.49		1.00	0.02		0.04	0.18		0.01
Lane Grp Cap(c), veh/h	478	0	0	450	0	413	1249	0	1131	978	0	1138
V/C Ratio(X)	0.18	0.00	0.00	0.10	0.00	0.04	0.38	0.00	0.38	0.51	0.00	0.51
Avail Cap(c_a), veh/h	478	0	0	450	0	413	1249	0	1131	978	0	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	25.5	0.0	24.8	6.5	0.0	6.5	6.8	0.0	7.4
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.5	0.0	0.2	0.9	0.0	1.0	1.9	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.0	0.0	0.3	5.7	0.0	5.0	6.8	0.0	7.6
LnGrp Delay(d),s/veh	26.8	0.0	0.0	26.0	0.0	25.0	7.4	0.0	7.5	8.7	0.0	9.0
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		85			63			902			1078	
Approach Delay, s/veh		26.8			25.7			7.4			8.9	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		12.2		5.3		17.3		3.7				
Green Ext Time (p_c), s		6.8		0.3		10.2		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
10: El Camino Real & Howard Avenue























Background+Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	114	33	55	68	133	7	835	59	146	897	3
Future Volume (veh/h)	19	114	33	55	68	133	7	835	59	146	897	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	114	33	55	68	133	7	835	59	146	897	3
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	325	87	373	466	396	45	2124	149	252	1565	5
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	98	1300	347	1236	1863	1583	7	3267	229	305	2408	8
Grp Volume(v), veh/h	166	0	0	55	68	133	476	0	425	432	0	614
Grp Sat Flow(s),veh/h/ln	1745	0	0	1236	1863	1583	1849	0	1655	1028	0	1694
Q Serve(g_s), s	0.0	0.0	0.0	0.0	2.6	6.2	0.0	0.0	10.9	10.4	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	0.0	3.8	2.6	6.2	10.8	0.0	10.9	21.3	0.0	0.0
Prop In Lane	0.11		0.20	1.00		1.00	0.01		0.14	0.34		0.00
Lane Grp Cap(c), veh/h	481	0	0	373	466	396	1242	0	1075	721	0	1101
V/C Ratio(X)	0.35	0.00	0.00	0.15	0.15	0.34	0.38	0.00	0.40	0.60	0.00	0.56
Avail Cap(c_a), veh/h	481	0	0	373	466	396	1242	0	1075	721	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.9	0.0	0.0	26.7	26.3	27.6	7.4	0.0	7.4	1.0	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.8	0.7	2.3	0.9	0.0	1.1	3.6	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	1.2	1.4	2.9	5.7	0.0	5.3	3.5	0.0	0.6
LnGrp Delay(d),s/veh	29.8	0.0	0.0	27.6	26.9	29.9	8.3	0.0	8.5	4.7	0.0	2.0
LnGrp LOS	C			C	C	C	A		A	A		A
Approach Vol, veh/h		166			256			901			1046	
Approach Delay, s/veh		29.8			28.6			8.4			3.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		63.0		27.0		63.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		58.5		22.5		58.5				
Max Q Clear Time (g_c+I1), s		8.9		23.3		8.2		12.9				
Green Ext Time (p_c), s		0.7		10.1		0.8		7.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.8									
HCM 2010 LOS			A									

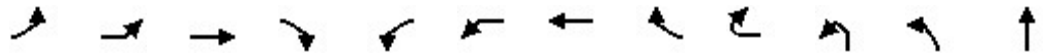


HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Background+Project AM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	228	30	114	95	91	9	548	268	114	652	51
Future Volume (veh/h)	21	228	30	114	95	91	9	548	268	114	652	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	21	228	30	114	95	91	9	548	0	114	652	51
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	387	352	46	327	161	155	71	915	409	197	1166	522
Arrive On Green	0.22	0.22	0.22	0.18	0.18	0.18	0.04	0.26	0.00	0.11	0.33	0.33
Sat Flow, veh/h	1774	1613	212	1774	876	839	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	21	0	258	114	0	186	9	548	0	114	652	51
Grp Sat Flow(s),veh/h/ln	1774	0	1825	1774	0	1715	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.5	0.0	6.8	2.9	0.0	5.2	0.3	7.1	0.0	3.2	8.0	1.2
Cycle Q Clear(g_c), s	0.5	0.0	6.8	2.9	0.0	5.2	0.3	7.1	0.0	3.2	8.0	1.2
Prop In Lane	1.00		0.12	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	387	0	398	327	0	316	71	915	409	197	1166	522
V/C Ratio(X)	0.05	0.00	0.65	0.35	0.00	0.59	0.13	0.60	0.00	0.58	0.56	0.10
Avail Cap(c_a), veh/h	837	0	861	661	0	639	223	1628	729	486	2153	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	0.0	18.7	18.7	0.0	19.6	24.3	17.1	0.0	22.2	14.5	12.2
Incr Delay (d2), s/veh	0.1	0.0	1.8	0.6	0.0	1.7	0.8	0.6	0.0	2.7	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.6	1.5	0.0	2.6	0.1	3.5	0.0	1.7	4.0	0.5
LnGrp Delay(d),s/veh	16.3	0.0	20.5	19.3	0.0	21.4	25.1	17.7	0.0	24.9	14.9	12.3
LnGrp LOS	B		C	B		C	C	B		C	B	B
Approach Vol, veh/h		279			300			557			817	
Approach Delay, s/veh		20.2			20.6			17.9			16.1	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	16.6		14.5	5.1	20.3		12.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.9	22.7		23.3	5.1	30.5		18.1				
Max Q Clear Time (g_c+I1), s	5.2	9.1		8.8	2.3	10.0		7.2				
Green Ext Time (p_c), s	0.1	3.0		1.4	0.0	4.5		1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.9									
HCM 2010 LOS			B									















HCM Signalized Intersection Capacity Analysis Background+Project AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations			↔				↔					↔
Traffic Volume (vph)	22	12	72	7	29	1	27	49	15	2	3	846
Future Volume (vph)	22	12	72	7	29	1	27	49	15	2	3	846
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5				4.5					4.5
Lane Util. Factor			1.00				1.00					0.95
Frt			0.99				0.93					0.99
Flt Protected			0.99				0.99					1.00
Satd. Flow (prot)			1820				1709					3497
Flt Permitted			0.85				0.90					0.95
Satd. Flow (perm)			1566				1548					3326
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	12	72	7	29	1	27	49	15	2	3	846
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	113	0	0	0	121	0	0	0	0	923
Turn Type	Perm	Perm	NA		Perm	Perm	NA			Perm	Perm	NA
Protected Phases			4				8					1
Permitted Phases	4	4			8	8				1	1	
Actuated Green, G (s)			12.0				12.0					59.0
Effective Green, g (s)			12.0				12.0					59.0
Actuated g/C Ratio			0.13				0.13					0.66
Clearance Time (s)			4.5				4.5					4.5
Vehicle Extension (s)			3.0				3.0					3.0
Lane Grp Cap (vph)			210				208					2197
v/s Ratio Prot												
v/s Ratio Perm			0.07				0.08					0.28
v/c Ratio			0.54				0.58					0.42
Uniform Delay, d1			36.1				36.3					7.1
Progression Factor			1.00				1.00					1.00
Incremental Delay, d2			2.6				4.1					0.6
Delay (s)			38.7				40.4					7.7
Level of Service			D				D					A
Approach Delay (s)			38.7				40.4					7.7
Approach LOS			D				D					A
<b>Intersection Summary</b>												
HCM 2000 Control Delay			12.9				HCM 2000 Level of Service					B
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			89.3				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			85.2%				ICU Level of Service					E
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Background+Project AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020












												
Movement	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2
Lane Configurations												
Traffic Volume (vph)	63	9	3	39	915	9	7	16	8	9	2	5
Future Volume (vph)	63	9	3	39	915	9	7	16	8	9	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5				4.5			
Lane Util. Factor					0.95				1.00			
Frt					1.00				0.96			
Flt Protected					1.00				0.98			
Satd. Flow (prot)					3523				1744			
Flt Permitted					0.88				0.84			
Satd. Flow (perm)					3092				1497			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	9	3	39	915	9	7	16	8	9	2	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	973	0	0	0	35	0	0	0
Turn Type			Perm	Perm	NA			Perm	NA			Perm
Protected Phases					5				9			
Permitted Phases			5	5				9				13
Actuated Green, G (s)					59.0				4.8			
Effective Green, g (s)					59.0				4.8			
Actuated g/C Ratio					0.66				0.05			
Clearance Time (s)					4.5				4.5			
Vehicle Extension (s)					3.0				3.0			
Lane Grp Cap (vph)					2042				80			
v/s Ratio Prot												
v/s Ratio Perm					c0.31				c0.02			
v/c Ratio					0.48				0.44			
Uniform Delay, d1					7.5				40.9			
Progression Factor					1.00				1.00			
Incremental Delay, d2					0.8				3.8			
Delay (s)					8.3				44.7			
Level of Service					A				D			
Approach Delay (s)					8.3				44.7			
Approach LOS					A				D			
Intersection Summary												

HCM Signalized Intersection Capacity Analysis Background+Project AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020




















Movement	SWL	SWT	SWR	SWR2
Lane Configurations				
Traffic Volume (vph)	39	3	7	4
Future Volume (vph)	39	3	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		
Lane Util. Factor	0.95	0.95		
Frt	1.00	0.94		
Flt Protected	0.95	0.98		
Satd. Flow (prot)	1681	1625		
Flt Permitted	0.83	0.82		
Satd. Flow (perm)	1475	1372		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00
Adj. Flow (vph)	39	3	7	4
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	30	28	0	0
Turn Type	Perm	NA		
Protected Phases		13		
Permitted Phases	13			
Actuated Green, G (s)	4.8	4.8		
Effective Green, g (s)	4.8	4.8		
Actuated g/C Ratio	0.05	0.05		
Clearance Time (s)	4.5	4.5		
Vehicle Extension (s)	3.0	3.0		
Lane Grp Cap (vph)	79	73		
v/s Ratio Prot				
v/s Ratio Perm	0.02	0.02		
v/c Ratio	0.38	0.38		
Uniform Delay, d1	40.8	40.8		
Progression Factor	1.00	1.00		
Incremental Delay, d2	3.0	3.3		
Delay (s)	43.8	44.2		
Level of Service	D	D		
Approach Delay (s)		44.0		
Approach LOS		D		
<b>Intersection Summary</b>				

HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	159	76	110	767	595	117		
Future Volume (veh/h)	159	76	110	767	595	117		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	159	76	110	767	595	117		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	435	208	142	1571	810	159		
Arrive On Green	0.38	0.38	0.08	0.44	0.27	0.27		
Sat Flow, veh/h	1151	550	1774	3632	3044	579		
Grp Volume(v), veh/h	236	0	110	767	356	356		
Grp Sat Flow(s),veh/h/ln	1708	0	1774	1770	1770	1761		
Q Serve(g_s), s	5.0	0.0	3.1	7.8	9.2	9.3		
Cycle Q Clear(g_c), s	5.0	0.0	3.1	7.8	9.2	9.3		
Prop In Lane	0.67	0.32	1.00			0.33		
Lane Grp Cap(c), veh/h	646	0	142	1571	486	483		
V/C Ratio(X)	0.37	0.00	0.77	0.49	0.73	0.74		
Avail Cap(c_a), veh/h	646	0	313	2235	648	645		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	0.0	22.8	10.0	16.6	16.7		
Incr Delay (d2), s/veh	1.6	0.0	8.6	0.2	2.9	3.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.6	0.0	1.8	3.8	4.8	4.9		
LnGrp Delay(d),s/veh	12.9	0.0	31.4	10.2	19.6	19.7		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	236			877	712			
Approach Delay, s/veh	12.9			12.9	19.6			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.6	8.5	18.4				26.9
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.1	8.9	18.5				31.9
Max Q Clear Time (g_c+I1), s		7.0	5.1	11.3				9.8
Green Ext Time (p_c), s		0.5	0.1	2.6				5.3
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			15.5					
HCM 2010 LOS			B					





















HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue

Background+Project PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	118	130	67	125	67	121	686	35	29	510	146
Future Volume (veh/h)	121	118	130	67	125	67	121	686	35	29	510	146
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	121	118	130	67	125	67	121	686	35	29	510	146
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	277	305	203	341	541	233	1261	66	97	1301	362
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	1.00	1.00	1.00	0.51	0.51	0.51
Sat Flow, veh/h	1186	811	894	356	999	1583	303	2481	129	63	2560	712
Grp Volume(v), veh/h	121	0	248	192	0	67	388	0	454	363	0	322
Grp Sat Flow(s),veh/h/ln	1186	0	1705	1355	0	1583	1240	0	1672	1765	0	1569
Q Serve(g_s), s	5.4	0.0	6.7	1.5	0.0	1.7	4.6	0.0	0.0	0.0	0.0	7.6
Cycle Q Clear(g_c), s	13.7	0.0	6.7	8.2	0.0	1.7	12.2	0.0	0.0	7.1	0.0	7.6
Prop In Lane	1.00		0.52	0.35		1.00	0.31		0.08	0.08		0.45
Lane Grp Cap(c), veh/h	362	0	583	544	0	541	709	0	850	962	0	798
V/C Ratio(X)	0.33	0.00	0.43	0.35	0.00	0.12	0.55	0.00	0.53	0.38	0.00	0.40
Avail Cap(c_a), veh/h	362	0	583	544	0	541	709	0	850	962	0	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	15.2	15.0	0.0	13.6	0.4	0.0	0.0	9.0	0.0	9.1
Incr Delay (d2), s/veh	2.5	0.0	2.3	1.8	0.0	0.5	3.0	0.0	2.4	1.1	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.5	2.8	0.0	0.8	1.9	0.0	0.6	3.9	0.0	3.6
LnGrp Delay(d),s/veh	23.6	0.0	17.5	16.8	0.0	14.0	3.4	0.0	2.4	10.1	0.0	10.6
LnGrp LOS	C		B	B		B	A		A	B		B
Approach Vol, veh/h		369			259			842			685	
Approach Delay, s/veh		19.5			16.1			2.9			10.4	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		15.7		9.6		10.2		14.2				
Green Ext Time (p_c), s		0.8		4.5		0.9		5.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.7									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary  
 3: California Drive & Bayswater Avenue

Background+Project PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	98	78	18	76	60	35	727	29	19	651	37
Future Volume (veh/h)	42	98	78	18	76	60	35	727	29	19	651	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	42	98	78	18	76	60	35	727	29	19	651	37
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	482	594	151	575	594	100	1532	60	80	1545	86
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.47	0.47	0.47	0.95	0.95	0.95
Sat Flow, veh/h	388	1284	1583	213	1533	1583	74	3226	126	35	3252	182
Grp Volume(v), veh/h	140	0	78	94	0	60	406	0	385	369	0	338
Grp Sat Flow(s),veh/h/ln	1672	0	1583	1746	0	1583	1753	0	1673	1806	0	1663
Q Serve(g_s), s	0.0	0.0	1.9	0.0	0.0	1.5	0.0	0.0	9.4	0.0	0.0	1.0
Cycle Q Clear(g_c), s	3.0	0.0	1.9	2.0	0.0	1.5	8.8	0.0	9.4	1.0	0.0	1.0
Prop In Lane	0.30		1.00	0.19		1.00	0.09		0.08	0.05		0.11
Lane Grp Cap(c), veh/h	705	0	594	726	0	594	898	0	795	921	0	790
V/C Ratio(X)	0.20	0.00	0.13	0.13	0.00	0.10	0.45	0.00	0.48	0.40	0.00	0.43
Avail Cap(c_a), veh/h	705	0	594	726	0	594	898	0	795	921	0	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	12.3	12.3	0.0	12.2	10.6	0.0	10.7	0.8	0.0	0.8
Incr Delay (d2), s/veh	0.6	0.0	0.5	0.4	0.0	0.3	1.6	0.0	2.1	1.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.9	1.1	0.0	0.7	4.9	0.0	4.7	0.7	0.0	0.7
LnGrp Delay(d),s/veh	13.3	0.0	12.8	12.7	0.0	12.5	12.2	0.0	12.8	2.1	0.0	2.5
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		218			154			791			707	
Approach Delay, s/veh		13.1			12.6			12.5			2.3	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.0		3.0		4.0		11.4				
Green Ext Time (p_c), s		0.9		4.8		0.6		4.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Background+Project PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	278	43	110	302	316	19	488	177	221	495	39
Future Volume (veh/h)	21	278	43	110	302	316	19	488	177	221	495	39
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	21	278	43	110	302	316	19	488	177	221	495	39
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	850	722	470	850	722	72	1447	683	304	736	61
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	802	1863	1583	1054	1863	1583	55	3354	1583	523	1707	141
Grp Volume(v), veh/h	21	278	43	110	302	316	268	239	177	292	0	463
Grp Sat Flow(s),veh/h/ln	802	1863	1583	1054	1863	1583	1799	1610	1583	700	0	1670
Q Serve(g_s), s	1.4	7.6	1.2	6.0	8.4	10.8	0.0	7.9	5.7	25.3	0.0	17.5
Cycle Q Clear(g_c), s	9.8	7.6	1.2	13.6	8.4	10.8	7.7	7.9	5.7	33.2	0.0	17.5
Prop In Lane	1.00		1.00	1.00		1.00	0.07		1.00	0.76		0.08
Lane Grp Cap(c), veh/h	372	850	722	470	850	722	824	694	683	381	0	720
V/C Ratio(X)	0.06	0.33	0.06	0.23	0.36	0.44	0.33	0.34	0.26	0.77	0.00	0.64
Avail Cap(c_a), veh/h	372	850	722	470	850	722	824	694	683	381	0	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.3	13.9	12.2	18.2	14.1	14.8	15.1	15.2	14.6	26.0	0.0	17.9
Incr Delay (d2), s/veh	0.3	1.0	0.2	1.2	1.2	1.9	1.1	1.3	0.9	13.7	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.1	0.6	1.9	4.6	5.1	4.1	3.8	2.7	7.8	0.0	8.9
LnGrp Delay(d),s/veh	17.6	14.9	12.3	19.4	15.3	16.7	16.2	16.5	15.5	39.7	0.0	22.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	D		C
Approach Vol, veh/h		342			728			684			755	
Approach Delay, s/veh		14.8			16.5			16.1			29.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		39.0		41.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		36.5		34.5		36.5		34.5				
Max Q Clear Time (g_c+I1), s		11.8		35.2		15.6		9.9				
Green Ext Time (p_c), s		1.9		0.0		3.4		3.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.9									
HCM 2010 LOS			B									



Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	144	43	27	112	60	57	37	49	33	89	78
Future Vol, veh/h	34	144	43	27	112	60	57	37	49	33	89	78
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	144	43	27	112	60	57	37	49	33	89	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	10.3	10	9.6	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	15%	14%	17%
Vol Thru, %	26%	65%	56%	44%
Vol Right, %	34%	19%	30%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	143	221	199	200
LT Vol	57	34	27	33
Through Vol	37	144	112	89
RT Vol	49	43	60	78
Lane Flow Rate	143	221	199	200
Geometry Grp	1	1	1	1
Degree of Util (X)	0.207	0.31	0.277	0.28
Departure Headway (Hd)	5.199	5.051	5.018	5.044
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	691	714	718	714
Service Time	3.226	3.067	3.035	3.065
HCM Lane V/C Ratio	0.207	0.31	0.277	0.28
HCM Control Delay	9.6	10.3	10	10
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.8	1.3	1.1	1.1

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	269	44	27	270	93	35	51	17	66	81	68
Future Vol, veh/h	49	269	44	27	270	93	35	51	17	66	81	68
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	269	44	27	270	93	35	51	17	66	81	68
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	15.2	15.8	10.9	12.5
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	14%	7%	31%
Vol Thru, %	50%	74%	69%	38%
Vol Right, %	17%	12%	24%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	103	362	390	215
LT Vol	35	49	27	66
Through Vol	51	269	270	81
RT Vol	17	44	93	68
Lane Flow Rate	103	362	390	215
Geometry Grp	1	1	1	1
Degree of Util (X)	0.183	0.553	0.583	0.36
Departure Headway (Hd)	6.399	5.497	5.38	6.026
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	652	667	593
Service Time	4.496	3.567	3.449	4.107
HCM Lane V/C Ratio	0.185	0.555	0.585	0.363
HCM Control Delay	10.9	15.2	15.8	12.5
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	0.7	3.4	3.8	1.6

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	160	55	65	195	63	78
Future Vol, veh/h	160	55	65	195	63	78
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	55	65	195	63	78
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9	9.8	8.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	45%	0%	25%
Vol Thru, %	0%	74%	75%
Vol Right, %	55%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	141	215	260
LT Vol	63	0	65
Through Vol	0	160	195
RT Vol	78	55	0
Lane Flow Rate	141	215	260
Geometry Grp	1	1	1
Degree of Util (X)	0.186	0.264	0.329
Departure Headway (Hd)	4.75	4.415	4.561
Convergence, Y/N	Yes	Yes	Yes
Cap	754	813	788
Service Time	2.788	2.447	2.592
HCM Lane V/C Ratio	0.187	0.264	0.33
HCM Control Delay	8.9	9	9.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	1.1	1.4

HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue


















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	259	57	31	296	50	47	49	73	32	30	54
Future Volume (veh/h)	29	259	57	31	296	50	47	49	73	32	30	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	29	259	57	31	296	50	47	49	73	32	30	54
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	596	124	101	625	100	221	234	282	217	211	301
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	70	1396	290	71	1463	234	336	572	690	327	516	735
Grp Volume(v), veh/h	345	0	0	377	0	0	169	0	0	116	0	0
Grp Sat Flow(s),veh/h/ln	1755	0	0	1768	0	0	1598	0	0	1578	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.4	0.0	0.0	8.2	0.0	0.0	3.5	0.0	0.0	2.3	0.0	0.0
Prop In Lane	0.08		0.17	0.08		0.13	0.28		0.43	0.28		0.47
Lane Grp Cap(c), veh/h	821	0	0	826	0	0	738	0	0	729	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.46	0.00	0.00	0.23	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	821	0	0	826	0	0	738	0	0	729	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	0.0	11.4	0.0	0.0	10.6	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.8	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	4.5	0.0	0.0	1.8	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	12.7	0.0	0.0	13.2	0.0	0.0	11.4	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		345			377			169				116
Approach Delay, s/veh		12.7			13.2			11.4				10.8
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		5.5		9.4		4.3		10.2				
Green Ext Time (p_c), s		0.8		1.8		0.5		1.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue



















Background+Project PM Conditions

07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	54	3	56	29	109	21	1112	34	88	971	6
Future Volume (veh/h)	22	54	3	56	29	109	21	1112	34	88	971	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	22	54	3	56	29	51	21	1112	34	88	971	6
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	335	17	314	151	413	60	2251	68	163	1806	11
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	356	1282	65	950	579	1583	28	3349	101	171	2687	17
Grp Volume(v), veh/h	79	0	0	85	0	51	605	0	562	468	0	597
Grp Sat Flow(s),veh/h/ln	1702	0	0	1529	0	1583	1801	0	1677	1183	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	2.2	0.0	0.0	14.9	6.8	0.0	16.1
Cycle Q Clear(g_c), s	3.0	0.0	0.0	3.4	0.0	2.2	14.4	0.0	14.9	21.7	0.0	16.1
Prop In Lane	0.28		0.04	0.66		1.00	0.03		0.06	0.19		0.01
Lane Grp Cap(c), veh/h	467	0	0	440	0	413	1222	0	1127	823	0	1137
V/C Ratio(X)	0.17	0.00	0.00	0.19	0.00	0.12	0.50	0.00	0.50	0.57	0.00	0.52
Avail Cap(c_a), veh/h	467	0	0	440	0	413	1222	0	1127	823	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	26.2	0.0	25.4	7.2	0.0	7.3	7.4	0.0	7.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.0	0.0	0.6	1.4	0.0	1.6	2.8	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	1.8	0.0	1.0	8.1	0.0	7.2	7.5	0.0	8.0
LnGrp Delay(d),s/veh	26.6	0.0	0.0	27.1	0.0	26.0	8.6	0.0	8.9	10.3	0.0	9.2
LnGrp LOS	C			C		C	A		A	B		A
Approach Vol, veh/h		79			136			1167			1065	
Approach Delay, s/veh		26.6			26.7			8.8			9.7	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		16.9		5.0		23.7		5.4				
Green Ext Time (p_c), s		10.0		0.3		10.2		0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.7								
HCM 2010 LOS				B								























HCM 2010 Signalized Intersection Summary  
10: El Camino Real & Howard Avenue

Background+Project PM Conditions  
07/10/2020

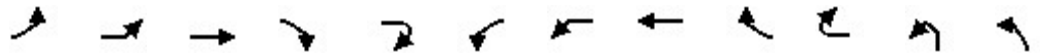
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	109	16	129	109	248	12	925	74	199	958	8
Future Volume (veh/h)	31	109	16	129	109	248	12	925	74	199	958	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	109	16	129	109	248	12	925	74	199	958	8
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	281	37	342	404	343	50	2196	174	290	1445	13
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	1.00	1.00	1.00
Sat Flow, veh/h	199	1299	171	1261	1863	1583	14	3214	255	339	2114	18
Grp Volume(v), veh/h	156	0	0	129	109	248	532	0	479	426	0	739
Grp Sat Flow(s),veh/h/ln	1669	0	0	1261	1863	1583	1832	0	1650	779	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	2.3	4.4	13.1	0.0	0.0	11.7	22.7	0.0	0.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	8.9	4.4	13.1	11.4	0.0	11.7	34.3	0.0	0.0
Prop In Lane	0.20		0.10	1.00		1.00	0.02		0.15	0.47		0.01
Lane Grp Cap(c), veh/h	409	0	0	342	404	343	1293	0	1128	591	0	1156
V/C Ratio(X)	0.38	0.00	0.00	0.38	0.27	0.72	0.41	0.00	0.42	0.72	0.00	0.64
Avail Cap(c_a), veh/h	409	0	0	342	404	343	1293	0	1128	591	0	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	0.0	0.0	31.2	29.3	32.7	6.3	0.0	6.4	2.6	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.0	3.1	1.6	12.4	1.0	0.0	1.2	7.4	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	3.1	2.4	6.9	6.1	0.0	5.6	6.2	0.0	0.9
LnGrp Delay(d),s/veh	32.9	0.0	0.0	34.3	31.0	45.2	7.3	0.0	7.5	10.0	0.0	2.7
LnGrp LOS	C			C	C	D	A		A	B		A
Approach Vol, veh/h		156			486			1011				1165
Approach Delay, s/veh		32.9			39.1			7.4				5.4
Approach LOS		C			D			A				A
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		66.0		24.0		66.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		61.5		19.5		61.5				
Max Q Clear Time (g_c+I1), s		8.6		36.3		15.1		13.7				
Green Ext Time (p_c), s		0.6		11.2		0.8		8.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				13.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Background+Project PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	136	17	183	95	50	33	630	194	54	614	34
Future Volume (veh/h)	30	136	17	183	95	50	33	630	194	54	614	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	30	136	17	183	95	50	33	630	0	54	614	34
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	258	32	344	223	117	121	1117	500	149	1175	526
Arrive On Green	0.16	0.16	0.13	0.19	0.19	0.16	0.07	0.32	0.00	0.08	0.33	0.33
Sat Flow, veh/h	1774	1624	203	1774	1150	605	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	30	0	153	183	0	145	33	630	0	54	614	34
Grp Sat Flow(s),veh/h/ln	1774	0	1827	1774	0	1756	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.7	0.0	3.7	4.5	0.0	3.5	0.9	7.2	0.0	1.4	6.8	0.7
Cycle Q Clear(g_c), s	0.7	0.0	3.7	4.5	0.0	3.5	0.9	7.2	0.0	1.4	6.8	0.7
Prop In Lane	1.00		0.11	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	0	290	344	0	340	121	1117	500	149	1175	526
V/C Ratio(X)	0.11	0.00	0.53	0.53	0.00	0.43	0.27	0.56	0.00	0.36	0.52	0.06
Avail Cap(c_a), veh/h	1646	0	1695	1646	0	1629	238	3210	1436	238	3210	1436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	18.8	17.6	0.0	17.4	21.5	13.8	0.0	21.0	13.1	11.1
Incr Delay (d2), s/veh	0.2	0.0	1.5	1.3	0.0	0.8	1.2	0.4	0.0	1.5	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.0	2.3	0.0	1.8	0.5	3.6	0.0	0.7	3.4	0.3
LnGrp Delay(d),s/veh	17.6	0.0	20.3	18.9	0.0	18.3	22.7	14.3	0.0	22.4	13.5	11.1
LnGrp LOS	B		C	B		B	C	B		C	B	B
Approach Vol, veh/h		183			328			663			702	
Approach Delay, s/veh		19.8			18.6			14.7			14.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	18.3		10.7	6.3	19.1		12.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	42.5		43.5	5.0	42.5		43.5				
Max Q Clear Time (g_c+I1), s	3.4	9.2		5.7	2.9	8.8		6.5				
Green Ext Time (p_c), s	0.0	4.6		1.1	0.0	4.6		1.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis Background+Project PM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations			↔					↔				
Traffic Volume (vph)	18	10	50	7	1	24	3	50	40	11	1	4
Future Volume (vph)	18	10	50	7	1	24	3	50	40	11	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5					4.5				
Lane Util. Factor			1.00					1.00				
Frt			0.99					0.95				
Flt Protected			0.98					0.99				
Satd. Flow (prot)			1810					1744				
Flt Permitted			0.86					0.93				
Satd. Flow (perm)			1582					1646				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	10	50	7	1	24	3	50	40	11	1	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	86	0	0	0	0	128	0	0	0	0
Turn Type	Perm	Perm	NA			Perm	Perm	NA			Perm	Perm
Protected Phases			4					8				
Permitted Phases	4	4				8	8				1	1
Actuated Green, G (s)			11.6					11.6				
Effective Green, g (s)			11.6					11.6				
Actuated g/C Ratio			0.14					0.14				
Clearance Time (s)			4.5					4.5				
Vehicle Extension (s)			3.0					3.0				
Lane Grp Cap (vph)			221					230				
v/s Ratio Prot												
v/s Ratio Perm			0.05					0.08				
v/c Ratio			0.39					0.56				
Uniform Delay, d1			32.3					33.2				
Progression Factor			1.00					1.00				
Incremental Delay, d2			1.1					2.9				
Delay (s)			33.5					36.1				
Level of Service			C					D				
Approach Delay (s)			33.5					36.1				
Approach LOS			C					D				
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.8					HCM 2000 Level of Service				B
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			82.7					Sum of lost time (s)				13.5
Intersection Capacity Utilization			84.4%					ICU Level of Service				E
Analysis Period (min)			15									

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis

Background+Project PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020

Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2
Lane Configurations												
Traffic Volume (vph)	935	49	13	3	39	945	11	7	7	1	3	3
Future Volume (vph)	935	49	13	3	39	945	11	7	7	1	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5					4.5				4.5		
Lane Util. Factor	0.95					0.95				1.00		
Frt	0.99					1.00				0.94		
Flt Protected	1.00					1.00				0.98		
Satd. Flow (prot)	3505					3522				1712		
Flt Permitted	0.95					0.87				0.83		
Satd. Flow (perm)	3335					3079				1462		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	935	49	13	3	39	945	11	7	7	1	3	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1002	0	0	0	0	1005	0	0	0	14	0	0
Turn Type	NA			Perm	Perm	NA			Perm	NA		
Protected Phases	1					5				9		
Permitted Phases				5	5				9			
Actuated Green, G (s)	50.7					50.7				6.9		
Effective Green, g (s)	50.7					50.7				6.9		
Actuated g/C Ratio	0.61					0.61				0.08		
Clearance Time (s)	4.5					4.5				4.5		
Vehicle Extension (s)	3.0					3.0				3.0		
Lane Grp Cap (vph)	2044					1887				121		
v/s Ratio Prot												
v/s Ratio Perm	0.30					0.33				0.01		
v/c Ratio	0.49					0.53				0.12		
Uniform Delay, d1	8.9					9.2				35.1		
Progression Factor	1.00					1.00				1.00		
Incremental Delay, d2	0.8					1.1				0.4		
Delay (s)	9.7					10.3				35.5		
Level of Service	A					B				D		
Approach Delay (s)	9.7					10.3				35.5		
Approach LOS	A					B				D		
<b>Intersection Summary</b>												












HCM Signalized Intersection Capacity Analysis Background+Project PM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	16	78	3	9	4
Future Volume (vph)	16	78	3	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		
Lane Util. Factor		0.95	0.95		
Frt		1.00	0.96		
Flt Protected		0.95	0.97		
Satd. Flow (prot)		1681	1648		
Flt Permitted		0.75	0.78		
Satd. Flow (perm)		1324	1334		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	78	3	9	4
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	56	54	0	0
Turn Type	Perm	Perm	NA		
Protected Phases			13		
Permitted Phases	13	13			
Actuated Green, G (s)		6.9	6.9		
Effective Green, g (s)		6.9	6.9		
Actuated g/C Ratio		0.08	0.08		
Clearance Time (s)		4.5	4.5		
Vehicle Extension (s)		3.0	3.0		
Lane Grp Cap (vph)		110	111		
v/s Ratio Prot					
v/s Ratio Perm		0.04	0.04		
v/c Ratio		0.51	0.49		
Uniform Delay, d1		36.3	36.2		
Progression Factor		1.00	1.00		
Incremental Delay, d2		3.7	3.3		
Delay (s)		40.0	39.5		
Level of Service		D	D		
Approach Delay (s)			39.7		
Approach LOS			D		
<b>Intersection Summary</b>					





















HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

Cumulative AM Conditions  
 07/10/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	179	62	64	760	717	44		
Future Volume (veh/h)	179	62	64	760	717	44		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	179	62	64	760	717	44		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	504	175	103	1523	967	59		
Arrive On Green	0.40	0.40	0.06	0.43	0.29	0.29		
Sat Flow, veh/h	1273	441	1774	3632	3481	208		
Grp Volume(v), veh/h	242	0	64	760	374	387		
Grp Sat Flow(s),veh/h/ln	1721	0	1774	1770	1770	1826		
Q Serve(g_s), s	5.1	0.0	1.8	8.1	9.9	9.9		
Cycle Q Clear(g_c), s	5.1	0.0	1.8	8.1	9.9	9.9		
Prop In Lane	0.74	0.26	1.00			0.11		
Lane Grp Cap(c), veh/h	681	0	103	1523	505	521		
V/C Ratio(X)	0.36	0.00	0.62	0.50	0.74	0.74		
Avail Cap(c_a), veh/h	681	0	223	2084	666	688		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.0	0.0	23.8	10.7	16.8	16.8		
Incr Delay (d2), s/veh	1.4	0.0	6.0	0.3	3.1	3.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.7	0.0	1.1	4.0	5.2	5.4		
LnGrp Delay(d),s/veh	12.4	0.0	29.8	11.0	19.9	19.8		
LnGrp LOS	B		C	B	B	B		
Approach Vol, veh/h	242			824	761			
Approach Delay, s/veh	12.4			12.4	19.8			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		25.0	7.5	19.3				26.8
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		20.5	6.5	19.5				30.5
Max Q Clear Time (g_c+I1), s		7.1	3.8	11.9				10.1
Green Ext Time (p_c), s		0.6	0.0	2.8				5.1
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			15.5					
HCM 2010 LOS			B					




















HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue

Cumulative AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	124	85	46	141	92	67	668	47	34	623	97
Future Volume (veh/h)	99	124	85	46	141	92	67	668	47	34	623	97
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	99	124	85	46	141	92	67	668	47	34	623	97
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	404	277	192	543	620	147	1305	90	99	1311	199
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.92	0.92	0.92	0.46	0.46	0.46
Sat Flow, veh/h	1143	1031	707	299	1386	1583	168	2846	197	73	2859	435
Grp Volume(v), veh/h	99	0	209	187	0	92	387	0	395	393	0	361
Grp Sat Flow(s),veh/h/ln	1143	0	1738	1685	0	1583	1551	0	1660	1749	0	1618
Q Serve(g_s), s	3.8	0.0	5.0	0.0	0.0	2.3	0.8	0.0	2.3	0.0	0.0	9.3
Cycle Q Clear(g_c), s	7.9	0.0	5.0	4.1	0.0	2.3	10.2	0.0	2.3	8.7	0.0	9.3
Prop In Lane	1.00		0.41	0.25		1.00	0.17		0.12	0.09		0.27
Lane Grp Cap(c), veh/h	490	0	681	735	0	620	781	0	761	867	0	742
V/C Ratio(X)	0.20	0.00	0.31	0.25	0.00	0.15	0.49	0.00	0.52	0.45	0.00	0.49
Avail Cap(c_a), veh/h	490	0	681	735	0	620	781	0	761	867	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.0	0.0	12.6	12.3	0.0	11.8	1.4	0.0	1.4	11.2	0.0	11.3
Incr Delay (d2), s/veh	0.9	0.0	1.2	0.8	0.0	0.5	2.2	0.0	2.5	1.7	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	2.6	2.2	0.0	1.1	1.1	0.0	1.2	4.8	0.0	4.6
LnGrp Delay(d),s/veh	15.9	0.0	13.8	13.2	0.0	12.3	3.7	0.0	4.0	12.9	0.0	13.6
LnGrp LOS	B		B	B		B	A		A	B		B
Approach Vol, veh/h		308			279			782			754	
Approach Delay, s/veh		14.5			12.9			3.8			13.2	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		9.9		11.3		6.1		12.2				
Green Ext Time (p_c), s		1.3		4.5		1.3		4.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.9									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Cumulative AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	102	57	44	92	66	42	661	23	22	687	23
Future Volume (veh/h)	66	102	57	44	92	66	42	661	23	22	687	23
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	66	102	57	44	92	66	42	661	23	22	687	23
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	138	620	98	167	620	114	1454	49	83	1524	50
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.46	0.46	0.46	0.92	0.92	0.92
Sat Flow, veh/h	70	352	1583	46	425	1583	103	3171	108	42	3325	110
Grp Volume(v), veh/h	168	0	57	136	0	66	369	0	357	380	0	352
Grp Sat Flow(s),veh/h/ln	422	0	1583	472	0	1583	1706	0	1676	1801	0	1676
Q Serve(g_s), s	2.7	0.0	1.4	1.6	0.0	1.6	0.0	0.0	8.8	0.0	0.0	1.8
Cycle Q Clear(g_c), s	23.5	0.0	1.4	23.0	0.0	1.6	8.0	0.0	8.8	1.7	0.0	1.8
Prop In Lane	0.39		1.00	0.32		1.00	0.11		0.06	0.06		0.07
Lane Grp Cap(c), veh/h	249	0	620	264	0	620	849	0	768	889	0	768
V/C Ratio(X)	0.67	0.00	0.09	0.51	0.00	0.11	0.43	0.00	0.47	0.43	0.00	0.46
Avail Cap(c_a), veh/h	249	0	620	264	0	620	849	0	768	889	0	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	11.5	14.7	0.0	11.6	11.0	0.0	11.2	1.4	0.0	1.4
Incr Delay (d2), s/veh	13.7	0.0	0.3	7.0	0.0	0.3	1.6	0.0	2.0	1.5	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.6	2.0	0.0	0.8	4.5	0.0	4.5	1.0	0.0	1.0
LnGrp Delay(d),s/veh	30.6	0.0	11.8	21.7	0.0	11.9	12.6	0.0	13.2	2.9	0.0	3.4
LnGrp LOS	C		B	C		B	B		B	A		A
Approach Vol, veh/h		225			202			726			732	
Approach Delay, s/veh		25.9			18.5			12.9			3.2	
Approach LOS		C			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		25.5		3.8		25.0		10.8				
Green Ext Time (p_c), s		0.0		4.9		0.0		4.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			11.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Cumulative AM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	289	21	76	281	276	10	439	197	164	546	42
Future Volume (veh/h)	35	289	21	76	281	276	10	439	197	164	546	42
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	35	289	21	76	281	276	10	439	197	164	546	42
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	687	584	359	687	584	60	1771	821	321	1060	83
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	849	1863	1583	1065	1863	1583	26	3414	1583	487	2042	161
Grp Volume(v), veh/h	35	289	21	76	281	276	239	210	197	316	0	436
Grp Sat Flow(s),veh/h/ln	849	1863	1583	1065	1863	1583	1830	1610	1583	1024	0	1667
Q Serve(g_s), s	2.6	9.3	0.7	4.6	9.0	10.7	0.0	5.8	5.5	13.6	0.0	13.6
Cycle Q Clear(g_c), s	11.5	9.3	0.7	13.9	9.0	10.7	5.7	5.8	5.5	19.4	0.0	13.6
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.52		0.10
Lane Grp Cap(c), veh/h	308	687	584	359	687	584	996	835	821	599	0	865
V/C Ratio(X)	0.11	0.42	0.04	0.21	0.41	0.47	0.24	0.25	0.24	0.53	0.00	0.50
Avail Cap(c_a), veh/h	308	687	584	359	687	584	996	835	821	599	0	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	18.9	16.2	24.0	18.8	19.3	10.6	10.7	10.6	14.4	0.0	12.5
Incr Delay (d2), s/veh	0.7	1.9	0.1	1.3	1.8	2.7	0.6	0.7	0.7	3.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.1	0.3	1.5	4.9	5.0	3.1	2.7	2.5	5.6	0.0	6.7
LnGrp Delay(d),s/veh	23.8	20.8	16.3	25.4	20.6	22.0	11.2	11.4	11.3	17.7	0.0	14.6
LnGrp LOS	C	C	B	C	C	C	B	B	B	B		B
Approach Vol, veh/h		345			633			646			752	
Approach Delay, s/veh		20.8			21.8			11.3			15.9	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		46.0		34.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		29.5		41.5		29.5		41.5				
Max Q Clear Time (g_c+I1), s		13.5		21.4		15.9		7.8				
Green Ext Time (p_c), s		1.7		5.5		2.6		3.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.9								
HCM 2010 LOS				B								

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	154	29	20	63	18	11	32	31	36	67	62
Future Vol, veh/h	22	154	29	20	63	18	11	32	31	36	67	62
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	154	29	20	63	18	11	32	31	36	67	62
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	9.2	8.4	8.2	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	11%	20%	22%
Vol Thru, %	43%	75%	62%	41%
Vol Right, %	42%	14%	18%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	205	101	165
LT Vol	11	22	20	36
Through Vol	32	154	63	67
RT Vol	31	29	18	62
Lane Flow Rate	74	205	101	165
Geometry Grp	1	1	1	1
Degree of Util (X)	0.095	0.259	0.131	0.209
Departure Headway (Hd)	4.626	4.546	4.663	4.555
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	773	789	767	787
Service Time	2.668	2.581	2.703	2.59
HCM Lane V/C Ratio	0.096	0.26	0.132	0.21
HCM Control Delay	8.2	9.2	8.4	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1	0.4	0.8

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	250	41	25	228	44	24	27	10	35	45	25
Future Vol, veh/h	34	250	41	25	228	44	24	27	10	35	45	25
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	250	41	25	228	44	24	27	10	35	45	25
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	11.1	10.7	9.2	9.5
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	10%	8%	33%
Vol Thru, %	44%	77%	77%	43%
Vol Right, %	16%	13%	15%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	325	297	105
LT Vol	24	34	25	35
Through Vol	27	250	228	45
RT Vol	10	41	44	25
Lane Flow Rate	61	325	297	105
Geometry Grp	1	1	1	1
Degree of Util (X)	0.093	0.421	0.386	0.156
Departure Headway (Hd)	5.494	4.665	4.679	5.361
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	645	767	763	661
Service Time	3.593	2.726	2.742	3.451
HCM Lane V/C Ratio	0.095	0.424	0.389	0.159
HCM Control Delay	9.2	11.1	10.7	9.5
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.3	2.1	1.8	0.6



Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	172	38	36	88	49	53
Future Vol, veh/h	172	38	36	88	49	53
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	172	38	36	88	49	53
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	8.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	48%	0%	29%
Vol Thru, %	0%	82%	71%
Vol Right, %	52%	18%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	102	210	124
LT Vol	49	0	36
Through Vol	0	172	88
RT Vol	53	38	0
Lane Flow Rate	102	210	124
Geometry Grp	1	1	1
Degree of Util (X)	0.126	0.246	0.153
Departure Headway (Hd)	4.451	4.209	4.442
Convergence, Y/N	Yes	Yes	Yes
Cap	807	859	810
Service Time	2.471	2.209	2.459
HCM Lane V/C Ratio	0.126	0.244	0.153
HCM Control Delay	8.1	8.6	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	1	0.5


















HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Cumulative AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	265	46	21	220	25	47	69	59	13	23	22
Future Volume (veh/h)	23	265	46	21	220	25	47	69	59	13	23	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	23	265	46	21	220	25	47	69	59	13	23	22
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	656	109	91	689	74	214	306	226	179	307	252
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	54	1484	246	59	1561	168	337	749	553	259	752	618
Grp Volume(v), veh/h	334	0	0	266	0	0	175	0	0	58	0	0
Grp Sat Flow(s),veh/h/ln	1784	0	0	1789	0	0	1639	0	0	1629	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.5	0.0	0.0	5.7	0.0	0.0	3.9	0.0	0.0	1.2	0.0	0.0
Prop In Lane	0.07		0.14	0.08		0.09	0.27		0.34	0.22		0.38
Lane Grp Cap(c), veh/h	852	0	0	855	0	0	745	0	0	739	0	0
V/C Ratio(X)	0.39	0.00	0.00	0.31	0.00	0.00	0.23	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	852	0	0	855	0	0	745	0	0	739	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.5	0.0	0.0	10.9	0.0	0.0	11.7	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	3.1	0.0	0.0	2.0	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	12.8	0.0	0.0	11.9	0.0	0.0	12.4	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		334			266			175				58
Approach Delay, s/veh		12.8			11.9			12.4				11.1
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.0		31.0		29.0		31.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.5		26.5		24.5		26.5				
Max Q Clear Time (g_c+I1), s		5.9		9.5		3.2		7.7				
Green Ext Time (p_c), s		0.9		1.9		0.2		1.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.3								
HCM 2010 LOS				B								



















HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Cumulative AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	67	12	23	26	47	9	966	20	77	1084	6
Future Volume (veh/h)	14	67	12	23	26	47	9	966	20	77	1084	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	14	67	12	23	26	17	9	966	20	77	1084	6
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	363	60	232	246	413	47	2314	48	150	2035	11
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	149	1390	228	664	941	1583	9	3442	71	156	3027	17
Grp Volume(v), veh/h	93	0	0	49	0	17	520	0	475	554	0	613
Grp Sat Flow(s),veh/h/ln	1767	0	0	1605	0	1583	1839	0	1683	1508	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	11.6	0.7	0.0	16.8
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.8	0.0	0.7	11.5	0.0	11.6	12.9	0.0	16.8
Prop In Lane	0.15		0.13	0.47		1.00	0.02		0.04	0.14		0.01
Lane Grp Cap(c), veh/h	478	0	0	451	0	413	1246	0	1131	1034	0	1138
V/C Ratio(X)	0.19	0.00	0.00	0.11	0.00	0.04	0.42	0.00	0.42	0.54	0.00	0.54
Avail Cap(c_a), veh/h	478	0	0	451	0	413	1246	0	1131	1034	0	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	0.0	25.5	0.0	24.8	6.7	0.0	6.8	7.0	0.0	7.6
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.5	0.0	0.2	1.0	0.0	1.1	2.0	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	1.0	0.0	0.3	6.5	0.0	5.6	7.4	0.0	8.2
LnGrp Delay(d),s/veh	27.0	0.0	0.0	26.0	0.0	25.0	7.8	0.0	7.9	9.0	0.0	9.4
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		93			66			995			1167	
Approach Delay, s/veh		27.0			25.7			7.8			9.2	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		13.6		5.6		18.8		3.8				
Green Ext Time (p_c), s		7.8		0.4		11.3		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
 10: El Camino Real & Howard Avenue

Cumulative AM Conditions  
 07/10/2020

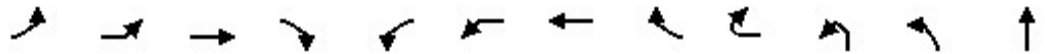
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	118	36	60	75	145	8	921	54	147	989	3
Future Volume (veh/h)	21	118	36	60	75	145	8	921	54	147	989	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	118	36	60	75	145	8	921	54	147	989	3
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	318	89	367	466	396	46	2149	125	229	1568	5
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	106	1272	357	1228	1863	1583	8	3306	193	271	2413	8
Grp Volume(v), veh/h	175	0	0	60	75	145	517	0	466	468	0	671
Grp Sat Flow(s),veh/h/ln	1735	0	0	1228	1863	1583	1845	0	1661	998	0	1694
Q Serve(g_s), s	0.0	0.0	0.0	0.0	2.8	6.8	0.0	0.0	12.3	15.6	0.0	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	4.4	2.8	6.8	12.1	0.0	12.3	27.8	0.0	0.0
Prop In Lane	0.12		0.21	1.00		1.00	0.02		0.12	0.31		0.00
Lane Grp Cap(c), veh/h	479	0	0	367	466	396	1240	0	1080	701	0	1101
V/C Ratio(X)	0.37	0.00	0.00	0.16	0.16	0.37	0.42	0.00	0.43	0.67	0.00	0.61
Avail Cap(c_a), veh/h	479	0	0	367	466	396	1240	0	1080	701	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	0.0	27.0	26.4	27.9	7.6	0.0	7.7	1.6	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	1.0	0.7	2.6	1.0	0.0	1.3	5.0	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	1.3	1.6	3.3	6.5	0.0	5.9	5.2	0.0	0.8
LnGrp Delay(d),s/veh	30.2	0.0	0.0	27.9	27.1	30.5	8.7	0.0	8.9	6.6	0.0	2.5
LnGrp LOS	C			C	C	C	A		A	A		A
Approach Vol, veh/h		175			280			983			1139	
Approach Delay, s/veh		30.2			29.0			8.8			4.2	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		63.0		27.0		63.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		58.5		22.5		58.5				
Max Q Clear Time (g_c+I1), s		9.3		29.8		8.8		14.3				
Green Ext Time (p_c), s		0.7		10.8		0.9		8.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Cumulative AM Conditions  
 07/10/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	252	33	125	105	101	10	599	296	126	698	56
Future Volume (veh/h)	23	252	33	125	105	101	10	599	296	126	698	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	252	33	125	105	101	10	599	0	126	698	56
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	402	366	48	336	165	159	68	929	416	207	1205	539
Arrive On Green	0.23	0.23	0.23	0.19	0.19	0.19	0.04	0.26	0.00	0.12	0.34	0.34
Sat Flow, veh/h	1774	1614	211	1774	874	841	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	23	0	285	125	0	206	10	599	0	126	698	56
Grp Sat Flow(s),veh/h/ln	1774	0	1825	1774	0	1714	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.6	0.0	8.4	3.6	0.0	6.5	0.3	8.8	0.0	3.9	9.5	1.4
Cycle Q Clear(g_c), s	0.6	0.0	8.4	3.6	0.0	6.5	0.3	8.8	0.0	3.9	9.5	1.4
Prop In Lane	1.00		0.12	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	402	0	413	336	0	324	68	929	416	207	1205	539
V/C Ratio(X)	0.06	0.00	0.69	0.37	0.00	0.63	0.15	0.64	0.00	0.61	0.58	0.10
Avail Cap(c_a), veh/h	753	0	775	595	0	575	200	1465	656	437	1938	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	20.7	20.7	0.0	21.8	27.2	19.1	0.0	24.6	15.8	13.2
Incr Delay (d2), s/veh	0.1	0.0	2.1	0.7	0.0	2.1	1.0	0.8	0.0	2.9	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.4	1.8	0.0	3.2	0.2	4.3	0.0	2.1	4.6	0.6
LnGrp Delay(d),s/veh	17.8	0.0	22.8	21.4	0.0	23.9	28.1	19.9	0.0	27.4	16.3	13.3
LnGrp LOS	B		C	C		C	C	B		C	B	B
Approach Vol, veh/h		308			331			609			880	
Approach Delay, s/veh		22.4			22.9			20.0			17.7	
Approach LOS		C			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	18.3		16.2	5.2	22.9		14.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.9	22.7		23.3	5.1	30.5		18.1				
Max Q Clear Time (g_c+I1), s	5.9	10.8		10.4	2.3	11.5		8.5				
Green Ext Time (p_c), s	0.2	3.1		1.5	0.0	4.7		1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.9									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis Cumulative AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations			↕				↕					↕
Traffic Volume (vph)	24	10	75	8	31	1	29	53	17	2	3	926
Future Volume (vph)	24	10	75	8	31	1	29	53	17	2	3	926
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5				4.5					4.5
Lane Util. Factor			1.00				1.00					0.95
Frt			0.99				0.93					0.99
Flt Protected			0.99				0.99					1.00
Satd. Flow (prot)			1819				1708					3496
Flt Permitted			0.85				0.90					0.95
Satd. Flow (perm)			1565				1547					3325
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	10	75	8	31	1	29	53	17	2	3	926
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	117	0	0	0	131	0	0	0	0	1011
Turn Type	Perm	Perm	NA		Perm	Perm	NA			Perm	Perm	NA
Protected Phases			4				8					1
Permitted Phases	4	4			8	8				1	1	
Actuated Green, G (s)			12.8				12.8					59.0
Effective Green, g (s)			12.8				12.8					59.0
Actuated g/C Ratio			0.14				0.14					0.65
Clearance Time (s)			4.5				4.5					4.5
Vehicle Extension (s)			3.0				3.0					3.0
Lane Grp Cap (vph)			222				219					2174
v/s Ratio Prot												
v/s Ratio Perm			0.07				0.08					0.30
v/c Ratio			0.53				0.60					0.47
Uniform Delay, d1			35.9				36.3					7.8
Progression Factor			1.00				1.00					1.00
Incremental Delay, d2			2.3				4.3					0.7
Delay (s)			38.1				40.6					8.5
Level of Service			D				D					A
Approach Delay (s)			38.1				40.6					8.5
Approach LOS			D				D					A

Intersection Summary		
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.54	
Actuated Cycle Length (s)	90.2	Sum of lost time (s) 13.5
Intersection Capacity Utilization	91.4%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Cumulative AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020

Movement	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2
Lane Configurations												
Traffic Volume (vph)	70	10	3	43	1008	10	8	18	9	10	2	6
Future Volume (vph)	70	10	3	43	1008	10	8	18	9	10	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5				4.5			
Lane Util. Factor					0.95				1.00			
Frt					1.00				0.96			
Flt Protected					1.00				0.98			
Satd. Flow (prot)					3523				1745			
Flt Permitted					0.86				0.84			
Satd. Flow (perm)					3045				1493			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	10	3	43	1008	10	8	18	9	10	2	6
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1072	0	0	0	39	0	0	0
Turn Type			Perm	Perm	NA			Perm	NA			Perm
Protected Phases					5				9			
Permitted Phases			5	5				9				13
Actuated Green, G (s)					59.0				4.9			
Effective Green, g (s)					59.0				4.9			
Actuated g/C Ratio					0.65				0.05			
Clearance Time (s)					4.5				4.5			
Vehicle Extension (s)					3.0				3.0			
Lane Grp Cap (vph)					1991				81			
v/s Ratio Prot												
v/s Ratio Perm					c0.35				c0.03			
v/c Ratio					0.54				0.48			
Uniform Delay, d1					8.3				41.4			
Progression Factor					1.00				1.00			
Incremental Delay, d2					1.0				4.5			
Delay (s)					9.4				45.9			
Level of Service					A				D			
Approach Delay (s)					9.4				45.9			
Approach LOS					A				D			
Intersection Summary												

# HCM Signalized Intersection Capacity Analysis

Cumulative AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020














Movement	SWL	SWT	SWR	SWR2
Lane Configurations				
Traffic Volume (vph)	43	3	8	4
Future Volume (vph)	43	3	8	4
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		
Lane Util. Factor	0.95	0.95		
Frt	1.00	0.94		
Flt Protected	0.95	0.97		
Satd. Flow (prot)	1681	1625		
Flt Permitted	1.00	0.84		
Satd. Flow (perm)	1770	1392		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	3	8	4
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	33	31	0	0
Turn Type	Perm	NA		
Protected Phases		13		
Permitted Phases	13			
Actuated Green, G (s)	4.9	4.9		
Effective Green, g (s)	4.9	4.9		
Actuated g/C Ratio	0.05	0.05		
Clearance Time (s)	4.5	4.5		
Vehicle Extension (s)	3.0	3.0		
Lane Grp Cap (vph)	96	75		
v/s Ratio Prot				
v/s Ratio Perm	0.02	0.02		
v/c Ratio	0.34	0.41		
Uniform Delay, d1	41.1	41.3		
Progression Factor	1.00	1.00		
Incremental Delay, d2	2.1	3.7		
Delay (s)	43.2	44.9		
Level of Service	D	D		
Approach Delay (s)		44.1		
Approach LOS		D		
<b>Intersection Summary</b>				























HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

Cumulative PM Conditions  
 07/10/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	165	84	120	844	655	127		
Future Volume (veh/h)	165	84	120	844	655	127		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	165	84	120	844	655	127		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	412	210	155	1635	853	165		
Arrive On Green	0.37	0.37	0.09	0.46	0.29	0.29		
Sat Flow, veh/h	1126	573	1774	3632	3052	573		
Grp Volume(v), veh/h	250	0	120	844	391	391		
Grp Sat Flow(s),veh/h/ln	1705	0	1774	1770	1770	1762		
Q Serve(g_s), s	5.7	0.0	3.5	8.8	10.6	10.6		
Cycle Q Clear(g_c), s	5.7	0.0	3.5	8.8	10.6	10.6		
Prop In Lane	0.66	0.34	1.00			0.33		
Lane Grp Cap(c), veh/h	624	0	155	1635	510	508		
V/C Ratio(X)	0.40	0.00	0.77	0.52	0.77	0.77		
Avail Cap(c_a), veh/h	624	0	302	2162	627	624		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.3	0.0	23.3	9.9	17.0	17.0		
Incr Delay (d2), s/veh	1.9	0.0	7.9	0.3	4.6	4.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.0	0.0	2.0	4.3	5.8	5.8		
LnGrp Delay(d),s/veh	14.2	0.0	31.3	10.2	21.6	21.7		
LnGrp LOS	B		C	B	C	C		
Approach Vol, veh/h	250			964	782			
Approach Delay, s/veh	14.2			12.8	21.6			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.6	9.1	19.6				28.6
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.1	8.9	18.5				31.9
Max Q Clear Time (g_c+I1), s		7.7	5.5	12.6				10.8
Green Ext Time (p_c), s		0.6	0.1	2.5				5.9
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			16.4					
HCM 2010 LOS			B					





















HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue

Cumulative PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	122	125	74	136	74	128	756	39	31	561	161
Future Volume (veh/h)	133	122	125	74	136	74	128	756	39	31	561	161
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	133	122	125	74	136	74	128	756	39	31	561	161
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	289	296	204	339	541	218	1246	66	96	1296	362
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	1.00	1.00	1.00	0.51	0.51	0.51
Sat Flow, veh/h	1167	845	865	360	992	1583	276	2451	130	62	2549	712
Grp Volume(v), veh/h	133	0	247	210	0	74	421	0	502	398	0	355
Grp Sat Flow(s),veh/h/ln	1167	0	1710	1352	0	1583	1185	0	1672	1754	0	1569
Q Serve(g_s), s	6.2	0.0	6.7	2.2	0.0	1.9	7.7	0.0	0.0	0.0	0.0	8.6
Cycle Q Clear(g_c), s	15.1	0.0	6.7	8.9	0.0	1.9	16.3	0.0	0.0	8.0	0.0	8.6
Prop In Lane	1.00		0.51	0.35		1.00	0.30		0.08	0.08		0.45
Lane Grp Cap(c), veh/h	345	0	584	543	0	541	681	0	850	956	0	798
V/C Ratio(X)	0.39	0.00	0.42	0.39	0.00	0.14	0.62	0.00	0.59	0.42	0.00	0.44
Avail Cap(c_a), veh/h	345	0	584	543	0	541	681	0	850	956	0	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	15.2	15.4	0.0	13.6	0.8	0.0	0.0	9.2	0.0	9.4
Incr Delay (d2), s/veh	3.2	0.0	2.2	2.1	0.0	0.5	4.2	0.0	3.0	1.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	3.5	3.1	0.0	0.9	2.9	0.0	0.7	4.4	0.0	4.0
LnGrp Delay(d),s/veh	25.3	0.0	17.4	17.5	0.0	14.2	5.0	0.0	3.0	10.6	0.0	11.2
LnGrp LOS	C		B	B		B	A		A	B		B
Approach Vol, veh/h		380			284			923			753	
Approach Delay, s/veh		20.2			16.6			3.9			10.8	
Approach LOS		C			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		17.1		10.6		10.9		18.3				
Green Ext Time (p_c), s		0.6		5.0		1.0		5.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.3									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Cumulative PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	107	86	20	83	66	38	796	32	20	699	41
Future Volume (veh/h)	46	107	86	20	83	66	38	796	32	20	699	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	46	107	86	20	83	66	38	796	32	20	699	41
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	479	594	153	571	594	101	1525	60	79	1539	89
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.47	0.47	0.47	0.95	0.95	0.95
Sat Flow, veh/h	387	1278	1583	216	1523	1583	76	3211	127	35	3240	187
Grp Volume(v), veh/h	153	0	86	103	0	66	443	0	423	396	0	364
Grp Sat Flow(s),veh/h/ln	1665	0	1583	1739	0	1583	1741	0	1673	1800	0	1662
Q Serve(g_s), s	0.0	0.0	2.2	0.0	0.0	1.6	0.0	0.0	10.7	0.0	0.0	1.2
Cycle Q Clear(g_c), s	3.4	0.0	2.2	2.2	0.0	1.6	9.8	0.0	10.7	1.1	0.0	1.2
Prop In Lane	0.30		1.00	0.19		1.00	0.09		0.08	0.05		0.11
Lane Grp Cap(c), veh/h	703	0	594	724	0	594	892	0	795	918	0	789
V/C Ratio(X)	0.22	0.00	0.14	0.14	0.00	0.11	0.50	0.00	0.53	0.43	0.00	0.46
Avail Cap(c_a), veh/h	703	0	594	724	0	594	892	0	795	918	0	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.8	0.0	12.4	12.4	0.0	12.2	10.9	0.0	11.1	0.8	0.0	0.8
Incr Delay (d2), s/veh	0.7	0.0	0.5	0.4	0.0	0.4	2.0	0.0	2.5	1.5	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.0	1.2	0.0	0.8	5.5	0.0	5.4	0.8	0.0	0.8
LnGrp Delay(d),s/veh	13.5	0.0	12.9	12.8	0.0	12.6	12.8	0.0	13.6	2.3	0.0	2.8
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		239			169			866			760	
Approach Delay, s/veh		13.3			12.7			13.2			2.5	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.4		3.2		4.2		12.7				
Green Ext Time (p_c), s		1.0		5.3		0.7		5.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.2									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Cumulative PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	299	36	122	331	347	18	533	196	236	534	43
Future Volume (veh/h)	23	299	36	122	331	347	18	533	196	236	534	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	23	299	36	122	331	347	18	533	196	236	534	43
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	850	722	457	850	722	67	1449	683	290	718	61
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	758	1863	1583	1041	1863	1583	45	3361	1583	487	1666	141
Grp Volume(v), veh/h	23	299	36	122	331	347	291	260	196	302	0	511
Grp Sat Flow(s),veh/h/ln	758	1863	1583	1041	1863	1583	1795	1610	1583	623	0	1670
Q Serve(g_s), s	1.7	8.3	1.0	6.9	9.4	12.2	0.0	8.8	6.4	25.7	0.0	20.1
Cycle Q Clear(g_c), s	11.1	8.3	1.0	15.2	9.4	12.2	20.1	8.8	6.4	34.5	0.0	20.1
Prop In Lane	1.00		1.00	1.00		1.00	0.06		1.00	0.78		0.08
Lane Grp Cap(c), veh/h	347	850	722	457	850	722	822	694	683	349	0	720
V/C Ratio(X)	0.07	0.35	0.05	0.27	0.39	0.48	0.35	0.37	0.29	0.87	0.00	0.71
Avail Cap(c_a), veh/h	347	850	722	457	850	722	822	694	683	349	0	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	14.1	12.1	19.0	14.4	15.1	15.3	15.4	14.8	28.5	0.0	18.6
Incr Delay (d2), s/veh	0.4	1.1	0.1	1.4	1.3	2.3	1.2	1.5	1.1	23.8	0.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.5	0.5	2.1	5.1	5.8	4.6	4.2	3.0	8.9	0.0	10.4
LnGrp Delay(d),s/veh	18.4	15.2	12.2	20.4	15.7	17.4	16.5	17.0	15.8	52.4	0.0	24.5
LnGrp LOS	B	B	B	C	B	B	B	B	B	D		C
Approach Vol, veh/h		358			800			747			813	
Approach Delay, s/veh		15.1			17.2			16.5			34.8	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		39.0		41.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		36.5		34.5		36.5		34.5				
Max Q Clear Time (g_c+I1), s		13.1		36.5		17.2		22.1				
Green Ext Time (p_c), s		2.1		0.0		3.8		3.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				22.0								
HCM 2010 LOS				C								

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	38	159	41	27	123	66	24	29	43	36	95	86
Future Vol, veh/h	38	159	41	27	123	66	24	29	43	36	95	86
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	159	41	27	123	66	24	29	43	36	95	86
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	10.4	10	9	10.2
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	16%	12%	17%
Vol Thru, %	30%	67%	57%	44%
Vol Right, %	45%	17%	31%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	238	216	217
LT Vol	24	38	27	36
Through Vol	29	159	123	95
RT Vol	43	41	66	86
Lane Flow Rate	96	238	216	217
Geometry Grp	1	1	1	1
Degree of Util (X)	0.139	0.324	0.291	0.298
Departure Headway (Hd)	5.208	4.906	4.852	4.941
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	693	724	730	718
Service Time	3.208	2.999	2.947	3.033
HCM Lane V/C Ratio	0.139	0.329	0.296	0.302
HCM Control Delay	9	10.4	10	10.2
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.5	1.4	1.2	1.2

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	44	297	48	30	297	95	37	43	19	46	44	56
Future Vol, veh/h	44	297	48	30	297	95	37	43	19	46	44	56
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	297	48	30	297	95	37	43	19	46	44	56
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	15.1	15.8	10.7	11.1
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	11%	7%	32%
Vol Thru, %	43%	76%	70%	30%
Vol Right, %	19%	12%	23%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	389	422	146
LT Vol	37	44	30	46
Through Vol	43	297	297	44
RT Vol	19	48	95	56
Lane Flow Rate	99	389	422	146
Geometry Grp	1	1	1	1
Degree of Util (X)	0.173	0.568	0.604	0.245
Departure Headway (Hd)	6.291	5.261	5.154	6.047
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	567	685	696	591
Service Time	4.364	3.31	3.202	4.114
HCM Lane V/C Ratio	0.175	0.568	0.606	0.247
HCM Control Delay	10.7	15.1	15.8	11.1
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	0.6	3.6	4.1	1

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	170	61	72	176	70	86
Future Vol, veh/h	170	61	72	176	70	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	170	61	72	176	70	86
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.2	9.8	9.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	45%	0%	29%
Vol Thru, %	0%	74%	71%
Vol Right, %	55%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	156	231	248
LT Vol	70	0	72
Through Vol	0	170	176
RT Vol	86	61	0
Lane Flow Rate	156	231	248
Geometry Grp	1	1	1
Degree of Util (X)	0.206	0.285	0.319
Departure Headway (Hd)	4.763	4.439	4.626
Convergence, Y/N	Yes	Yes	Yes
Cap	750	808	776
Service Time	2.809	2.475	2.661
HCM Lane V/C Ratio	0.208	0.286	0.32
HCM Control Delay	9.1	9.2	9.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	1.2	1.4

HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue


















Cumulative PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	275	63	34	307	55	52	55	80	35	33	60
Future Volume (veh/h)	32	275	63	34	307	55	52	55	80	35	33	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	275	63	34	307	55	52	55	80	35	33	60
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	588	127	104	615	104	221	236	279	215	210	302
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	74	1377	298	76	1439	244	336	578	683	322	514	738
Grp Volume(v), veh/h	370	0	0	396	0	0	187	0	0	128	0	0
Grp Sat Flow(s),veh/h/ln	1748	0	0	1759	0	0	1596	0	0	1574	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.1	0.0	0.0	8.8	0.0	0.0	3.9	0.0	0.0	2.6	0.0	0.0
Prop In Lane	0.09		0.17	0.09		0.14	0.28		0.43	0.27		0.47
Lane Grp Cap(c), veh/h	818	0	0	823	0	0	737	0	0	727	0	0
V/C Ratio(X)	0.45	0.00	0.00	0.48	0.00	0.00	0.25	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	818	0	0	823	0	0	737	0	0	727	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.3	0.0	0.0	11.5	0.0	0.0	10.8	0.0	0.0	10.4	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	2.0	0.0	0.0	0.8	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0	4.7	0.0	0.0	2.0	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	13.1	0.0	0.0	13.5	0.0	0.0	11.6	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		370			396			187				128
Approach Delay, s/veh		13.1			13.5			11.6				10.9
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		5.9		10.1		4.6		10.8				
Green Ext Time (p_c), s		0.9		1.9		0.6		2.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.8								
HCM 2010 LOS				B								





















HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Cumulative PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	60	3	46	32	96	23	1226	38	90	1070	7
Future Volume (veh/h)	24	60	3	46	32	96	23	1226	38	90	1070	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	60	3	46	32	38	23	1226	38	90	1070	7
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	339	15	285	185	413	61	2242	69	146	1783	12
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	353	1297	59	849	709	1583	28	3336	103	147	2653	18
Grp Volume(v), veh/h	87	0	0	78	0	38	666	0	621	509	0	658
Grp Sat Flow(s),veh/h/ln	1709	0	0	1558	0	1583	1790	0	1677	1126	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	17.4	10.4	0.0	18.8
Cycle Q Clear(g_c), s	3.3	0.0	0.0	3.0	0.0	1.6	16.7	0.0	17.4	27.8	0.0	18.8
Prop In Lane	0.28		0.03	0.59		1.00	0.03		0.06	0.18		0.01
Lane Grp Cap(c), veh/h	469	0	0	444	0	413	1215	0	1127	785	0	1137
V/C Ratio(X)	0.19	0.00	0.00	0.18	0.00	0.09	0.55	0.00	0.55	0.65	0.00	0.58
Avail Cap(c_a), veh/h	469	0	0	444	0	413	1215	0	1127	785	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	0.0	26.0	0.0	25.2	7.6	0.0	7.7	8.3	0.0	7.9
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.0	0.4	1.8	0.0	1.9	4.1	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.7	0.0	0.8	9.4	0.0	8.6	9.4	0.0	9.3
LnGrp Delay(d),s/veh	26.8	0.0	0.0	26.9	0.0	25.6	9.4	0.0	9.7	12.4	0.0	10.1
LnGrp LOS	C			C			C	A		A	B	B
Approach Vol, veh/h		87			116			1287			1167	
Approach Delay, s/veh		26.8			26.5			9.5			11.1	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		19.4		5.3		29.8		5.0				
Green Ext Time (p_c), s		11.7		0.3		11.0		0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.5								
HCM 2010 LOS				B								























HCM 2010 Signalized Intersection Summary  
 10: El Camino Real & Howard Avenue

Cumulative PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	118	18	131	120	266	13	1020	78	215	1056	9
Future Volume (veh/h)	34	118	18	131	120	266	13	1020	78	215	1056	9
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	34	118	18	131	120	266	13	1020	78	215	1056	9
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	277	38	333	404	343	51	2201	167	270	1399	13
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	1.00	1.00	1.00
Sat Flow, veh/h	201	1280	175	1248	1863	1583	14	3221	244	308	2047	18
Grp Volume(v), veh/h	170	0	0	131	120	266	584	0	527	449	0	831
Grp Sat Flow(s),veh/h/ln	1656	0	0	1248	1863	1583	1827	0	1652	681	0	1692
Q Serve(g_s), s	0.3	0.0	0.0	2.4	4.9	14.2	0.0	0.0	13.4	48.1	0.0	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	9.7	4.9	14.2	13.0	0.0	13.4	61.5	0.0	0.0
Prop In Lane	0.20		0.11	1.00		1.00	0.02		0.15	0.48		0.01
Lane Grp Cap(c), veh/h	407	0	0	333	404	343	1289	0	1129	525	0	1156
V/C Ratio(X)	0.42	0.00	0.00	0.39	0.30	0.78	0.45	0.00	0.47	0.86	0.00	0.72
Avail Cap(c_a), veh/h	407	0	0	333	404	343	1289	0	1129	525	0	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	0.0	31.6	29.5	33.2	6.6	0.0	6.6	6.0	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	3.5	1.9	15.7	1.1	0.0	1.4	16.3	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	3.2	2.7	7.7	7.1	0.0	6.4	12.6	0.0	1.2
LnGrp Delay(d),s/veh	33.6	0.0	0.0	35.1	31.4	48.9	7.7	0.0	8.0	22.3	0.0	3.9
LnGrp LOS	C			D	C	D	A		A	C		A
Approach Vol, veh/h		170			517			1111			1280	
Approach Delay, s/veh		33.6			41.3			7.9			10.3	
Approach LOS		C			D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		66.0		24.0		66.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		61.5		19.5		61.5				
Max Q Clear Time (g_c+I1), s		9.3		63.5		16.2		15.4				
Green Ext Time (p_c), s		0.6		0.0		0.7		10.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				15.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

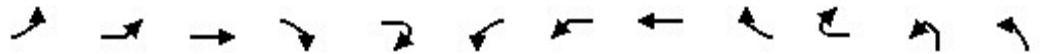
Cumulative PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	150	19	202	105	55	36	672	214	60	671	37
Future Volume (veh/h)	33	150	19	202	105	55	36	672	214	60	671	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	33	150	19	202	105	55	36	672	0	60	671	37
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	270	34	355	231	121	120	1134	508	149	1193	534
Arrive On Green	0.17	0.17	0.14	0.20	0.20	0.17	0.07	0.32	0.00	0.08	0.34	0.34
Sat Flow, veh/h	1774	1621	205	1774	1153	604	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	33	0	169	202	0	160	36	672	0	60	671	37
Grp Sat Flow(s),veh/h/ln	1774	0	1827	1774	0	1756	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.8	0.0	4.5	5.4	0.0	4.2	1.0	8.4	0.0	1.7	8.1	0.8
Cycle Q Clear(g_c), s	0.8	0.0	4.5	5.4	0.0	4.2	1.0	8.4	0.0	1.7	8.1	0.8
Prop In Lane	1.00		0.11	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	0	304	355	0	352	120	1134	508	149	1193	534
V/C Ratio(X)	0.11	0.00	0.56	0.57	0.00	0.45	0.30	0.59	0.00	0.40	0.56	0.07
Avail Cap(c_a), veh/h	1521	0	1566	1521	0	1505	220	2966	1327	220	2966	1327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	20.2	18.9	0.0	18.7	23.3	15.0	0.0	22.8	14.2	11.8
Incr Delay (d2), s/veh	0.2	0.0	1.6	1.4	0.0	0.9	1.4	0.5	0.0	1.7	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.4	2.8	0.0	2.1	0.5	4.1	0.0	0.9	4.0	0.4
LnGrp Delay(d),s/veh	18.7	0.0	21.8	20.4	0.0	19.6	24.7	15.5	0.0	24.5	14.6	11.9
LnGrp LOS	B		C	C		B	C	B		C	B	B
Approach Vol, veh/h		202			362			708			768	
Approach Delay, s/veh		21.3			20.0			15.9			15.3	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	19.8		11.7	6.5	20.7		13.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	42.5		43.5	5.0	42.5		43.5				
Max Q Clear Time (g_c+I1), s	3.7	10.4		6.5	3.0	10.1		7.4				
Green Ext Time (p_c), s	0.0	5.0		1.2	0.0	5.1		1.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			16.9									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis

Cumulative PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020




















Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations			↔					↔				
Traffic Volume (vph)	20	10	54	8	1	26	3	50	44	12	1	4
Future Volume (vph)	20	10	54	8	1	26	3	50	44	12	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5					4.5				
Lane Util. Factor			1.00					1.00				
Frt			0.99					0.94				
Flt Protected			0.98					0.99				
Satd. Flow (prot)			1809					1740				
Flt Permitted			0.85					0.93				
Satd. Flow (perm)			1565					1639				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	10	54	8	1	26	3	50	44	12	1	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	93	0	0	0	0	135	0	0	0	0
Turn Type	Perm	Perm	NA			Perm	Perm	NA			Perm	Perm
Protected Phases			4					8				
Permitted Phases	4	4				8	8				1	1
Actuated Green, G (s)			12.1					12.1				
Effective Green, g (s)			12.1					12.1				
Actuated g/C Ratio			0.15					0.15				
Clearance Time (s)			4.5					4.5				
Vehicle Extension (s)			3.0					3.0				
Lane Grp Cap (vph)			227					238				
v/s Ratio Prot												
v/s Ratio Perm			0.06					c0.08				
v/c Ratio			0.41					0.57				
Uniform Delay, d1			32.4					33.2				
Progression Factor			1.00					1.00				
Incremental Delay, d2			1.2					3.1				
Delay (s)			33.6					36.2				
Level of Service			C					D				
Approach Delay (s)			33.6					36.2				
Approach LOS			C					D				
<b>Intersection Summary</b>												
HCM 2000 Control Delay			14.7					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			83.3					Sum of lost time (s)		13.5		
Intersection Capacity Utilization			90.0%					ICU Level of Service		E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Cumulative PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020

												
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2
Lane Configurations	 					 				 		
Traffic Volume (vph)	1029	54	14	3	42	1035	9	8	8	1	3	3
Future Volume (vph)	1029	54	14	3	42	1035	9	8	8	1	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5					4.5				4.5		
Lane Util. Factor	0.95					0.95				1.00		
Frt	0.99					1.00				0.95		
Flt Protected	1.00					1.00				0.97		
Satd. Flow (prot)	3506					3524				1716		
Flt Permitted	0.95					0.86				0.82		
Satd. Flow (perm)	3334					3036				1444		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1029	54	14	3	42	1035	9	8	8	1	3	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1102	0	0	0	0	1097	0	0	0	15	0	0
Turn Type	NA			Perm	Perm	NA			Perm	NA		
Protected Phases	1					5				9		
Permitted Phases				5	5				9			
Actuated Green, G (s)	50.7					50.7				7.0		
Effective Green, g (s)	50.7					50.7				7.0		
Actuated g/C Ratio	0.61					0.61				0.08		
Clearance Time (s)	4.5					4.5				4.5		
Vehicle Extension (s)	3.0					3.0				3.0		
Lane Grp Cap (vph)	2029					1847				121		
v/s Ratio Prot												
v/s Ratio Perm	0.33					0.36				0.01		
v/c Ratio	0.54					0.59				0.12		
Uniform Delay, d1	9.5					10.0				35.3		
Progression Factor	1.00					1.00				1.00		
Incremental Delay, d2	1.0					1.4				0.5		
Delay (s)	10.6					11.4				35.8		
Level of Service	B					B				D		
Approach Delay (s)	10.6					11.4				35.8		
Approach LOS	B					B				D		
Intersection Summary												

# HCM Signalized Intersection Capacity Analysis

Cumulative PM Conditions












11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	18	86	3	10	4
Future Volume (vph)	18	86	3	10	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		
Lane Util. Factor		0.95	0.95		
Frt		1.00	0.96		
Flt Protected		0.95	0.97		
Satd. Flow (prot)		1681	1649		
Flt Permitted		0.75	0.78		
Satd. Flow (perm)		1323	1329		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	86	3	10	4
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	61	60	0	0
Turn Type	Perm	Perm	NA		
Protected Phases			13		
Permitted Phases	13	13			
Actuated Green, G (s)		7.0	7.0		
Effective Green, g (s)		7.0	7.0		
Actuated g/C Ratio		0.08	0.08		
Clearance Time (s)		4.5	4.5		
Vehicle Extension (s)		3.0	3.0		
Lane Grp Cap (vph)		111	111		
v/s Ratio Prot					
v/s Ratio Perm		0.05	0.05		
v/c Ratio		0.55	0.54		
Uniform Delay, d1		36.6	36.6		
Progression Factor		1.00	1.00		
Incremental Delay, d2		5.5	5.3		
Delay (s)		42.1	41.9		
Level of Service		D	D		
Approach Delay (s)			42.0		
Approach LOS			D		
<b>Intersection Summary</b>					


















HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

Cumulative + Project AM Conditions  
 07/10/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	181	62	64	760	717	53		
Future Volume (veh/h)	181	62	64	760	717	53		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	181	62	64	760	717	53		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	504	173	103	1530	961	71		
Arrive On Green	0.39	0.39	0.06	0.43	0.29	0.29		
Sat Flow, veh/h	1277	437	1774	3632	3435	247		
Grp Volume(v), veh/h	244	0	64	760	379	391		
Grp Sat Flow(s),veh/h/ln	1722	0	1774	1770	1770	1819		
Q Serve(g_s), s	5.2	0.0	1.8	8.1	10.1	10.1		
Cycle Q Clear(g_c), s	5.2	0.0	1.8	8.1	10.1	10.1		
Prop In Lane	0.74	0.25	1.00			0.14		
Lane Grp Cap(c), veh/h	679	0	103	1530	509	523		
V/C Ratio(X)	0.36	0.00	0.62	0.50	0.75	0.75		
Avail Cap(c_a), veh/h	679	0	222	2077	664	683		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.1	0.0	23.9	10.7	16.8	16.8		
Incr Delay (d2), s/veh	1.5	0.0	6.0	0.3	3.3	3.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.7	0.0	1.1	4.0	5.3	5.5		
LnGrp Delay(d),s/veh	12.6	0.0	29.9	10.9	20.1	20.0		
LnGrp LOS	B		C	B	C	C		
Approach Vol, veh/h	244			824	770			
Approach Delay, s/veh	12.6			12.4	20.1			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		25.0	7.5	19.4				27.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		20.5	6.5	19.5				30.5
Max Q Clear Time (g_c+I1), s		7.2	3.8	12.1				10.1
Green Ext Time (p_c), s		0.6	0.0	2.8				5.1
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			15.6					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue



















Cumulative + Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	125	88	46	148	92	84	668	47	34	623	97
Future Volume (veh/h)	99	125	88	46	148	92	84	668	47	34	623	97
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	99	125	88	46	148	92	84	668	47	34	623	97
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	484	399	281	186	551	620	165	1220	87	99	1311	199
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.92	0.92	0.92	0.46	0.46	0.46
Sat Flow, veh/h	1135	1019	717	285	1406	1583	200	2662	189	73	2859	435
Grp Volume(v), veh/h	99	0	213	194	0	92	385	0	414	393	0	361
Grp Sat Flow(s),veh/h/ln	1135	0	1736	1691	0	1583	1389	0	1662	1749	0	1618
Q Serve(g_s), s	3.9	0.0	5.1	0.0	0.0	2.3	3.0	0.0	2.5	0.0	0.0	9.3
Cycle Q Clear(g_c), s	8.1	0.0	5.1	4.2	0.0	2.3	12.3	0.0	2.5	8.7	0.0	9.3
Prop In Lane	1.00		0.41	0.24		1.00	0.22		0.11	0.09		0.27
Lane Grp Cap(c), veh/h	484	0	680	737	0	620	710	0	762	867	0	742
V/C Ratio(X)	0.20	0.00	0.31	0.26	0.00	0.15	0.54	0.00	0.54	0.45	0.00	0.49
Avail Cap(c_a), veh/h	484	0	680	737	0	620	710	0	762	867	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	12.7	12.4	0.0	11.8	1.6	0.0	1.5	11.2	0.0	11.3
Incr Delay (d2), s/veh	1.0	0.0	1.2	0.9	0.0	0.5	3.0	0.0	2.8	1.7	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	2.7	2.3	0.0	1.1	1.2	0.0	1.3	4.8	0.0	4.6
LnGrp Delay(d),s/veh	16.1	0.0	13.9	13.3	0.0	12.3	4.6	0.0	4.2	12.9	0.0	13.6
LnGrp LOS	B		B	B		B	A		A	B		B
Approach Vol, veh/h		312			286			799				754
Approach Delay, s/veh		14.6			13.0			4.4				13.2
Approach LOS		B			B			A				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		10.1		11.3		6.2		14.3				
Green Ext Time (p_c), s		1.3		4.5		1.3		4.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									
























HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue

Cumulative + Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	102	57	44	92	66	42	678	23	22	690	23
Future Volume (veh/h)	66	102	57	44	92	66	42	678	23	22	690	23
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	66	102	57	44	92	66	42	678	23	22	690	23
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	138	620	98	167	620	113	1457	48	83	1524	50
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.46	0.46	0.46	0.92	0.92	0.92
Sat Flow, veh/h	70	352	1583	46	425	1583	100	3179	105	42	3325	109
Grp Volume(v), veh/h	168	0	57	136	0	66	377	0	366	382	0	353
Grp Sat Flow(s),veh/h/ln	422	0	1583	472	0	1583	1708	0	1676	1800	0	1676
Q Serve(g_s), s	2.7	0.0	1.4	1.6	0.0	1.6	0.0	0.0	9.1	0.0	0.0	1.8
Cycle Q Clear(g_c), s	23.5	0.0	1.4	23.0	0.0	1.6	8.3	0.0	9.1	1.7	0.0	1.8
Prop In Lane	0.39		1.00	0.32		1.00	0.11		0.06	0.06		0.07
Lane Grp Cap(c), veh/h	249	0	620	264	0	620	850	0	768	888	0	768
V/C Ratio(X)	0.67	0.00	0.09	0.51	0.00	0.11	0.44	0.00	0.48	0.43	0.00	0.46
Avail Cap(c_a), veh/h	249	0	620	264	0	620	850	0	768	888	0	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	11.5	14.7	0.0	11.6	11.0	0.0	11.3	1.4	0.0	1.4
Incr Delay (d2), s/veh	13.7	0.0	0.3	7.0	0.0	0.3	1.7	0.0	2.1	1.5	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.6	2.0	0.0	0.8	4.6	0.0	4.6	1.0	0.0	1.0
LnGrp Delay(d),s/veh	30.6	0.0	11.8	21.7	0.0	11.9	12.7	0.0	13.4	2.9	0.0	3.4
LnGrp LOS	C		B	C		B	B		B	A		A
Approach Vol, veh/h		225			202			743			735	
Approach Delay, s/veh		25.9			18.5			13.0			3.2	
Approach LOS		C			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		32.0		28.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		25.5		3.8		25.0		11.1				
Green Ext Time (p_c), s		0.0		4.9		0.0		4.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			11.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Cumulative + Project AM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	290	23	76	287	283	19	449	197	165	548	42
Future Volume (veh/h)	35	290	23	76	287	283	19	449	197	165	548	42
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	35	290	23	76	287	283	19	449	197	165	548	42
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	687	584	358	687	584	85	1720	821	318	1053	83
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	838	1863	1583	1062	1863	1583	70	3315	1583	481	2030	160
Grp Volume(v), veh/h	35	290	23	76	287	283	246	222	197	316	0	439
Grp Sat Flow(s),veh/h/ln	838	1863	1583	1062	1863	1583	1775	1610	1583	1003	0	1667
Q Serve(g_s), s	2.6	9.3	0.7	4.6	9.2	11.0	0.0	6.1	5.5	14.0	0.0	13.8
Cycle Q Clear(g_c), s	11.8	9.3	0.7	13.9	9.2	11.0	5.9	6.1	5.5	20.1	0.0	13.8
Prop In Lane	1.00		1.00	1.00		1.00	0.08		1.00	0.52		0.10
Lane Grp Cap(c), veh/h	303	687	584	358	687	584	969	835	821	589	0	865
V/C Ratio(X)	0.12	0.42	0.04	0.21	0.42	0.48	0.25	0.27	0.24	0.54	0.00	0.51
Avail Cap(c_a), veh/h	303	687	584	358	687	584	969	835	821	589	0	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.2	18.9	16.2	24.1	18.8	19.4	10.7	10.7	10.6	14.7	0.0	12.6
Incr Delay (d2), s/veh	0.8	1.9	0.1	1.3	1.9	2.9	0.6	0.8	0.7	3.5	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.1	0.3	1.5	5.1	5.3	3.2	2.9	2.5	5.7	0.0	6.7
LnGrp Delay(d),s/veh	24.0	20.8	16.3	25.4	20.7	22.3	11.3	11.5	11.3	18.2	0.0	14.7
LnGrp LOS	C	C	B	C	C	C	B	B	B	B		B
Approach Vol, veh/h		348			646			665			755	
Approach Delay, s/veh		20.8			21.9			11.4			16.2	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		46.0		34.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		29.5		41.5		29.5		41.5				
Max Q Clear Time (g_c+I1), s		13.8		22.1		15.9		8.1				
Green Ext Time (p_c), s		1.7		5.5		2.6		3.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				17.1								
HCM 2010 LOS				B								

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	154	49	29	63	18	16	34	33	36	77	62
Future Vol, veh/h	22	154	49	29	63	18	16	34	33	36	77	62
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	154	49	29	63	18	16	34	33	36	77	62
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	9.4	8.6	8.4	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	10%	26%	21%
Vol Thru, %	41%	68%	57%	44%
Vol Right, %	40%	22%	16%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	225	110	175
LT Vol	16	22	29	36
Through Vol	34	154	63	77
RT Vol	33	49	18	62
Lane Flow Rate	83	225	110	175
Geometry Grp	1	1	1	1
Degree of Util (X)	0.109	0.285	0.146	0.226
Departure Headway (Hd)	4.734	4.565	4.764	4.647
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	753	785	749	770
Service Time	2.788	2.608	2.814	2.693
HCM Lane V/C Ratio	0.11	0.287	0.147	0.227
HCM Control Delay	8.4	9.4	8.6	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	1.2	0.5	0.9

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	64	250	41	25	228	68	24	65	10	39	53	27
Future Vol, veh/h	64	250	41	25	228	68	24	65	10	39	53	27
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	250	41	25	228	68	24	65	10	39	53	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	12.8	11.9	10	10.1
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	18%	8%	33%
Vol Thru, %	66%	70%	71%	45%
Vol Right, %	10%	12%	21%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	355	321	119
LT Vol	24	64	25	39
Through Vol	65	250	228	53
RT Vol	10	41	68	27
Lane Flow Rate	99	355	321	119
Geometry Grp	1	1	1	1
Degree of Util (X)	0.161	0.495	0.442	0.19
Departure Headway (Hd)	5.837	5.016	4.956	5.736
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	724	725	625
Service Time	3.884	3.016	2.991	3.782
HCM Lane V/C Ratio	0.161	0.49	0.443	0.19
HCM Control Delay	10	12.8	11.9	10.1
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.6	2.8	2.3	0.7

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	192	38	36	93	49	53
Future Vol, veh/h	192	38	36	93	49	53
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	192	38	36	93	49	53
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.8	8.3	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	48%	0%	28%
Vol Thru, %	0%	83%	72%
Vol Right, %	52%	17%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	102	230	129
LT Vol	49	0	36
Through Vol	0	192	93
RT Vol	53	38	0
Lane Flow Rate	102	230	129
Geometry Grp	1	1	1
Degree of Util (X)	0.128	0.269	0.16
Departure Headway (Hd)	4.507	4.215	4.466
Convergence, Y/N	Yes	Yes	Yes
Cap	797	856	805
Service Time	2.526	2.229	2.481
HCM Lane V/C Ratio	0.128	0.269	0.16
HCM Control Delay	8.2	8.8	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	1.1	0.6


















HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Cumulative + Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	295	46	21	222	25	47	69	59	13	23	22
Future Volume (veh/h)	23	295	46	21	222	25	47	69	59	13	23	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	23	295	46	21	222	25	47	69	59	13	23	22
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	669	100	91	689	74	214	306	226	179	307	252
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	50	1514	226	59	1561	167	337	749	553	259	752	618
Grp Volume(v), veh/h	364	0	0	268	0	0	175	0	0	58	0	0
Grp Sat Flow(s),veh/h/ln	1790	0	0	1786	0	0	1639	0	0	1629	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	0.0	5.7	0.0	0.0	3.9	0.0	0.0	1.2	0.0	0.0
Prop In Lane	0.06		0.13	0.08		0.09	0.27		0.34	0.22		0.38
Lane Grp Cap(c), veh/h	855	0	0	854	0	0	745	0	0	739	0	0
V/C Ratio(X)	0.43	0.00	0.00	0.31	0.00	0.00	0.23	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	855	0	0	854	0	0	745	0	0	739	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.7	0.0	0.0	11.0	0.0	0.0	11.7	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.0	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	3.1	0.0	0.0	2.0	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	13.2	0.0	0.0	11.9	0.0	0.0	12.4	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		364			268			175				58
Approach Delay, s/veh		13.2			11.9			12.4				11.1
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.0		31.0		29.0		31.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.5		26.5		24.5		26.5				
Max Q Clear Time (g_c+I1), s		5.9		10.4		3.2		7.7				
Green Ext Time (p_c), s		0.9		2.0		0.2		1.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.5								
HCM 2010 LOS				B								



















HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Cumulative + Project AM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	67	12	25	26	50	9	966	20	97	1084	6
Future Volume (veh/h)	14	67	12	25	26	50	9	966	20	97	1084	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	14	67	12	25	26	20	9	966	20	97	1084	6
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	363	60	241	235	413	47	2314	48	175	1909	11
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	149	1390	228	696	900	1583	9	3442	71	190	2840	16
Grp Volume(v), veh/h	93	0	0	51	0	20	520	0	475	545	0	642
Grp Sat Flow(s),veh/h/ln	1767	0	0	1595	0	1583	1839	0	1683	1353	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	11.6	7.3	0.0	18.1
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.9	0.0	0.9	11.5	0.0	11.6	18.9	0.0	18.1
Prop In Lane	0.15		0.13	0.49		1.00	0.02		0.04	0.18		0.01
Lane Grp Cap(c), veh/h	478	0	0	450	0	413	1246	0	1131	934	0	1138
V/C Ratio(X)	0.19	0.00	0.00	0.11	0.00	0.05	0.42	0.00	0.42	0.58	0.00	0.56
Avail Cap(c_a), veh/h	478	0	0	450	0	413	1246	0	1131	934	0	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	0.0	25.5	0.0	24.9	6.7	0.0	6.8	7.5	0.0	7.8
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.5	0.0	0.2	1.0	0.0	1.1	2.7	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	1.1	0.0	0.4	6.5	0.0	5.6	8.4	0.0	8.9
LnGrp Delay(d),s/veh	27.0	0.0	0.0	26.1	0.0	25.1	7.8	0.0	7.9	10.1	0.0	9.8
LnGrp LOS	C			C		C	A		A	B		A
Approach Vol, veh/h		93			71			995				1187
Approach Delay, s/veh		27.0			25.8			7.8				10.0
Approach LOS		C			C			A				A
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		13.6		5.6		20.9		3.9				
Green Ext Time (p_c), s		7.8		0.4		11.8		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 10: El Camino Real & Howard Avenue























Cumulative + Project AM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	125	36	61	75	146	8	921	64	160	989	3
Future Volume (veh/h)	21	125	36	61	75	146	8	921	64	160	989	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	125	36	61	75	146	8	921	64	160	989	3
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	323	86	362	466	396	46	2124	147	239	1514	5
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	102	1293	344	1220	1863	1583	8	3267	226	285	2328	7
Grp Volume(v), veh/h	182	0	0	61	75	146	524	0	469	460	0	692
Grp Sat Flow(s),veh/h/ln	1739	0	0	1220	1863	1583	1845	0	1655	927	0	1694
Q Serve(g_s), s	0.0	0.0	0.0	0.0	2.8	6.9	0.0	0.0	12.5	19.3	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	0.0	4.7	2.8	6.9	12.3	0.0	12.5	31.8	0.0	0.0
Prop In Lane	0.12		0.20	1.00		1.00	0.02		0.14	0.35		0.00
Lane Grp Cap(c), veh/h	479	0	0	362	466	396	1240	0	1076	656	0	1101
V/C Ratio(X)	0.38	0.00	0.00	0.17	0.16	0.37	0.42	0.00	0.44	0.70	0.00	0.63
Avail Cap(c_a), veh/h	479	0	0	362	466	396	1240	0	1076	656	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	0.0	27.1	26.4	27.9	7.7	0.0	7.7	2.2	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0	1.0	0.7	2.6	1.1	0.0	1.3	6.2	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	1.3	1.6	3.3	6.6	0.0	6.0	6.2	0.0	0.8
LnGrp Delay(d),s/veh	30.4	0.0	0.0	28.1	27.1	30.5	8.7	0.0	9.0	8.4	0.0	2.7
LnGrp LOS	C			C	C	C	A		A	A		A
Approach Vol, veh/h		182			282			993			1152	
Approach Delay, s/veh		30.4			29.1			8.8			5.0	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		63.0		27.0		63.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		58.5		22.5		58.5				
Max Q Clear Time (g_c+I1), s		9.6		33.8		8.9		14.5				
Green Ext Time (p_c), s		0.8		10.4		0.9		8.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.8								
HCM 2010 LOS				B								

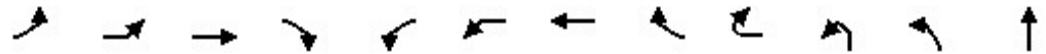


HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Cumulative + Project AM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	252	33	125	105	101	10	603	296	126	717	56
Future Volume (veh/h)	23	252	33	125	105	101	10	603	296	126	717	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	252	33	125	105	101	10	603	0	126	717	56
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	401	365	48	335	165	159	68	932	417	207	1208	541
Arrive On Green	0.23	0.23	0.23	0.19	0.19	0.19	0.04	0.26	0.00	0.12	0.34	0.34
Sat Flow, veh/h	1774	1614	211	1774	874	841	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	23	0	285	125	0	206	10	603	0	126	717	56
Grp Sat Flow(s),veh/h/ln	1774	0	1825	1774	0	1714	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.6	0.0	8.4	3.6	0.0	6.5	0.3	8.9	0.0	4.0	9.8	1.4
Cycle Q Clear(g_c), s	0.6	0.0	8.4	3.6	0.0	6.5	0.3	8.9	0.0	4.0	9.8	1.4
Prop In Lane	1.00		0.12	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	401	0	413	335	0	324	68	932	417	207	1208	541
V/C Ratio(X)	0.06	0.00	0.69	0.37	0.00	0.64	0.15	0.65	0.00	0.61	0.59	0.10
Avail Cap(c_a), veh/h	751	0	773	593	0	573	200	1462	654	436	1933	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	20.8	20.7	0.0	21.9	27.2	19.2	0.0	24.6	15.9	13.2
Incr Delay (d2), s/veh	0.1	0.0	2.1	0.7	0.0	2.1	1.0	0.8	0.0	2.9	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.4	1.8	0.0	3.2	0.2	4.4	0.0	2.1	4.9	0.6
LnGrp Delay(d),s/veh	17.8	0.0	22.8	21.4	0.0	24.0	28.2	19.9	0.0	27.5	16.4	13.3
LnGrp LOS	B		C	C		C	C	B		C	B	B
Approach Vol, veh/h		308			331			613			899	
Approach Delay, s/veh		22.5			23.0			20.1			17.8	
Approach LOS		C			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	18.4		16.3	5.3	23.0		14.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.9	22.7		23.3	5.1	30.5		18.1				
Max Q Clear Time (g_c+I1), s	6.0	10.9		10.4	2.3	11.8		8.5				
Green Ext Time (p_c), s	0.2	3.1		1.5	0.0	4.8		1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.9									
HCM 2010 LOS			B									















HCM Signalized Intersection Capacity Analysis Cumulative + Project AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations			↕				↕					↕
Traffic Volume (vph)	24	13	79	8	31	1	30	53	17	2	3	933
Future Volume (vph)	24	13	79	8	31	1	30	53	17	2	3	933
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5				4.5					4.5
Lane Util. Factor			1.00				1.00					0.95
Frt			0.99				0.93					0.99
Flt Protected			0.99				0.99					1.00
Satd. Flow (prot)			1819				1709					3497
Flt Permitted			0.83				0.89					0.95
Satd. Flow (perm)			1539				1535					3325
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	13	79	8	31	1	30	53	17	2	3	933
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	124	0	0	0	132	0	0	0	0	1018
Turn Type	Perm	Perm	NA		Perm	Perm	NA			Perm	Perm	NA
Protected Phases			4				8					1
Permitted Phases	4	4			8	8				1	1	
Actuated Green, G (s)			12.8				12.8					59.0
Effective Green, g (s)			12.8				12.8					59.0
Actuated g/C Ratio			0.14				0.14					0.65
Clearance Time (s)			4.5				4.5					4.5
Vehicle Extension (s)			3.0				3.0					3.0
Lane Grp Cap (vph)			218				217					2174
v/s Ratio Prot												
v/s Ratio Perm			0.08				0.09					0.31
v/c Ratio			0.57				0.61					0.47
Uniform Delay, d1			36.1				36.3					7.8
Progression Factor			1.00				1.00					1.00
Incremental Delay, d2			3.4				4.8					0.7
Delay (s)			39.5				41.1					8.5
Level of Service			D				D					A
Approach Delay (s)			39.5				41.1					8.5
Approach LOS			D				D					A
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.7				HCM 2000 Level of Service					B
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			90.2				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			91.8%				ICU Level of Service					F
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Cumulative + Project AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020

												
Movement	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2
Approach Configurations												
Traffic Volume (vph)	70	10	3	43	1009	10	8	18	9	10	2	6
Future Volume (vph)	70	10	3	43	1009	10	8	18	9	10	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5				4.5			
Lane Util. Factor					0.95				1.00			
Frt					1.00				0.96			
Flt Protected					1.00				0.98			
Satd. Flow (prot)					3523				1745			
Flt Permitted					0.86				0.84			
Satd. Flow (perm)					3043				1493			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	10	3	43	1009	10	8	18	9	10	2	6
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1073	0	0	0	39	0	0	0
Turn Type			Perm	Perm	NA			Perm	NA			Perm
Protected Phases					5				9			
Permitted Phases			5	5				9				13
Actuated Green, G (s)					59.0				4.9			
Effective Green, g (s)					59.0				4.9			
Actuated g/C Ratio					0.65				0.05			
Clearance Time (s)					4.5				4.5			
Vehicle Extension (s)					3.0				3.0			
Lane Grp Cap (vph)					1990				81			
v/s Ratio Prot												
v/s Ratio Perm					c0.35				c0.03			
v/c Ratio					0.54				0.48			
Uniform Delay, d1					8.3				41.4			
Progression Factor					1.00				1.00			
Incremental Delay, d2					1.1				4.5			
Delay (s)					9.4				45.9			
Level of Service					A				D			
Approach Delay (s)					9.4				45.9			
Approach LOS					A				D			
Intersection Summary												












HCM Signalized Intersection Capacity Analysis Cumulative + Project AM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	SWL	SWT	SWR	SWR2
Lane Configurations				
Traffic Volume (vph)	43	3	8	4
Future Volume (vph)	43	3	8	4
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		
Lane Util. Factor	0.95	0.95		
Frt	1.00	0.94		
Flt Protected	0.95	0.97		
Satd. Flow (prot)	1681	1625		
Flt Permitted	1.00	0.84		
Satd. Flow (perm)	1770	1392		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	3	8	4
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	33	31	0	0
Turn Type	Perm	NA		
Protected Phases		13		
Permitted Phases	13			
Actuated Green, G (s)	4.9	4.9		
Effective Green, g (s)	4.9	4.9		
Actuated g/C Ratio	0.05	0.05		
Clearance Time (s)	4.5	4.5		
Vehicle Extension (s)	3.0	3.0		
Lane Grp Cap (vph)	96	75		
v/s Ratio Prot				
v/s Ratio Perm	0.02	0.02		
v/c Ratio	0.34	0.41		
Uniform Delay, d1	41.1	41.3		
Progression Factor	1.00	1.00		
Incremental Delay, d2	2.1	3.7		
Delay (s)	43.2	44.9		
Level of Service	D	D		
Approach Delay (s)		44.1		
Approach LOS		D		
<b>Intersection Summary</b>				



















HCM 2010 Signalized Intersection Summary  
 1: California Drive & Burlingame Avenue

Cumulative + Project PM Conditions  
 07/10/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	175	84	120	844	655	129		
Future Volume (veh/h)	175	84	120	844	655	129		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	175	84	120	844	655	129		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	420	202	155	1636	852	168		
Arrive On Green	0.37	0.37	0.09	0.46	0.29	0.29		
Sat Flow, veh/h	1150	552	1774	3632	3043	580		
Grp Volume(v), veh/h	260	0	120	844	393	391		
Grp Sat Flow(s),veh/h/ln	1708	0	1774	1770	1770	1760		
Q Serve(g_s), s	6.0	0.0	3.5	8.8	10.6	10.6		
Cycle Q Clear(g_c), s	6.0	0.0	3.5	8.8	10.6	10.6		
Prop In Lane	0.67	0.32	1.00			0.33		
Lane Grp Cap(c), veh/h	624	0	155	1636	511	508		
V/C Ratio(X)	0.42	0.00	0.77	0.52	0.77	0.77		
Avail Cap(c_a), veh/h	624	0	302	2161	627	623		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.4	0.0	23.3	9.9	17.0	17.0		
Incr Delay (d2), s/veh	2.0	0.0	7.9	0.3	4.6	4.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.1	0.0	2.0	4.3	5.8	5.8		
LnGrp Delay(d),s/veh	14.4	0.0	31.3	10.2	21.6	21.7		
LnGrp LOS	B		C	B	C	C		
Approach Vol, veh/h	260			964	784			
Approach Delay, s/veh	14.4			12.8	21.7			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.6	9.1	19.6				28.7
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.1	8.9	18.5				31.9
Max Q Clear Time (g_c+I1), s		8.0	5.5	12.6				10.8
Green Ext Time (p_c), s		0.6	0.1	2.5				5.9
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			16.5					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
2: California Drive & Howard Avenue




















Cumulative + Project PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	129	142	74	138	74	133	756	39	31	561	161
Future Volume (veh/h)	133	129	142	74	138	74	133	756	39	31	561	161
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	133	129	142	74	138	74	133	756	39	31	561	161
Adj No. of Lanes	1	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	327	277	305	195	327	541	223	1229	65	96	1296	362
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	1.00	1.00	1.00	0.51	0.51	0.51
Sat Flow, veh/h	1165	812	893	333	957	1583	283	2419	128	62	2549	712
Grp Volume(v), veh/h	133	0	271	212	0	74	420	0	508	398	0	355
Grp Sat Flow(s),veh/h/ln	1165	0	1705	1290	0	1583	1158	0	1672	1754	0	1569
Q Serve(g_s), s	6.4	0.0	7.5	2.4	0.0	1.9	8.5	0.0	0.0	0.0	0.0	8.6
Cycle Q Clear(g_c), s	16.2	0.0	7.5	9.9	0.0	1.9	17.1	0.0	0.0	8.0	0.0	8.6
Prop In Lane	1.00		0.52	0.35		1.00	0.32		0.08	0.08		0.45
Lane Grp Cap(c), veh/h	327	0	583	522	0	541	668	0	850	956	0	798
V/C Ratio(X)	0.41	0.00	0.47	0.41	0.00	0.14	0.63	0.00	0.60	0.42	0.00	0.44
Avail Cap(c_a), veh/h	327	0	583	522	0	541	668	0	850	956	0	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	15.5	15.6	0.0	13.6	0.9	0.0	0.0	9.2	0.0	9.4
Incr Delay (d2), s/veh	3.7	0.0	2.7	2.3	0.0	0.5	4.5	0.0	3.1	1.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.9	3.2	0.0	0.9	3.1	0.0	0.7	4.4	0.0	4.0
LnGrp Delay(d),s/veh	26.7	0.0	18.1	18.0	0.0	14.2	5.4	0.0	3.1	10.6	0.0	11.2
LnGrp LOS	C		B	B		B	A		A	B		B
Approach Vol, veh/h		404			286			928			753	
Approach Delay, s/veh		20.9			17.0			4.1			10.8	
Approach LOS		C			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		18.2		10.6		11.9		19.1				
Green Ext Time (p_c), s		0.5		5.0		1.0		4.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.7									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary  
3: California Drive & Bayswater Avenue























Cumulative + Project PM Conditions

07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	107	86	20	83	66	38	801	32	20	716	41
Future Volume (veh/h)	46	107	86	20	83	66	38	801	32	20	716	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	46	107	86	20	83	66	38	801	32	20	716	41
Adj No. of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	479	594	153	571	594	101	1525	60	79	1542	87
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.47	0.47	0.47	0.95	0.95	0.95
Sat Flow, veh/h	387	1278	1583	216	1523	1583	75	3211	126	34	3246	183
Grp Volume(v), veh/h	153	0	86	103	0	66	446	0	425	405	0	372
Grp Sat Flow(s),veh/h/ln	1665	0	1583	1739	0	1583	1739	0	1673	1801	0	1663
Q Serve(g_s), s	0.0	0.0	2.2	0.0	0.0	1.6	0.0	0.0	10.7	0.0	0.0	1.2
Cycle Q Clear(g_c), s	3.4	0.0	2.2	2.2	0.0	1.6	9.9	0.0	10.7	1.2	0.0	1.2
Prop In Lane	0.30		1.00	0.19		1.00	0.09		0.08	0.05		0.11
Lane Grp Cap(c), veh/h	703	0	594	724	0	594	891	0	795	918	0	790
V/C Ratio(X)	0.22	0.00	0.14	0.14	0.00	0.11	0.50	0.00	0.54	0.44	0.00	0.47
Avail Cap(c_a), veh/h	703	0	594	724	0	594	891	0	795	918	0	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.8	0.0	12.4	12.4	0.0	12.2	10.9	0.0	11.1	0.8	0.0	0.8
Incr Delay (d2), s/veh	0.7	0.0	0.5	0.4	0.0	0.4	2.0	0.0	2.6	1.5	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.0	1.2	0.0	0.8	5.6	0.0	5.4	0.8	0.0	0.9
LnGrp Delay(d),s/veh	13.5	0.0	12.9	12.8	0.0	12.6	12.9	0.0	13.7	2.4	0.0	2.8
LnGrp LOS	B		B	B		B	B		B	A		A
Approach Vol, veh/h		239			169			871			777	
Approach Delay, s/veh		13.3			12.7			13.3			2.6	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.4		3.2		4.2		12.7				
Green Ext Time (p_c), s		1.0		5.4		0.7		5.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.2									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
 4: San Mateo Drive/California Drive & Peninsula Avenue

Cumulative + Project PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	306	46	122	333	349	21	536	196	243	544	43
Future Volume (veh/h)	23	306	46	122	333	349	21	536	196	243	544	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	23	306	46	122	333	349	21	536	196	243	544	43
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	850	722	448	850	722	70	1395	683	287	716	59
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	756	1863	1583	1025	1863	1583	50	3235	1583	479	1659	137
Grp Volume(v), veh/h	23	306	46	122	333	349	285	272	196	307	0	523
Grp Sat Flow(s),veh/h/ln	756	1863	1583	1025	1863	1583	1674	1610	1583	605	0	1671
Q Serve(g_s), s	1.7	8.6	1.3	7.0	9.5	12.3	0.5	9.3	6.4	25.2	0.0	20.7
Cycle Q Clear(g_c), s	11.1	8.6	1.3	15.6	9.5	12.3	21.2	9.3	6.4	34.5	0.0	20.7
Prop In Lane	1.00		1.00	1.00		1.00	0.07		1.00	0.79		0.08
Lane Grp Cap(c), veh/h	345	850	722	448	850	722	770	694	683	341	0	721
V/C Ratio(X)	0.07	0.36	0.06	0.27	0.39	0.48	0.37	0.39	0.29	0.90	0.00	0.73
Avail Cap(c_a), veh/h	345	850	722	448	850	722	770	694	683	341	0	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	14.2	12.2	19.2	14.4	15.2	15.3	15.6	14.8	29.3	0.0	18.8
Incr Delay (d2), s/veh	0.4	1.2	0.2	1.5	1.4	2.3	1.4	1.7	1.1	28.6	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.6	0.6	2.2	5.1	5.8	4.5	4.4	3.0	9.4	0.0	10.7
LnGrp Delay(d),s/veh	18.5	15.3	12.3	20.7	15.8	17.5	16.7	17.2	15.8	57.9	0.0	25.1
LnGrp LOS	B	B	B	C	B	B	B	B	B	E		C
Approach Vol, veh/h		375			804			753			830	
Approach Delay, s/veh		15.2			17.3			16.7			37.2	
Approach LOS		B			B			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		39.0		41.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		36.5		34.5		36.5		34.5				
Max Q Clear Time (g_c+I1), s		13.1		36.5		17.6		23.2				
Green Ext Time (p_c), s		2.1		0.0		3.8		3.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				22.8								
HCM 2010 LOS				C								



Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	38	159	47	29	123	66	59	39	53	36	98	86
Future Vol, veh/h	38	159	47	29	123	66	59	39	53	36	98	86
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	159	47	29	123	66	59	39	53	36	98	86
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	11			10.5			10			10.6		
HCM LOS	B			B			A			B		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	16%	13%	16%
Vol Thru, %	26%	65%	56%	45%
Vol Right, %	35%	19%	30%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	244	218	220
LT Vol	59	38	29	36
Through Vol	39	159	123	98
RT Vol	53	47	66	86
Lane Flow Rate	151	244	218	220
Geometry Grp	1	1	1	1
Degree of Util (X)	0.225	0.351	0.312	0.317
Departure Headway (Hd)	5.375	5.185	5.156	5.195
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	667	693	698	691
Service Time	3.413	3.217	3.19	3.23
HCM Lane V/C Ratio	0.226	0.352	0.312	0.318
HCM Control Delay	10	11	10.5	10.6
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.9	1.6	1.3	1.4

Intersection	
Intersection Delay, s/veh	17.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	297	48	30	297	102	37	54	19	70	85	73
Future Vol, veh/h	53	297	48	30	297	102	37	54	19	70	85	73
Peak Hour 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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	297	48	30	297	102	37	54	19	70	85	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	18.8	19.9	11.8	13.8
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	13%	7%	31%
Vol Thru, %	49%	75%	69%	37%
Vol Right, %	17%	12%	24%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	398	429	228
LT Vol	37	53	30	70
Through Vol	54	297	297	85
RT Vol	19	48	102	73
Lane Flow Rate	110	398	429	228
Geometry Grp	1	1	1	1
Degree of Util (X)	0.21	0.644	0.679	0.407
Departure Headway (Hd)	6.864	5.826	5.7	6.419
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	521	621	635	559
Service Time	4.933	3.842	3.716	4.476
HCM Lane V/C Ratio	0.211	0.641	0.676	0.408
HCM Control Delay	11.8	18.8	19.9	13.8
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	0.8	4.6	5.3	2

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	176	61	72	211	70	86
Future Vol, veh/h	176	61	72	211	70	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	176	61	72	211	70	86
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.4	10.3	9.2
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	45%	0%	25%
Vol Thru, %	0%	74%	75%
Vol Right, %	55%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	156	237	283
LT Vol	70	0	72
Through Vol	0	176	211
RT Vol	86	61	0
Lane Flow Rate	156	237	283
Geometry Grp	1	1	1
Degree of Util (X)	0.211	0.296	0.364
Departure Headway (Hd)	4.858	4.49	4.635
Convergence, Y/N	Yes	Yes	Yes
Cap	736	799	775
Service Time	2.906	2.531	2.675
HCM Lane V/C Ratio	0.212	0.297	0.365
HCM Control Delay	9.2	9.4	10.3
HCM Lane LOS	A	A	B
HCM 95th-tile Q	0.8	1.2	1.7



















HCM 2010 Signalized Intersection Summary  
8: Park Road/Park Rd & Howard Avenue

Cumulative + Project PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	284	63	34	324	55	52	55	80	35	33	60
Future Volume (veh/h)	32	284	63	34	324	55	52	55	80	35	33	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	284	63	34	324	55	52	55	80	35	33	60
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	592	124	102	621	100	221	236	279	215	210	302
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	72	1386	291	73	1454	235	336	578	683	322	514	738
Grp Volume(v), veh/h	379	0	0	413	0	0	187	0	0	128	0	0
Grp Sat Flow(s),veh/h/ln	1749	0	0	1762	0	0	1596	0	0	1574	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	9.2	0.0	0.0	3.9	0.0	0.0	2.6	0.0	0.0
Prop In Lane	0.08		0.17	0.08		0.13	0.28		0.43	0.27		0.47
Lane Grp Cap(c), veh/h	818	0	0	824	0	0	737	0	0	727	0	0
V/C Ratio(X)	0.46	0.00	0.00	0.50	0.00	0.00	0.25	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	818	0	0	824	0	0	737	0	0	727	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.4	0.0	0.0	11.7	0.0	0.0	10.8	0.0	0.0	10.4	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	2.2	0.0	0.0	0.8	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	5.1	0.0	0.0	2.0	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	13.3	0.0	0.0	13.8	0.0	0.0	11.6	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		379			413			187			128	
Approach Delay, s/veh		13.3			13.8			11.6			10.9	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		5.9		10.3		4.6		11.2				
Green Ext Time (p_c), s		0.9		2.0		0.6		2.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
9: El Camino Real & Burlingame Avenue

Cumulative + Project PM Conditions  
07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	60	3	60	32	117	23	1226	38	96	1070	7
Future Volume (veh/h)	24	60	3	60	32	117	23	1226	38	96	1070	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	60	3	60	32	59	23	1226	38	96	1070	7
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	337	15	311	154	413	61	2242	69	151	1746	12
Arrive On Green	0.24	0.26	0.24	0.24	0.26	0.26	0.66	0.67	0.66	0.66	0.67	0.66
Sat Flow, veh/h	351	1291	59	940	592	1583	28	3336	103	154	2597	18
Grp Volume(v), veh/h	87	0	0	92	0	59	666	0	621	504	0	669
Grp Sat Flow(s),veh/h/ln	1701	0	0	1531	0	1583	1790	0	1677	1077	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	2.6	0.0	0.0	17.4	12.9	0.0	19.3
Cycle Q Clear(g_c), s	3.3	0.0	0.0	3.7	0.0	2.6	16.7	0.0	17.4	30.3	0.0	19.3
Prop In Lane	0.28		0.03	0.65		1.00	0.03		0.06	0.19		0.01
Lane Grp Cap(c), veh/h	467	0	0	440	0	413	1215	0	1127	754	0	1137
V/C Ratio(X)	0.19	0.00	0.00	0.21	0.00	0.14	0.55	0.00	0.55	0.67	0.00	0.59
Avail Cap(c_a), veh/h	467	0	0	440	0	413	1215	0	1127	754	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	0.0	26.3	0.0	25.5	7.6	0.0	7.7	8.9	0.0	8.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.7	1.8	0.0	1.9	4.7	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	2.0	0.0	1.2	9.4	0.0	8.6	9.6	0.0	9.6
LnGrp Delay(d),s/veh	26.9	0.0	0.0	27.3	0.0	26.2	9.4	0.0	9.7	13.6	0.0	10.2
LnGrp LOS	C			C			C	A		A	B	B
Approach Vol, veh/h		87			151			1287			1173	
Approach Delay, s/veh		26.9			26.9			9.5			11.7	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		26.5		63.5		26.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.0		22.0		59.0		22.0				
Max Q Clear Time (g_c+I1), s		19.4		5.3		32.3		5.7				
Green Ext Time (p_c), s		11.7		0.3		10.8		0.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			12.0									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary  
 10: El Camino Real & Howard Avenue

Cumulative + Project PM Conditions  
 07/10/2020

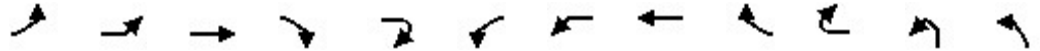
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	120	18	141	120	273	13	1020	81	219	1056	9
Future Volume (veh/h)	34	120	18	141	120	273	13	1020	81	219	1056	9
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	34	120	18	141	120	273	13	1020	81	219	1056	9
Adj No. of Lanes	0	1	0	1	1	1	0	2	0	0	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	278	38	331	404	343	50	2194	173	272	1387	12
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	1.00	1.00	1.00
Sat Flow, veh/h	198	1285	173	1246	1863	1583	14	3211	253	310	2030	18
Grp Volume(v), veh/h	172	0	0	141	120	273	585	0	529	447	0	837
Grp Sat Flow(s),veh/h/ln	1656	0	0	1246	1863	1583	1827	0	1650	667	0	1692
Q Serve(g_s), s	0.4	0.0	0.0	3.2	4.9	14.7	0.0	0.0	13.4	48.1	0.0	0.0
Cycle Q Clear(g_c), s	7.4	0.0	0.0	10.6	4.9	14.7	13.1	0.0	13.4	61.5	0.0	0.0
Prop In Lane	0.20		0.10	1.00		1.00	0.02		0.15	0.49		0.01
Lane Grp Cap(c), veh/h	407	0	0	331	404	343	1290	0	1128	515	0	1156
V/C Ratio(X)	0.42	0.00	0.00	0.43	0.30	0.80	0.45	0.00	0.47	0.87	0.00	0.72
Avail Cap(c_a), veh/h	407	0	0	331	404	343	1290	0	1128	515	0	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	0.0	32.0	29.5	33.4	6.6	0.0	6.6	6.4	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	4.0	1.9	17.2	1.2	0.0	1.4	17.6	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	3.5	2.7	8.0	7.1	0.0	6.5	13.2	0.0	1.3
LnGrp Delay(d),s/veh	33.7	0.0	0.0	35.9	31.4	50.6	7.7	0.0	8.0	24.0	0.0	4.0
LnGrp LOS	C			D	C	D	A		A	C		A
Approach Vol, veh/h		172			534			1114				1284
Approach Delay, s/veh		33.7			42.4			7.9				10.9
Approach LOS		C			D			A				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		66.0		24.0		66.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		61.5		19.5		61.5				
Max Q Clear Time (g_c+I1), s		9.4		63.5		16.7		15.4				
Green Ext Time (p_c), s		0.6		0.0		0.7		10.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 12: California Drive & Oak Grove Avenue

Cumulative + Project PM Conditions  
 07/10/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	150	19	202	105	55	36	692	214	60	676	37
Future Volume (veh/h)	33	150	19	202	105	55	36	692	214	60	676	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	33	150	19	202	105	55	36	692	0	60	676	37
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	269	34	353	230	120	119	1154	516	148	1213	542
Arrive On Green	0.17	0.17	0.14	0.20	0.20	0.17	0.07	0.33	0.00	0.08	0.34	0.34
Sat Flow, veh/h	1774	1621	205	1774	1153	604	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	33	0	169	202	0	160	36	692	0	60	676	37
Grp Sat Flow(s),veh/h/ln	1774	0	1827	1774	0	1756	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.8	0.0	4.5	5.5	0.0	4.3	1.0	8.7	0.0	1.7	8.3	0.8
Cycle Q Clear(g_c), s	0.8	0.0	4.5	5.5	0.0	4.3	1.0	8.7	0.0	1.7	8.3	0.8
Prop In Lane	1.00		0.11	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	0	303	353	0	350	119	1154	516	148	1213	542
V/C Ratio(X)	0.11	0.00	0.56	0.57	0.00	0.46	0.30	0.60	0.00	0.41	0.56	0.07
Avail Cap(c_a), veh/h	1500	0	1545	1500	0	1485	217	2927	1309	217	2927	1309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	20.5	19.3	0.0	19.0	23.6	15.0	0.0	23.1	14.2	11.8
Incr Delay (d2), s/veh	0.2	0.0	1.6	1.5	0.0	0.9	1.4	0.5	0.0	1.8	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.4	2.8	0.0	2.2	0.5	4.3	0.0	0.9	4.1	0.4
LnGrp Delay(d),s/veh	19.0	0.0	22.1	20.7	0.0	19.9	25.1	15.5	0.0	24.9	14.6	11.8
LnGrp LOS	B		C	C		B	C	B		C	B	B
Approach Vol, veh/h		202			362			728			773	
Approach Delay, s/veh		21.6			20.4			16.0			15.3	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	20.4		11.8	6.6	21.2		13.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	42.5		43.5	5.0	42.5		43.5				
Max Q Clear Time (g_c+I1), s	3.7	10.7		6.5	3.0	10.3		7.5				
Green Ext Time (p_c), s	0.0	5.1		1.2	0.0	5.1		1.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.0									
HCM 2010 LOS			B									

HCM Signalized Intersection Capacity Analysis Cumulative + Project PM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations			↔					↔				
Traffic Volume (vph)	20	11	55	8	1	26	3	54	44	12	1	4
Future Volume (vph)	20	11	55	8	1	26	3	54	44	12	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5					4.5				
Lane Util. Factor			1.00					1.00				
Frt			0.99					0.95				
Flt Protected			0.98					0.99				
Satd. Flow (prot)			1809					1743				
Flt Permitted			0.84					0.93				
Satd. Flow (perm)			1547					1645				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	11	55	8	1	26	3	54	44	12	1	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	95	0	0	0	0	139	0	0	0	0
Turn Type	Perm	Perm	NA			Perm	Perm	NA			Perm	Perm
Protected Phases			4					8				
Permitted Phases	4	4				8	8				1	1
Actuated Green, G (s)			12.2					12.2				
Effective Green, g (s)			12.2					12.2				
Actuated g/C Ratio			0.15					0.15				
Clearance Time (s)			4.5					4.5				
Vehicle Extension (s)			3.0					3.0				
Lane Grp Cap (vph)			226					240				
v/s Ratio Prot												
v/s Ratio Perm			0.06					0.08				
v/c Ratio			0.42					0.58				
Uniform Delay, d1			32.4					33.2				
Progression Factor			1.00					1.00				
Incremental Delay, d2			1.3					3.4				
Delay (s)			33.6					36.6				
Level of Service			C					D				
Approach Delay (s)			33.6					36.6				
Approach LOS			C					D				

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		



















c Critical Lane Group



HCM Signalized Intersection Capacity Analysis

Cumulative + Project PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020

												
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2
Lane Configurations	 					 				 		
Traffic Volume (vph)	1031	54	14	3	42	1042	12	8	8	1	3	3
Future Volume (vph)	1031	54	14	3	42	1042	12	8	8	1	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5					4.5					4.5	
Lane Util. Factor	0.95					0.95					1.00	
Frt	0.99					1.00					0.95	
Flt Protected	1.00					1.00					0.97	
Satd. Flow (prot)	3506					3522					1716	
Flt Permitted	0.95					0.86					0.82	
Satd. Flow (perm)	3334					3036					1443	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1031	54	14	3	42	1042	12	8	8	1	3	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1104	0	0	0	0	1107	0	0	0	15	0	0
Turn Type	NA			Perm		NA			Perm		NA	
Protected Phases	1					5					9	
Permitted Phases				5		5					9	
Actuated Green, G (s)	50.7					50.7					7.0	
Effective Green, g (s)	50.7					50.7					7.0	
Actuated g/C Ratio	0.61					0.61					0.08	
Clearance Time (s)	4.5					4.5					4.5	
Vehicle Extension (s)	3.0					3.0					3.0	
Lane Grp Cap (vph)	2026					1845					121	
v/s Ratio Prot												
v/s Ratio Perm	0.33					0.36					0.01	
v/c Ratio	0.54					0.60					0.12	
Uniform Delay, d1	9.6					10.1					35.4	
Progression Factor	1.00					1.00					1.00	
Incremental Delay, d2	1.1					1.5					0.5	
Delay (s)	10.6					11.5					35.8	
Level of Service	B					B					D	
Approach Delay (s)	10.6					11.5					35.8	
Approach LOS	B					B					D	
<b>Intersection Summary</b>												

HCM Signalized Intersection Capacity Analysis Cumulative + Project PM Conditions  
 11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Movement	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	18	86	3	10	4
Future Volume (vph)	18	86	3	10	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		
Lane Util. Factor		0.95	0.95		
Frt		1.00	0.96		
Flt Protected		0.95	0.97		
Satd. Flow (prot)		1681	1649		
Flt Permitted		0.75	0.78		
Satd. Flow (perm)		1323	1329		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	86	3	10	4
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	61	60	0	0
Turn Type	Perm	Perm	NA		
Protected Phases			13		
Permitted Phases	13	13			
Actuated Green, G (s)		7.0	7.0		
Effective Green, g (s)		7.0	7.0		
Actuated g/C Ratio		0.08	0.08		
Clearance Time (s)		4.5	4.5		
Vehicle Extension (s)		3.0	3.0		
Lane Grp Cap (vph)		111	111		
v/s Ratio Prot					
v/s Ratio Perm		0.05	0.05		
v/c Ratio		0.55	0.54		
Uniform Delay, d1		36.7	36.7		
Progression Factor		1.00	1.00		
Incremental Delay, d2		5.5	5.3		
Delay (s)		42.2	41.9		
Level of Service		D	D		
Approach Delay (s)			42.0		
Approach LOS			D		
<b>Intersection Summary</b>					

## Queues

Existing AM Conditions

## 1: California Drive &amp; Burlingame Avenue

06/30/2020



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	211	57	673	661
v/c Ratio	0.29	0.26	0.46	0.63
Control Delay	12.9	27.4	11.3	18.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.9	27.4	11.3	18.8
Queue Length 50th (ft)	44	19	71	100
Queue Length 95th (ft)	95	49	104	147
Internal Link Dist (ft)	210		573	1087
Turn Bay Length (ft)		100		
Base Capacity (vph)	728	230	2157	1374
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.25	0.31	0.48
Intersection Summary				

Queues  
2: California Drive & Howard Avenue

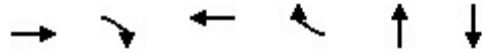
Existing AM Conditions  
06/30/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	80	188	167	81	692	658
v/c Ratio	0.17	0.26	0.25	0.12	0.50	0.45
Control Delay	13.1	9.1	13.7	3.9	8.1	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	9.1	13.7	3.9	8.1	11.6
Queue Length 50th (ft)	18	27	39	0	43	75
Queue Length 95th (ft)	43	65	77	21	62	113
Internal Link Dist (ft)		432	739		597	573
Turn Bay Length (ft)	50					
Base Capacity (vph)	475	726	656	669	1373	1463
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.26	0.25	0.12	0.50	0.45
<b>Intersection Summary</b>						

Queues  
3: California Drive & Bayswater Avenue

Existing AM Conditions  
06/30/2020



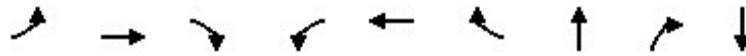
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	147	44	103	55	642	640
v/c Ratio	0.23	0.07	0.16	0.08	0.44	0.42
Control Delay	13.5	4.6	12.7	4.3	12.1	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	4.6	12.7	4.3	12.1	8.5
Queue Length 50th (ft)	34	0	23	0	76	48
Queue Length 95th (ft)	69	16	51	18	114	71
Internal Link Dist (ft)	1376		604		579	597
Turn Bay Length (ft)		60				
Base Capacity (vph)	629	646	648	653	1454	1508
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.07	0.16	0.08	0.44	0.42
Intersection Summary						

## Queues

Existing AM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

06/30/2020

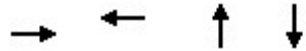


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	32	258	19	69	250	245	395	176	648
v/c Ratio	0.09	0.38	0.03	0.19	0.36	0.33	0.23	0.19	0.47
Control Delay	17.4	20.5	7.3	19.0	20.3	3.9	10.9	2.3	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	20.5	7.3	19.0	20.3	3.9	10.9	2.3	13.4
Queue Length 50th (ft)	10	93	0	23	89	0	53	0	99
Queue Length 95th (ft)	29	153	13	53	149	44	78	28	142
Internal Link Dist (ft)		1254			826		1310		579
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	363	686	596	356	686	738	1727	905	1386
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.38	0.03	0.19	0.36	0.33	0.23	0.19	0.47

## Intersection Summary

Queues  
8: Park Road/Park Rd & Howard Avenue

Existing AM Conditions  
06/30/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	289	238	150	60
v/c Ratio	0.36	0.30	0.21	0.09
Control Delay	11.9	11.6	9.0	8.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	11.9	11.6	9.0	8.5
Queue Length 50th (ft)	60	50	22	8
Queue Length 95th (ft)	110	93	54	27
Internal Link Dist (ft)	708	272	1158	546
Turn Bay Length (ft)				
Base Capacity (vph)	793	789	703	702
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.30	0.21	0.09
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Existing AM Conditions  
06/30/2020

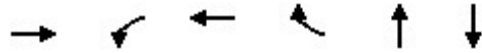


Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	82	44	42	883	1032
v/c Ratio	0.18	0.10	0.09	0.39	0.52
Control Delay	27.1	26.2	9.0	6.8	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	26.2	9.0	6.8	8.6
Queue Length 50th (ft)	36	19	0	101	135
Queue Length 95th (ft)	73	46	24	122	181
Internal Link Dist (ft)	501	1128		685	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	461	430	444	2243	1991
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.10	0.09	0.39	0.52
Intersection Summary					



Queues  
10: El Camino Real & Howard Avenue

Existing AM Conditions  
06/30/2020










Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	160	54	67	126	874	1014
v/c Ratio	0.36	0.20	0.14	0.26	0.40	0.64
Control Delay	28.0	29.1	27.3	6.7	8.0	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	29.1	27.3	6.7	8.0	9.1
Queue Length 50th (ft)	68	24	30	0	108	202
Queue Length 95th (ft)	125	56	63	42	143	280
Internal Link Dist (ft)	563		1		673	685
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	448	271	465	490	2167	1580
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.20	0.14	0.26	0.40	0.64
<b>Intersection Summary</b>						

Queues

Existing AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue

							
Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	103	102	906	955	35	30	28
v/c Ratio	0.53	0.52	0.38	0.42	0.27	0.23	0.23
Control Delay	45.9	45.0	7.8	8.3	43.5	42.4	43.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	45.0	7.8	8.3	43.5	42.4	43.0
Queue Length 50th (ft)	54	53	116	129	18	16	15
Queue Length 95th (ft)	106	106	193	214	50	46	45
Internal Link Dist (ft)	667	1376	617	673	752		384
Turn Bay Length (ft)							
Base Capacity (vph)	395	403	2397	2251	170	171	156
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.25	0.38	0.42	0.21	0.18	0.18
<b>Intersection Summary</b>							

Queues  
12: California Drive & Oak Grove Avenue

Existing AM Conditions  
06/30/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	18	252	106	182	8	529	265	114	624	50
v/c Ratio	0.04	0.56	0.32	0.50	0.04	0.55	0.43	0.39	0.43	0.07
Control Delay	25.6	31.8	32.4	28.1	39.2	27.3	6.2	36.4	17.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	31.8	32.4	28.1	39.2	27.3	6.2	36.4	17.5	0.2
Queue Length 50th (ft)	6	100	43	55	3	108	0	47	91	0
Queue Length 95th (ft)	25	204	102	136	19	201	60	117	211	0
Internal Link Dist (ft)		526		335		565			517	
Turn Bay Length (ft)					225		160	225		75
Base Capacity (vph)	686	714	542	561	182	1339	763	398	1869	893
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.35	0.20	0.32	0.04	0.40	0.35	0.29	0.33	0.06

Intersection Summary

Queues  
1: California Drive & Burlingame Avenue

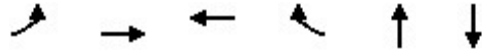
Existing PM Conditions  
06/30/2020



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	221	100	737	690
v/c Ratio	0.34	0.39	0.45	0.67
Control Delay	14.1	28.0	10.0	20.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.1	28.0	10.0	20.1
Queue Length 50th (ft)	47	33	75	103
Queue Length 95th (ft)	98	72	108	155
Internal Link Dist (ft)	231		566	807
Turn Bay Length (ft)		100		
Base Capacity (vph)	651	299	2142	1237
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.33	0.34	0.56
Intersection Summary				

Queues  
2: California Drive & Howard Avenue

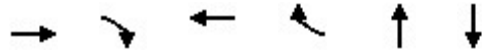
Existing PM Conditions  
06/30/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	111	221	185	64	819	653
v/c Ratio	0.27	0.34	0.35	0.11	0.59	0.40
Control Delay	16.6	10.2	17.1	4.9	8.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	10.2	17.1	4.9	8.7	8.7
Queue Length 50th (ft)	29	32	49	0	47	59
Queue Length 95th (ft)	63	76	95	21	73	92
Internal Link Dist (ft)		385	739		585	566
Turn Bay Length (ft)	50					
Base Capacity (vph)	407	649	531	582	1382	1635
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.34	0.35	0.11	0.59	0.40
<b>Intersection Summary</b>						

Queues  
3: California Drive & Bayswater Avenue

Existing PM Conditions  
06/30/2020



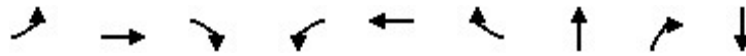
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	126	72	80	57	762	668
v/c Ratio	0.20	0.11	0.12	0.09	0.50	0.43
Control Delay	13.8	4.3	13.0	4.5	12.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	4.3	13.0	4.5	12.1	8.4
Queue Length 50th (ft)	30	0	18	0	92	58
Queue Length 95th (ft)	62	21	43	19	134	81
Internal Link Dist (ft)	1398		604		586	585
Turn Bay Length (ft)		60				
Base Capacity (vph)	629	638	664	629	1530	1569
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.11	0.12	0.09	0.50	0.43
<b>Intersection Summary</b>						

## Queues

Existing PM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

06/30/2020

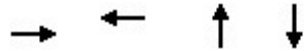


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	21	268	33	110	295	313	478	177	712
v/c Ratio	0.05	0.32	0.04	0.24	0.35	0.36	0.34	0.23	0.70
Control Delay	12.6	15.1	4.7	15.0	15.5	4.1	16.0	3.2	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	15.1	4.7	15.0	15.5	4.1	16.0	3.2	22.7
Queue Length 50th (ft)	6	82	0	32	91	12	81	0	145
Queue Length 95th (ft)	18	135	14	66	149	55	116	34	210
Internal Link Dist (ft)		1254			826		1310		586
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	438	849	740	462	849	869	1411	783	1023
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.32	0.04	0.24	0.35	0.36	0.34	0.23	0.70

## Intersection Summary

Queues  
8: Park Road/Park Rd & Howard Avenue

Existing PM Conditions  
06/30/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	323	337	174	118
v/c Ratio	0.43	0.44	0.25	0.17
Control Delay	12.4	12.7	7.8	7.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.4	12.7	7.8	7.1
Queue Length 50th (ft)	64	69	20	12
Queue Length 95th (ft)	120	126	53	38
Internal Link Dist (ft)	710	296	1160	536
Turn Bay Length (ft)				
Base Capacity (vph)	754	764	692	679
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	0.44	0.25	0.17
<b>Intersection Summary</b>				



Queues  
9: El Camino Real & Burlingame Avenue

Existing PM Conditions  
06/30/2020



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	79	71	81	1145	1033
v/c Ratio	0.18	0.18	0.17	0.52	0.58
Control Delay	27.1	27.2	7.3	7.5	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	27.2	7.3	7.5	9.5
Queue Length 50th (ft)	35	31	0	137	145
Queue Length 95th (ft)	71	66	34	160	197
Internal Link Dist (ft)	501	1089		644	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	449	404	473	2194	1784
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.18	0.17	0.52	0.58
<b>Intersection Summary</b>					

Queues  
10: El Camino Real & Howard Avenue

Existing PM Conditions  
06/30/2020










Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	152	119	107	237	989	1136
v/c Ratio	0.41	0.51	0.27	0.48	0.44	0.79
Control Delay	33.0	39.8	31.4	11.3	7.0	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	39.8	31.4	11.3	7.0	12.8
Queue Length 50th (ft)	72	60	51	21	113	253
Queue Length 95th (ft)	129	116	97	85	149	372
Internal Link Dist (ft)	563		1		669	644
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	372	234	403	493	2249	1445
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.51	0.27	0.48	0.44	0.79
<b>Intersection Summary</b>						

Queues

Existing PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue

							
Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	83	110	981	976	14	56	54
v/c Ratio	0.41	0.50	0.44	0.46	0.09	0.42	0.40
Control Delay	38.2	40.2	9.9	10.2	35.1	44.5	43.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	40.2	9.9	10.2	35.1	44.5	43.7
Queue Length 50th (ft)	39	52	136	138	6	28	27
Queue Length 95th (ft)	81	102	216	221	25	69	67
Internal Link Dist (ft)	667	1398	621	669	752		941
Turn Bay Length (ft)							
Base Capacity (vph)	383	413	2225	2111	177	161	162
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.27	0.44	0.46	0.08	0.35	0.33
Intersection Summary							

Queues  
12: California Drive & Oak Grove Avenue

Existing PM Conditions  
06/30/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	29	149	179	141	30	596	190	54	595	32
v/c Ratio	0.08	0.40	0.44	0.34	0.16	0.53	0.31	0.30	0.45	0.05
Control Delay	26.6	29.8	29.1	24.6	37.1	22.3	7.9	39.2	18.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	29.8	29.1	24.6	37.1	22.3	7.9	39.2	18.9	0.5
Queue Length 50th (ft)	10	53	64	43	12	106	12	21	81	0
Queue Length 95th (ft)	37	129	147	109	45	195	64	68	194	2
Internal Link Dist (ft)		164		201		420			323	
Turn Bay Length (ft)					225		160	75		225
Base Capacity (vph)	1234	1279	1234	1235	183	2428	1133	183	2428	1110
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.12	0.15	0.11	0.16	0.25	0.17	0.30	0.25	0.03

Intersection Summary

## Queues

Existing+Project AM Conditions

06/30/2020

## 1: California Drive &amp; Burlingame Avenue

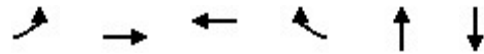


Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	213	57	673	670
v/c Ratio	0.29	0.26	0.46	0.63
Control Delay	13.1	27.4	11.3	18.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.1	27.4	11.3	18.9
Queue Length 50th (ft)	45	19	71	102
Queue Length 95th (ft)	96	49	104	150
Internal Link Dist (ft)	210		573	1087
Turn Bay Length (ft)		100		
Base Capacity (vph)	727	229	2155	1371
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.25	0.31	0.49
Intersection Summary				

Queues  
2: California Drive & Howard Avenue

Existing+Project AM Conditions

06/30/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	80	192	174	81	709	658
v/c Ratio	0.17	0.26	0.26	0.12	0.54	0.45
Control Delay	13.2	9.1	13.8	3.9	8.4	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	9.1	13.8	3.9	8.4	11.6
Queue Length 50th (ft)	18	28	41	0	44	75
Queue Length 95th (ft)	43	65	80	21	63	113
Internal Link Dist (ft)		432	739		597	573
Turn Bay Length (ft)	50					
Base Capacity (vph)	471	726	658	669	1322	1460
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.26	0.26	0.12	0.54	0.45

Intersection Summary

Queues  
3: California Drive & Bayswater Avenue

Existing+Project AM Conditions

06/30/2020



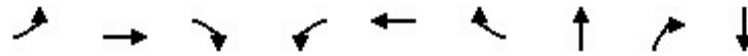
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	147	44	103	55	659	643
v/c Ratio	0.23	0.07	0.16	0.08	0.45	0.43
Control Delay	13.5	4.6	12.7	4.3	12.3	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	4.6	12.7	4.3	12.3	8.5
Queue Length 50th (ft)	34	0	23	0	79	48
Queue Length 95th (ft)	69	16	51	18	118	72
Internal Link Dist (ft)	1376		604		579	597
Turn Bay Length (ft)		60				
Base Capacity (vph)	629	646	648	653	1455	1508
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.07	0.16	0.08	0.45	0.43
<b>Intersection Summary</b>						

## Queues

Existing+Project AM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

06/30/2020



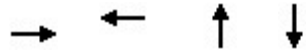
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	32	259	21	69	256	252	414	176	651
v/c Ratio	0.09	0.38	0.04	0.19	0.37	0.34	0.25	0.19	0.47
Control Delay	17.5	20.5	7.4	19.1	20.5	3.9	11.1	2.3	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	20.5	7.4	19.1	20.5	3.9	11.1	2.3	13.5
Queue Length 50th (ft)	10	93	0	23	92	0	56	0	100
Queue Length 95th (ft)	29	154	14	53	152	45	83	28	144
Internal Link Dist (ft)		1254			826		1310		579
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	358	686	596	355	686	742	1689	905	1375
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.38	0.04	0.19	0.37	0.34	0.25	0.19	0.47

## Intersection Summary



Queues  
8: Park Road/Park Rd & Howard Avenue

Existing+Project AM Conditions  
06/30/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	319	240	150	60
v/c Ratio	0.40	0.30	0.21	0.09
Control Delay	12.5	11.6	9.0	8.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.5	11.6	9.0	8.5
Queue Length 50th (ft)	69	50	22	8
Queue Length 95th (ft)	124	93	54	27
Internal Link Dist (ft)	708	272	1158	546
Turn Bay Length (ft)				
Base Capacity (vph)	796	788	703	702
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.30	0.21	0.09
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Existing+Project AM Conditions

06/30/2020



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	82	46	45	883	1052
v/c Ratio	0.18	0.11	0.10	0.39	0.55
Control Delay	27.1	26.2	8.7	6.8	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	26.2	8.7	6.8	9.1
Queue Length 50th (ft)	36	20	0	100	144
Queue Length 95th (ft)	73	47	26	122	193
Internal Link Dist (ft)	501	1128		685	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	461	426	446	2243	1896
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.11	0.10	0.39	0.55

Intersection Summary

Queues  
10: El Camino Real & Howard Avenue

Existing+Project AM Conditions  
06/30/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	167	55	67	127	884	1027
v/c Ratio	0.37	0.21	0.14	0.26	0.41	0.67
Control Delay	28.5	29.3	27.3	6.7	8.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	29.3	27.3	6.7	8.0	9.7
Queue Length 50th (ft)	72	25	30	0	110	211
Queue Length 95th (ft)	130	57	63	42	145	294
Internal Link Dist (ft)	563		1		673	685
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	448	265	465	491	2166	1525
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.21	0.14	0.26	0.41	0.67
<b>Intersection Summary</b>						

## Queues

Existing+Project AM Conditions

11: Carol Avenue/Primrose Road &amp; El Camino Real &amp; Cypress Avenue/Bayswater Avenue 06/20/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	110	103	913	956	35	30	28
v/c Ratio	0.56	0.51	0.38	0.43	0.27	0.23	0.23
Control Delay	46.5	44.3	7.9	8.4	43.7	42.6	43.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	44.3	7.9	8.4	43.7	42.6	43.2
Queue Length 50th (ft)	58	54	120	131	18	16	15
Queue Length 95th (ft)	112	106	198	218	50	47	45
Internal Link Dist (ft)	667	1376	617	673	752		384
Turn Bay Length (ft)							
Base Capacity (vph)	392	402	2388	2240	170	171	155
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.26	0.38	0.43	0.21	0.18	0.18
Intersection Summary							

Queues  
12: California Drive & Oak Grove Avenue

Existing+Project AM Conditions

06/30/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	18	252	106	182	8	533	265	114	643	50
v/c Ratio	0.04	0.57	0.32	0.50	0.04	0.55	0.42	0.39	0.44	0.07
Control Delay	25.6	31.9	32.5	28.2	39.2	27.3	6.2	36.4	17.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	31.9	32.5	28.2	39.2	27.3	6.2	36.4	17.6	0.2
Queue Length 50th (ft)	6	100	43	55	3	109	0	47	94	0
Queue Length 95th (ft)	25	204	102	136	19	203	60	117	218	0
Internal Link Dist (ft)		526		335		565			517	
Turn Bay Length (ft)					225		160	225		75
Base Capacity (vph)	685	712	541	560	182	1336	762	397	1866	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.35	0.20	0.33	0.04	0.40	0.35	0.29	0.34	0.06

Intersection Summary

## Queues

Existing+Project PM Conditions

06/30/2020

## 1: California Drive &amp; Burlingame Avenue

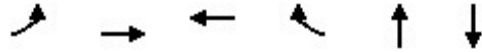


Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	231	100	737	692
v/c Ratio	0.35	0.39	0.45	0.67
Control Delay	14.6	28.0	10.0	20.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.6	28.0	10.0	20.1
Queue Length 50th (ft)	51	33	75	103
Queue Length 95th (ft)	105	72	108	155
Internal Link Dist (ft)	231		566	807
Turn Bay Length (ft)		100		
Base Capacity (vph)	651	299	2142	1238
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.33	0.34	0.56
Intersection Summary				

Queues  
2: California Drive & Howard Avenue

Existing+Project PM Conditions

06/30/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	111	245	187	64	824	653
v/c Ratio	0.27	0.38	0.35	0.11	0.60	0.40
Control Delay	16.7	10.5	17.2	4.9	8.9	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	10.5	17.2	4.9	8.9	8.7
Queue Length 50th (ft)	29	36	50	0	47	59
Queue Length 95th (ft)	63	85	96	21	75	92
Internal Link Dist (ft)		385	739		585	566
Turn Bay Length (ft)	50					
Base Capacity (vph)	405	653	527	582	1369	1635
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.38	0.35	0.11	0.60	0.40
<b>Intersection Summary</b>						

Queues  
3: California Drive & Bayswater Avenue

Existing+Project PM Conditions

06/30/2020



Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	126	72	80	57	767	685
v/c Ratio	0.20	0.11	0.12	0.09	0.50	0.44
Control Delay	13.8	4.3	13.0	4.5	12.2	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	4.3	13.0	4.5	12.2	8.6
Queue Length 50th (ft)	30	0	18	0	92	61
Queue Length 95th (ft)	62	21	43	19	136	85
Internal Link Dist (ft)	1398		604		586	585
Turn Bay Length (ft)		60				
Base Capacity (vph)	629	638	664	629	1529	1569
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.11	0.12	0.09	0.50	0.44
<b>Intersection Summary</b>						

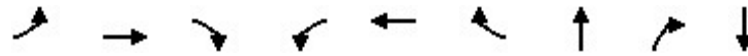


## Queues

Existing+Project PM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

06/30/2020



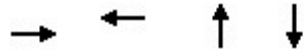
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	21	275	43	110	297	315	484	177	729
v/c Ratio	0.05	0.32	0.06	0.24	0.35	0.36	0.35	0.23	0.72
Control Delay	12.6	15.2	4.4	15.1	15.6	4.2	16.1	3.2	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	15.2	4.4	15.1	15.6	4.2	16.1	3.2	23.4
Queue Length 50th (ft)	6	84	0	32	92	13	82	0	150
Queue Length 95th (ft)	18	138	17	66	149	57	118	34	217
Internal Link Dist (ft)		1254			826		1310		586
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	436	849	745	455	849	867	1399	783	1017
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.32	0.06	0.24	0.35	0.36	0.35	0.23	0.72

## Intersection Summary

Queues  
8: Park Road/Park Rd & Howard Avenue

Existing+Project PM Conditions

06/30/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	332	354	174	118
v/c Ratio	0.44	0.46	0.25	0.17
Control Delay	12.6	13.1	7.8	7.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.6	13.1	7.8	7.1
Queue Length 50th (ft)	67	73	20	12
Queue Length 95th (ft)	124	133	53	38
Internal Link Dist (ft)	710	296	1160	536
Turn Bay Length (ft)				
Base Capacity (vph)	754	765	692	679
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.44	0.46	0.25	0.17
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Existing+Project PM Conditions

06/30/2020



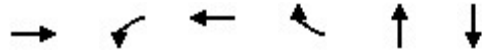
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	79	85	102	1145	1039
v/c Ratio	0.18	0.22	0.21	0.52	0.60
Control Delay	27.1	27.9	6.8	7.4	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	27.9	6.8	7.4	9.8
Queue Length 50th (ft)	35	38	0	136	148
Queue Length 95th (ft)	71	77	37	158	203
Internal Link Dist (ft)	501	1089		644	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	447	390	488	2192	1742
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.22	0.21	0.52	0.60

Intersection Summary

Queues  
10: El Camino Real & Howard Avenue

Existing+Project PM Conditions

06/30/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	154	129	107	244	992	1140
v/c Ratio	0.41	0.55	0.27	0.49	0.44	0.79
Control Delay	33.1	41.7	31.4	11.9	7.0	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	41.7	31.4	11.9	7.0	12.8
Queue Length 50th (ft)	73	66	51	24	114	252
Queue Length 95th (ft)	131	125	97	91	150	377
Internal Link Dist (ft)	563		1		669	644
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	373	233	403	493	2250	1440
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.55	0.27	0.49	0.44	0.79

Intersection Summary

Queues

Existing+Project PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 06/20/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	85	114	983	986	14	56	54
v/c Ratio	0.42	0.51	0.44	0.47	0.10	0.42	0.40
Control Delay	38.4	40.4	10.0	10.4	35.3	44.6	43.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	40.4	10.0	10.4	35.3	44.6	43.8
Queue Length 50th (ft)	40	54	137	141	6	28	27
Queue Length 95th (ft)	83	105	218	225	25	69	67
Internal Link Dist (ft)	667	1398	621	669	752		941
Turn Bay Length (ft)							
Base Capacity (vph)	377	414	2221	2105	176	160	162
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.28	0.44	0.47	0.08	0.35	0.33

Intersection Summary

Queues  
12: California Drive & Oak Grove Avenue

Existing+Project PM Conditions

06/30/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	29	149	179	141	30	616	190	54	600	32
v/c Ratio	0.08	0.40	0.44	0.34	0.17	0.54	0.31	0.30	0.45	0.05
Control Delay	27.0	30.1	29.4	24.9	37.6	22.4	8.2	39.7	18.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	30.1	29.4	24.9	37.6	22.4	8.2	39.7	18.9	0.4
Queue Length 50th (ft)	10	53	65	43	12	111	13	22	83	0
Queue Length 95th (ft)	37	130	149	110	45	203	66	69	197	2
Internal Link Dist (ft)		164		201		420			323	
Turn Bay Length (ft)					225		160	75		225
Base Capacity (vph)	1225	1270	1225	1227	181	2412	1124	181	2412	1102
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.12	0.15	0.11	0.17	0.26	0.17	0.30	0.25	0.03

Intersection Summary

Queues  
1: California Drive & Burlingame Avenue

Background AM Conditions

07/10/2020

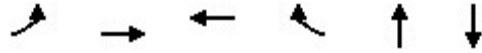


Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	219	58	690	692
v/c Ratio	0.30	0.27	0.47	0.65
Control Delay	12.9	27.5	11.4	19.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.9	27.5	11.4	19.2
Queue Length 50th (ft)	46	19	73	106
Queue Length 95th (ft)	97	50	107	156
Internal Link Dist (ft)	210		573	1087
Turn Bay Length (ft)		100		
Base Capacity (vph)	726	228	2147	1367
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.25	0.32	0.51
Intersection Summary				

Queues  
2: California Drive & Howard Avenue

Background AM Conditions

07/10/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	91	189	170	84	710	685
v/c Ratio	0.19	0.26	0.26	0.13	0.52	0.47
Control Delay	13.4	9.1	13.7	3.9	8.2	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	9.1	13.7	3.9	8.2	11.9
Queue Length 50th (ft)	21	28	40	0	44	79
Queue Length 95th (ft)	48	65	78	22	63	119
Internal Link Dist (ft)		432	739		597	573
Turn Bay Length (ft)	50					
Base Capacity (vph)	474	726	657	671	1369	1461
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.26	0.26	0.13	0.52	0.47

Intersection Summary



Queues  
3: California Drive & Bayswater Avenue

Background AM Conditions

07/10/2020

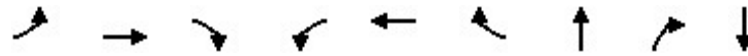


Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	153	52	125	60	659	665
v/c Ratio	0.24	0.08	0.19	0.09	0.46	0.44
Control Delay	13.6	4.4	13.0	4.2	12.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	4.4	13.0	4.2	12.3	8.8
Queue Length 50th (ft)	36	0	29	0	80	50
Queue Length 95th (ft)	72	17	59	19	118	77
Internal Link Dist (ft)	1376		604		579	597
Turn Bay Length (ft)		60				
Base Capacity (vph)	627	651	647	656	1445	1503
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.08	0.19	0.09	0.46	0.44
<b>Intersection Summary</b>						

Queues  
4: San Mateo Drive/California Drive & Peninsula Avenue

Background AM Conditions

07/10/2020

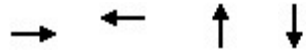


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	32	262	19	69	255	250	408	179	684
v/c Ratio	0.09	0.38	0.03	0.20	0.37	0.34	0.24	0.20	0.49
Control Delay	17.4	20.6	7.3	19.1	20.5	3.9	11.0	2.3	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	20.6	7.3	19.1	20.5	3.9	11.0	2.3	13.8
Queue Length 50th (ft)	10	94	0	23	92	0	55	0	107
Queue Length 95th (ft)	29	156	13	53	152	45	81	28	153
Internal Link Dist (ft)		1254			826		1310		579
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	359	686	596	352	686	741	1727	907	1382
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.38	0.03	0.20	0.37	0.34	0.24	0.20	0.49

Intersection Summary

Queues  
8: Park Road/Park Rd & Howard Avenue

Background AM Conditions  
07/10/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	304	242	159	52
v/c Ratio	0.38	0.31	0.23	0.08
Control Delay	12.4	11.6	8.9	8.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.4	11.6	8.9	8.1
Queue Length 50th (ft)	65	51	24	7
Queue Length 95th (ft)	117	94	56	24
Internal Link Dist (ft)	708	272	1158	546
Turn Bay Length (ft)				
Base Capacity (vph)	795	791	702	691
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.31	0.23	0.08
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Background AM Conditions

07/10/2020



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	85	45	43	902	1058
v/c Ratio	0.18	0.10	0.10	0.40	0.54
Control Delay	27.2	26.2	8.9	6.9	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	26.2	8.9	6.9	8.9
Queue Length 50th (ft)	38	19	0	104	142
Queue Length 95th (ft)	75	47	25	125	190
Internal Link Dist (ft)	501	1128		685	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	462	430	445	2243	1956
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.10	0.10	0.40	0.54

Intersection Summary

Queues  
10: El Camino Real & Howard Avenue

Background AM Conditions  
07/10/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	159	54	68	132	891	1033
v/c Ratio	0.35	0.20	0.15	0.27	0.41	0.66
Control Delay	27.9	29.1	27.4	6.6	8.1	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	29.1	27.4	6.6	8.1	9.4
Queue Length 50th (ft)	68	24	30	0	111	210
Queue Length 95th (ft)	123	56	64	43	147	291
Internal Link Dist (ft)	563		1		673	685
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	448	272	465	494	2167	1566
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.20	0.15	0.27	0.41	0.66
Intersection Summary						

Queues

Background AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	106	120	916	972	35	30	28
v/c Ratio	0.49	0.56	0.41	0.47	0.28	0.24	0.24
Control Delay	42.8	46.0	8.7	9.4	44.6	43.7	44.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	46.0	8.7	9.4	44.6	43.7	44.1
Queue Length 50th (ft)	56	64	124	139	19	16	15
Queue Length 95th (ft)	108	120	206	233	51	47	45
Internal Link Dist (ft)	667	1376	617	673	752		384
Turn Bay Length (ft)							
Base Capacity (vph)	394	387	2243	2087	163	161	150
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.31	0.41	0.47	0.21	0.19	0.19

Intersection Summary

Queues  
12: California Drive & Oak Grove Avenue

Background AM Conditions

07/10/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	258	114	186	9	544	268	114	633	51
v/c Ratio	0.05	0.57	0.34	0.51	0.05	0.56	0.43	0.39	0.44	0.07
Control Delay	25.7	32.2	33.0	29.0	39.6	27.7	6.2	36.8	17.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	32.2	33.0	29.0	39.6	27.7	6.2	36.8	17.7	0.2
Queue Length 50th (ft)	8	104	47	59	4	114	0	48	95	0
Queue Length 95th (ft)	28	209	109	141	20	207	60	117	215	0
Internal Link Dist (ft)		526		335		565			517	
Turn Bay Length (ft)					225		160	225		75
Base Capacity (vph)	678	706	536	555	180	1324	760	394	1856	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.37	0.21	0.34	0.05	0.41	0.35	0.29	0.34	0.06

Intersection Summary

## Queues

Background PM Conditions

## 1: California Drive &amp; Burlingame Avenue

07/10/2020



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	225	110	767	710
v/c Ratio	0.35	0.43	0.46	0.68
Control Delay	14.2	28.9	10.1	20.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.2	28.9	10.1	20.5
Queue Length 50th (ft)	48	37	78	108
Queue Length 95th (ft)	100	79	113	160
Internal Link Dist (ft)	231		566	807
Turn Bay Length (ft)		100		
Base Capacity (vph)	648	296	2128	1229
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.37	0.36	0.58

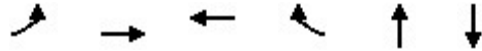
## Intersection Summary



Queues  
2: California Drive & Howard Avenue

Background PM Conditions

07/10/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	121	224	190	67	837	685
v/c Ratio	0.30	0.35	0.36	0.11	0.61	0.42
Control Delay	17.1	10.4	17.3	4.8	8.9	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	10.4	17.3	4.8	8.9	9.0
Queue Length 50th (ft)	31	33	50	0	48	64
Queue Length 95th (ft)	68	79	97	21	78	98
Internal Link Dist (ft)		385	739		585	566
Turn Bay Length (ft)	50					
Base Capacity (vph)	402	649	528	584	1373	1613
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.35	0.36	0.11	0.61	0.42

Intersection Summary

Queues  
3: California Drive & Bayswater Avenue

Background PM Conditions

07/10/2020

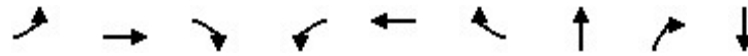


Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	140	78	94	60	786	690
v/c Ratio	0.22	0.12	0.14	0.10	0.52	0.44
Control Delay	14.0	4.2	13.2	4.5	12.4	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	4.2	13.2	4.5	12.4	8.5
Queue Length 50th (ft)	33	0	22	0	95	60
Queue Length 95th (ft)	68	22	48	19	140	83
Internal Link Dist (ft)	1398		604		586	585
Turn Bay Length (ft)		60				
Base Capacity (vph)	633	642	660	631	1518	1552
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.12	0.14	0.10	0.52	0.44
<b>Intersection Summary</b>						

Queues  
4: San Mateo Drive/California Drive & Peninsula Avenue

Background PM Conditions

07/10/2020

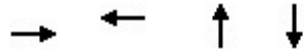


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	21	271	33	110	300	314	501	177	738
v/c Ratio	0.05	0.32	0.04	0.24	0.35	0.37	0.36	0.23	0.73
Control Delay	12.6	15.2	4.7	15.1	15.6	4.6	16.2	3.2	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	15.2	4.7	15.1	15.6	4.6	16.2	3.2	23.9
Queue Length 50th (ft)	6	83	0	32	93	17	85	0	154
Queue Length 95th (ft)	18	136	14	66	151	62	122	34	223
Internal Link Dist (ft)		1254			826		1310		586
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	434	849	740	458	849	859	1411	783	1009
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.32	0.04	0.24	0.35	0.37	0.36	0.23	0.73

Intersection Summary

Queues  
8: Park Road/Park Rd & Howard Avenue

Background PM Conditions  
07/10/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	336	360	169	116
v/c Ratio	0.45	0.48	0.24	0.17
Control Delay	12.7	13.3	7.5	7.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.7	13.3	7.5	7.0
Queue Length 50th (ft)	68	75	19	12
Queue Length 95th (ft)	125	137	51	37
Internal Link Dist (ft)	710	296	1160	536
Turn Bay Length (ft)				
Base Capacity (vph)	754	755	693	678
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.45	0.48	0.24	0.17
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Background PM Conditions

07/10/2020

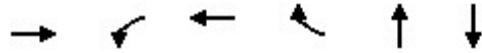


Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	79	71	88	1167	1059
v/c Ratio	0.18	0.18	0.18	0.53	0.60
Control Delay	27.1	27.2	7.1	7.5	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	27.2	7.1	7.5	9.8
Queue Length 50th (ft)	35	31	0	140	152
Queue Length 95th (ft)	71	66	35	163	206
Internal Link Dist (ft)	501	1089		644	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	449	404	478	2192	1770
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.18	0.18	0.53	0.60

Intersection Summary

Queues  
10: El Camino Real & Howard Avenue

Background PM Conditions  
07/10/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	154	119	109	241	1008	1161
v/c Ratio	0.41	0.51	0.27	0.49	0.45	0.81
Control Delay	33.1	39.9	31.5	12.5	7.1	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	39.9	31.5	12.5	7.1	13.9
Queue Length 50th (ft)	73	60	52	26	116	268
Queue Length 95th (ft)	131	116	98	93	153	400
Internal Link Dist (ft)	563		1		669	644
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	373	233	403	487	2249	1430
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.51	0.27	0.49	0.45	0.81
<b>Intersection Summary</b>						

Queues

Background PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	84	124	1000	995	14	56	54
v/c Ratio	0.40	0.53	0.45	0.49	0.10	0.42	0.40
Control Delay	37.3	41.0	10.4	11.0	35.7	45.2	44.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	41.0	10.4	11.0	35.7	45.2	44.4
Queue Length 50th (ft)	39	60	144	148	7	28	27
Queue Length 95th (ft)	82	113	230	239	25	70	68
Internal Link Dist (ft)	667	1398	621	669	752		941
Turn Bay Length (ft)							
Base Capacity (vph)	376	404	2208	2041	175	159	161
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.31	0.45	0.49	0.08	0.35	0.34

Intersection Summary

Queues  
12: California Drive & Oak Grove Avenue

Background PM Conditions  
07/10/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	30	153	183	145	33	610	194	54	609	34
v/c Ratio	0.08	0.40	0.45	0.35	0.18	0.54	0.32	0.30	0.49	0.06
Control Delay	27.0	30.2	29.6	25.1	38.2	22.6	8.2	40.1	21.0	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	30.2	29.6	25.1	38.2	22.6	8.2	40.1	21.0	0.9
Queue Length 50th (ft)	10	55	67	45	13	111	14	22	111	0
Queue Length 95th (ft)	37	133	153	113	49	203	67	69	203	4
Internal Link Dist (ft)		164		201		420			323	
Turn Bay Length (ft)					225		160	75		225
Base Capacity (vph)	1220	1263	1220	1223	180	2401	1121	180	2401	1098
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.12	0.15	0.12	0.18	0.25	0.17	0.30	0.25	0.03

Intersection Summary



## Queues

Background+Project AM Conditions

07/10/2020

## 1: California Drive &amp; Burlingame Avenue



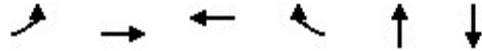
Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	221	58	690	701
v/c Ratio	0.30	0.27	0.47	0.66
Control Delay	13.0	27.5	11.4	19.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.0	27.5	11.4	19.3
Queue Length 50th (ft)	47	19	73	107
Queue Length 95th (ft)	98	50	107	157
Internal Link Dist (ft)	210		573	1087
Turn Bay Length (ft)		100		
Base Capacity (vph)	725	228	2146	1367
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.25	0.32	0.51

## Intersection Summary

Queues  
2: California Drive & Howard Avenue

Background+Project AM Conditions

07/10/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	91	193	177	84	727	685
v/c Ratio	0.19	0.27	0.27	0.13	0.55	0.47
Control Delay	13.4	9.1	13.8	3.9	8.5	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	9.1	13.8	3.9	8.5	11.9
Queue Length 50th (ft)	21	28	42	0	45	79
Queue Length 95th (ft)	48	65	81	22	64	119
Internal Link Dist (ft)		432	739		597	573
Turn Bay Length (ft)	50					
Base Capacity (vph)	471	726	659	671	1317	1459
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.27	0.27	0.13	0.55	0.47
<b>Intersection Summary</b>						

Queues  
3: California Drive & Bayswater Avenue

Background+Project AM Conditions

07/10/2020



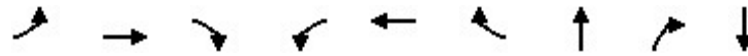
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	153	52	125	60	676	668
v/c Ratio	0.24	0.08	0.19	0.09	0.47	0.45
Control Delay	13.6	4.4	13.0	4.2	12.4	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	4.4	13.0	4.2	12.4	8.8
Queue Length 50th (ft)	36	0	29	0	82	50
Queue Length 95th (ft)	72	17	59	19	122	78
Internal Link Dist (ft)	1376		604		579	597
Turn Bay Length (ft)		60				
Base Capacity (vph)	627	651	647	656	1446	1501
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.08	0.19	0.09	0.47	0.45
<b>Intersection Summary</b>						

## Queues

Background+Project AM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

07/10/2020

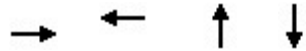


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	32	263	21	69	261	257	427	179	687
v/c Ratio	0.09	0.38	0.04	0.20	0.38	0.34	0.25	0.20	0.50
Control Delay	17.5	20.6	7.4	19.1	20.6	3.9	11.2	2.3	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	20.6	7.4	19.1	20.6	3.9	11.2	2.3	13.9
Queue Length 50th (ft)	10	95	0	23	94	0	58	0	108
Queue Length 95th (ft)	29	157	14	53	155	45	85	28	154
Internal Link Dist (ft)		1254			826		1310		579
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	354	686	596	352	686	745	1687	907	1363
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.38	0.04	0.20	0.38	0.34	0.25	0.20	0.50

## Intersection Summary

Queues  
8: Park Road/Park Rd & Howard Avenue

Background+Project AM Conditions  
07/10/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	334	244	159	52
v/c Ratio	0.42	0.31	0.23	0.08
Control Delay	12.9	11.7	8.9	8.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.9	11.7	8.9	8.1
Queue Length 50th (ft)	74	51	24	7
Queue Length 95th (ft)	132	95	56	24
Internal Link Dist (ft)	708	272	1158	546
Turn Bay Length (ft)				
Base Capacity (vph)	796	789	702	691
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.31	0.23	0.08
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Background+Project AM Conditions

07/10/2020



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	85	47	46	902	1078
v/c Ratio	0.18	0.11	0.10	0.40	0.58
Control Delay	27.2	26.3	8.7	6.9	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	26.3	8.7	6.9	9.5
Queue Length 50th (ft)	38	20	0	103	151
Queue Length 95th (ft)	75	48	26	125	204
Internal Link Dist (ft)	501	1128		685	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	462	426	447	2243	1863
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.11	0.10	0.40	0.58

Intersection Summary

Queues  
10: El Camino Real & Howard Avenue

Background+Project AM Conditions

07/10/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	166	55	68	133	901	1046
v/c Ratio	0.37	0.21	0.15	0.27	0.42	0.69
Control Delay	28.5	29.2	27.4	6.6	8.1	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	29.2	27.4	6.6	8.1	10.0
Queue Length 50th (ft)	72	25	30	0	113	219
Queue Length 95th (ft)	129	57	64	43	149	307
Internal Link Dist (ft)	563		1		673	685
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	448	266	465	495	2162	1511
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.21	0.15	0.27	0.42	0.69
<b>Intersection Summary</b>						

Queues

Background+Project AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	113	121	923	973	35	30	28
v/c Ratio	0.53	0.57	0.41	0.47	0.28	0.24	0.24
Control Delay	44.4	46.4	8.7	9.4	44.6	43.7	44.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	46.4	8.7	9.4	44.6	43.7	44.2
Queue Length 50th (ft)	60	64	125	139	19	16	15
Queue Length 95th (ft)	114	122	210	234	51	47	45
Internal Link Dist (ft)	667	1376	617	673	752		384
Turn Bay Length (ft)							
Base Capacity (vph)	388	383	2242	2086	163	161	150
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.32	0.41	0.47	0.21	0.19	0.19

Intersection Summary



Queues  
12: California Drive & Oak Grove Avenue

Background+Project AM Conditions  
07/10/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	258	114	186	9	548	268	114	652	51
v/c Ratio	0.05	0.58	0.34	0.51	0.05	0.56	0.43	0.39	0.45	0.07
Control Delay	25.7	32.2	33.0	29.0	39.6	27.7	6.2	36.8	17.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	32.2	33.0	29.0	39.6	27.7	6.2	36.8	17.8	0.2
Queue Length 50th (ft)	8	104	47	59	4	115	0	48	98	0
Queue Length 95th (ft)	28	209	109	141	20	208	60	117	222	0
Internal Link Dist (ft)		526		335		565			517	
Turn Bay Length (ft)					225		160	225		75
Base Capacity (vph)	677	704	535	554	180	1321	758	393	1853	886
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.37	0.21	0.34	0.05	0.41	0.35	0.29	0.35	0.06
Intersection Summary										

## Queues

Background+Project PM Conditions

07/10/2020

## 1: California Drive &amp; Burlingame Avenue



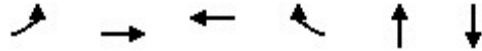
Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	235	110	767	712
v/c Ratio	0.36	0.43	0.46	0.69
Control Delay	14.7	28.9	10.1	20.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.7	28.9	10.1	20.5
Queue Length 50th (ft)	52	37	78	108
Queue Length 95th (ft)	106	79	113	161
Internal Link Dist (ft)	231		566	807
Turn Bay Length (ft)		100		
Base Capacity (vph)	646	296	2127	1228
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.37	0.36	0.58

## Intersection Summary

Queues  
2: California Drive & Howard Avenue

Background+Project PM Conditions

07/10/2020



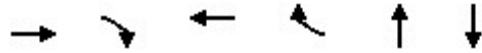
Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	121	248	192	67	842	685
v/c Ratio	0.30	0.38	0.37	0.11	0.62	0.42
Control Delay	17.1	10.8	17.4	4.8	9.2	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	10.8	17.4	4.8	9.2	9.0
Queue Length 50th (ft)	31	38	51	0	49	64
Queue Length 95th (ft)	68	87	99	21	82	98
Internal Link Dist (ft)		385	739		585	566
Turn Bay Length (ft)	50					
Base Capacity (vph)	401	652	523	584	1355	1613
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.38	0.37	0.11	0.62	0.42

Intersection Summary

Queues  
3: California Drive & Bayswater Avenue

Background+Project PM Conditions

07/10/2020



Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	140	78	94	60	791	707
v/c Ratio	0.22	0.12	0.14	0.10	0.52	0.46
Control Delay	14.0	4.2	13.2	4.5	12.4	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	4.2	13.2	4.5	12.4	8.6
Queue Length 50th (ft)	33	0	22	0	96	63
Queue Length 95th (ft)	68	22	48	19	141	87
Internal Link Dist (ft)	1398		604		586	585
Turn Bay Length (ft)		60				
Base Capacity (vph)	633	642	660	631	1518	1552
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.12	0.14	0.10	0.52	0.46

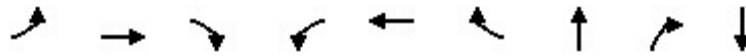
Intersection Summary

## Queues

Background+Project PM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

07/10/2020



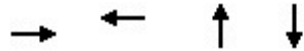
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	21	278	43	110	302	316	507	177	755
v/c Ratio	0.05	0.33	0.06	0.24	0.36	0.37	0.36	0.23	0.75
Control Delay	12.6	15.3	4.4	15.1	15.6	4.8	16.3	3.2	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	15.3	4.4	15.1	15.6	4.8	16.3	3.2	24.7
Queue Length 50th (ft)	6	85	0	32	94	18	86	0	159
Queue Length 95th (ft)	18	140	17	66	153	63	124	34	231
Internal Link Dist (ft)		1254			826		1310		586
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	432	849	745	453	849	858	1399	783	1003
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.33	0.06	0.24	0.36	0.37	0.36	0.23	0.75

## Intersection Summary

Queues  
8: Park Road/Park Rd & Howard Avenue

Background+Project PM Conditions

07/10/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	345	377	169	116
v/c Ratio	0.46	0.50	0.24	0.17
Control Delay	12.9	13.7	7.5	7.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.9	13.7	7.5	7.0
Queue Length 50th (ft)	70	80	19	12
Queue Length 95th (ft)	129	145	51	37
Internal Link Dist (ft)	710	296	1160	536
Turn Bay Length (ft)				
Base Capacity (vph)	754	756	693	678
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.46	0.50	0.24	0.17
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Background+Project PM Conditions

07/10/2020



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	79	85	109	1167	1065
v/c Ratio	0.18	0.22	0.22	0.53	0.62
Control Delay	27.1	27.9	6.7	7.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	27.9	6.7	7.5	10.2
Queue Length 50th (ft)	35	38	0	138	156
Queue Length 95th (ft)	71	77	39	162	214
Internal Link Dist (ft)	501	1089		644	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	447	390	493	2192	1730
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.22	0.22	0.53	0.62

Intersection Summary

Queues  
10: El Camino Real & Howard Avenue

Background+Project PM Conditions

07/10/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	156	129	109	248	1011	1165
v/c Ratio	0.42	0.56	0.27	0.51	0.45	0.82
Control Delay	33.2	42.0	31.5	13.2	7.1	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	42.0	31.5	13.2	7.1	13.9
Queue Length 50th (ft)	74	66	52	29	117	267
Queue Length 95th (ft)	132	126	98	99	154	404
Internal Link Dist (ft)	563		1		669	644
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	373	231	403	487	2249	1426
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.56	0.27	0.51	0.45	0.82

Intersection Summary



Queues

Background+Project PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	86	128	1002	1005	14	56	54
v/c Ratio	0.38	0.55	0.48	0.53	0.10	0.43	0.41
Control Delay	36.5	41.5	10.9	11.6	35.9	46.0	45.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	41.5	10.9	11.6	35.9	46.0	45.1
Queue Length 50th (ft)	40	62	146	152	7	28	27
Queue Length 95th (ft)	83	116	232	245	25	70	68
Internal Link Dist (ft)	667	1398	621	669	752		941
Turn Bay Length (ft)							
Base Capacity (vph)	377	392	2066	1906	169	154	155
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.33	0.48	0.53	0.08	0.36	0.35

Intersection Summary

Queues  
12: California Drive & Oak Grove Avenue

Background+Project PM Conditions

07/10/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	30	153	183	145	33	630	194	54	614	34
v/c Ratio	0.08	0.41	0.45	0.35	0.18	0.55	0.32	0.30	0.49	0.06
Control Delay	27.3	30.6	30.0	25.4	38.7	22.8	8.6	40.6	20.9	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.3	30.6	30.0	25.4	38.7	22.8	8.6	40.6	20.9	0.7
Queue Length 50th (ft)	11	56	68	46	13	116	15	22	112	0
Queue Length 95th (ft)	38	135	154	115	49	211	69	70	205	4
Internal Link Dist (ft)		164		201		420			323	
Turn Bay Length (ft)					225		160	75		225
Base Capacity (vph)	1211	1254	1211	1214	179	2384	1113	179	2384	1090
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.12	0.15	0.12	0.18	0.26	0.17	0.30	0.26	0.03

Intersection Summary

Queues

Cumulative AM Conditions

1: California Drive & Burlingame Avenue

07/10/2020

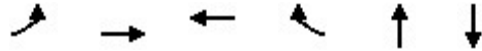


Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	241	64	760	761
v/c Ratio	0.34	0.30	0.50	0.68
Control Delay	13.6	28.4	11.6	19.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.6	28.4	11.6	19.7
Queue Length 50th (ft)	55	22	83	120
Queue Length 95th (ft)	108	54	120	174
Internal Link Dist (ft)	210		573	1087
Turn Bay Length (ft)		100		
Base Capacity (vph)	709	223	2097	1335
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.29	0.36	0.57

Intersection Summary

Queues  
2: California Drive & Howard Avenue

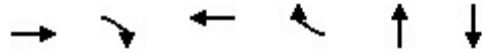
Cumulative AM Conditions  
07/10/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	99	209	187	92	782	754
v/c Ratio	0.21	0.29	0.29	0.14	0.58	0.52
Control Delay	13.7	9.6	14.0	3.8	8.9	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	9.6	14.0	3.8	8.9	12.5
Queue Length 50th (ft)	23	32	45	0	49	90
Queue Length 95th (ft)	52	72	86	23	75	135
Internal Link Dist (ft)		432	739		597	573
Turn Bay Length (ft)	50					
Base Capacity (vph)	466	726	652	675	1346	1449
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.29	0.29	0.14	0.58	0.52
<b>Intersection Summary</b>						

Queues  
3: California Drive & Bayswater Avenue

Cumulative AM Conditions  
07/10/2020



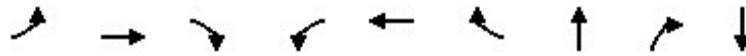
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	168	57	136	66	726	732
v/c Ratio	0.27	0.09	0.21	0.10	0.51	0.49
Control Delay	13.9	4.3	13.2	4.1	12.9	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	4.3	13.2	4.1	12.9	9.5
Queue Length 50th (ft)	40	0	32	0	90	55
Queue Length 95th (ft)	78	18	65	20	134	95
Internal Link Dist (ft)	1376		604		579	597
Turn Bay Length (ft)		60				
Base Capacity (vph)	621	654	641	660	1430	1496
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.09	0.21	0.10	0.51	0.49
Intersection Summary						

## Queues

Cumulative AM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

07/10/2020

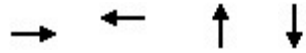


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	35	289	21	76	281	276	449	197	752
v/c Ratio	0.10	0.42	0.04	0.23	0.41	0.36	0.26	0.22	0.56
Control Delay	17.7	21.2	7.4	19.8	21.0	3.9	11.2	2.3	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	21.2	7.4	19.8	21.0	3.9	11.2	2.3	15.0
Queue Length 50th (ft)	11	106	0	26	102	0	61	0	124
Queue Length 95th (ft)	31	172	14	58	167	46	90	29	177
Internal Link Dist (ft)		1254			826		1310		579
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	337	686	596	330	686	757	1722	915	1331
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.42	0.04	0.23	0.41	0.36	0.26	0.22	0.56

## Intersection Summary

Queues  
8: Park Road/Park Rd & Howard Avenue

Cumulative AM Conditions  
07/10/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	334	266	175	58
v/c Ratio	0.42	0.34	0.25	0.08
Control Delay	12.9	12.0	9.3	8.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.9	12.0	9.3	8.1
Queue Length 50th (ft)	74	57	27	8
Queue Length 95th (ft)	131	104	63	26
Internal Link Dist (ft)	708	272	1158	546
Turn Bay Length (ft)				
Base Capacity (vph)	793	788	699	692
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.34	0.25	0.08
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Cumulative AM Conditions  
07/10/2020

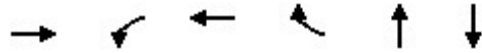


Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	93	49	47	995	1167
v/c Ratio	0.20	0.11	0.10	0.44	0.61
Control Delay	27.4	26.3	8.7	7.2	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	26.3	8.7	7.2	9.9
Queue Length 50th (ft)	41	21	0	119	170
Queue Length 95th (ft)	81	50	26	142	227
Internal Link Dist (ft)	501	1128		685	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	462	427	448	2239	1906
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.11	0.10	0.44	0.61
<b>Intersection Summary</b>					



Queues  
10: El Camino Real & Howard Avenue

Cumulative AM Conditions  
07/10/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	175	60	75	145	983	1139
v/c Ratio	0.39	0.23	0.16	0.29	0.45	0.77
Control Delay	28.8	29.8	27.6	6.5	8.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	29.8	27.6	6.5	8.5	12.4
Queue Length 50th (ft)	76	27	33	0	127	263
Queue Length 95th (ft)	136	62	69	45	168	377
Internal Link Dist (ft)	563		1		673	685
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	447	259	465	504	2161	1475
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.23	0.16	0.29	0.45	0.77
<b>Intersection Summary</b>						

Queues

Cumulative AM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	117	131	1011	1072	39	33	31
v/c Ratio	0.52	0.58	0.46	0.53	0.31	0.22	0.26
Control Delay	43.4	46.4	9.6	10.6	45.8	42.7	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	46.4	9.6	10.6	45.8	42.7	45.0
Queue Length 50th (ft)	62	70	148	168	21	18	17
Queue Length 95th (ft)	117	130	243	280	56	51	49
Internal Link Dist (ft)	667	1376	617	673	752		384
Turn Bay Length (ft)							
Base Capacity (vph)	383	379	2219	2032	161	192	150
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.35	0.46	0.53	0.24	0.17	0.21

Intersection Summary

Queues  
12: California Drive & Oak Grove Avenue

Cumulative AM Conditions  
07/10/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	23	285	125	206	10	599	296	126	698	56
v/c Ratio	0.05	0.62	0.37	0.56	0.06	0.60	0.45	0.44	0.48	0.08
Control Delay	26.2	34.3	34.5	31.3	40.9	29.4	6.1	39.5	18.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	34.3	34.5	31.3	40.9	29.4	6.1	39.5	18.9	0.2
Queue Length 50th (ft)	9	129	57	75	5	138	0	60	117	0
Queue Length 95th (ft)	30	231	117	157	22	230	62	128	240	0
Internal Link Dist (ft)		526		335		565			517	
Turn Bay Length (ft)					225		160	225		75
Base Capacity (vph)	626	652	495	515	166	1222	740	363	1755	846
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.44	0.25	0.40	0.06	0.49	0.40	0.35	0.40	0.07

Intersection Summary

## Queues

Cumulative PM Conditions

## 1: California Drive &amp; Burlingame Avenue

07/10/2020



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	249	120	844	782
v/c Ratio	0.39	0.47	0.50	0.72
Control Delay	15.1	30.1	10.4	21.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.1	30.1	10.4	21.5
Queue Length 50th (ft)	56	40	89	123
Queue Length 95th (ft)	112	84	127	180
Internal Link Dist (ft)	231		566	807
Turn Bay Length (ft)		100		
Base Capacity (vph)	635	290	2081	1203
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.41	0.41	0.65
Intersection Summary				

Queues  
2: California Drive & Howard Avenue

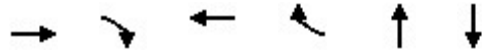
Cumulative PM Conditions  
07/10/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	133	247	210	74	923	753
v/c Ratio	0.35	0.38	0.40	0.13	0.71	0.47
Control Delay	18.0	11.2	18.0	4.7	11.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	11.2	18.0	4.7	11.7	9.5
Queue Length 50th (ft)	35	39	57	0	54	73
Queue Length 95th (ft)	76	89	108	23	108	112
Internal Link Dist (ft)		385	739		585	566
Turn Bay Length (ft)	50					
Base Capacity (vph)	385	649	520	589	1303	1603
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.38	0.40	0.13	0.71	0.47
<b>Intersection Summary</b>						

Queues  
3: California Drive & Bayswater Avenue

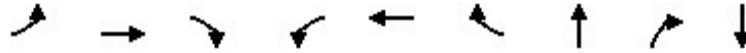
Cumulative PM Conditions  
07/10/2020



Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	153	86	103	66	866	760
v/c Ratio	0.24	0.13	0.16	0.10	0.57	0.49
Control Delay	14.2	4.1	13.3	4.4	13.1	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	4.1	13.3	4.4	13.1	8.7
Queue Length 50th (ft)	37	0	24	0	110	66
Queue Length 95th (ft)	74	23	52	20	159	91
Internal Link Dist (ft)	1398		604		586	585
Turn Bay Length (ft)		60				
Base Capacity (vph)	629	647	657	634	1507	1547
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.13	0.16	0.10	0.57	0.49
Intersection Summary						

Queues  
4: San Mateo Drive/California Drive & Peninsula Avenue

Cumulative PM Conditions  
07/10/2020



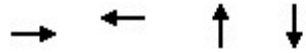
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	23	299	36	122	331	347	551	196	813
v/c Ratio	0.06	0.35	0.05	0.28	0.39	0.41	0.39	0.25	0.83
Control Delay	12.7	15.6	4.6	15.8	16.1	7.0	16.6	3.1	29.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.7	15.6	4.6	15.8	16.1	7.0	16.6	3.1	29.3
Queue Length 50th (ft)	6	93	0	36	105	37	95	0	181
Queue Length 95th (ft)	19	151	15	75	168	94	135	35	#291
Internal Link Dist (ft)		1254			826		1310		586
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	406	849	741	435	849	840	1402	794	977
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.35	0.05	0.28	0.39	0.41	0.39	0.25	0.83

Intersection Summary

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

Queues  
8: Park Road/Park Rd & Howard Avenue

Cumulative PM Conditions  
07/10/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	370	396	187	128
v/c Ratio	0.49	0.53	0.27	0.19
Control Delay	13.5	14.2	7.6	7.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.5	14.2	7.6	7.0
Queue Length 50th (ft)	77	86	21	13
Queue Length 95th (ft)	141	155	55	40
Internal Link Dist (ft)	710	296	1160	536
Turn Bay Length (ft)				
Base Capacity (vph)	750	752	693	678
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.53	0.27	0.19
<b>Intersection Summary</b>				



Queues  
9: El Camino Real & Burlingame Avenue

Cumulative PM Conditions  
07/10/2020



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	87	78	96	1287	1167
v/c Ratio	0.19	0.20	0.20	0.59	0.70
Control Delay	27.4	27.5	6.9	7.7	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	27.5	6.9	7.7	12.0
Queue Length 50th (ft)	39	35	0	152	189
Queue Length 95th (ft)	77	71	36	180	263
Internal Link Dist (ft)	501	1089		644	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	447	400	484	2178	1666
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.20	0.20	0.59	0.70
<b>Intersection Summary</b>					

Queues  
10: El Camino Real & Howard Avenue

Cumulative PM Conditions  
07/10/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	170	131	120	266	1111	1280
v/c Ratio	0.46	0.59	0.30	0.58	0.50	0.93
Control Delay	34.2	44.2	31.9	19.0	7.6	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	44.2	31.9	19.0	7.6	22.6
Queue Length 50th (ft)	81	67	57	55	135	355
Queue Length 95th (ft)	144	#132	107	134	177	#514
Internal Link Dist (ft)	563		1		669	644
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	371	221	403	462	2239	1375
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.59	0.30	0.58	0.50	0.93

Intersection Summary

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

## Queues

Cumulative PM Conditions

11: Carol Avenue/Primrose Road &amp; El Camino Real &amp; Cypress Avenue/Bayswater Avenue 07/10/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	93	135	1102	1097	15	61	60
v/c Ratio	0.41	0.56	0.54	0.59	0.11	0.47	0.46
Control Delay	37.0	41.9	11.9	12.8	36.3	47.7	47.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	41.9	11.9	12.8	36.3	47.7	47.3
Queue Length 50th (ft)	44	65	173	180	7	31	30
Queue Length 95th (ft)	89	120	270	286	26	75	74
Internal Link Dist (ft)	667	1398	621	669	752		941
Turn Bay Length (ft)							
Base Capacity (vph)	371	388	2053	1869	166	153	153
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.35	0.54	0.59	0.09	0.40	0.39
Intersection Summary							

Queues  
12: California Drive & Oak Grove Avenue

Cumulative PM Conditions  
07/10/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	169	202	160	36	672	214	60	671	37
v/c Ratio	0.09	0.46	0.51	0.39	0.23	0.59	0.35	0.38	0.49	0.06
Control Delay	29.4	33.4	32.8	27.2	43.1	24.7	9.4	46.8	21.7	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	33.4	32.8	27.2	43.1	24.7	9.4	46.8	21.7	1.1
Queue Length 50th (ft)	13	68	82	56	16	134	21	27	133	0
Queue Length 95th (ft)	43	157	181	134	56	240	83	#89	239	5
Internal Link Dist (ft)		164		201		420			323	
Turn Bay Length (ft)					225		160	75		225
Base Capacity (vph)	1083	1122	1083	1088	156	2119	1007	156	2119	977
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.15	0.19	0.15	0.23	0.32	0.21	0.38	0.32	0.04

Intersection Summary

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

## Queues

Cumulative + Project AM Conditions

## 1: California Drive &amp; Burlingame Avenue

07/10/2020

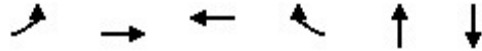


Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	243	64	760	770
v/c Ratio	0.34	0.30	0.50	0.69
Control Delay	13.7	28.4	11.6	19.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.7	28.4	11.6	19.8
Queue Length 50th (ft)	56	22	83	122
Queue Length 95th (ft)	109	54	120	176
Internal Link Dist (ft)	210		573	1087
Turn Bay Length (ft)		100		
Base Capacity (vph)	708	223	2093	1333
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.29	0.36	0.58
Intersection Summary				

Queues  
2: California Drive & Howard Avenue

Cumulative + Project AM Conditions

07/10/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	99	213	194	92	799	754
v/c Ratio	0.21	0.29	0.30	0.14	0.62	0.52
Control Delay	13.7	9.6	14.1	3.8	9.6	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	9.6	14.1	3.8	9.6	12.6
Queue Length 50th (ft)	23	33	46	0	50	90
Queue Length 95th (ft)	52	74	89	23	79	135
Internal Link Dist (ft)		432	739		597	573
Turn Bay Length (ft)	50					
Base Capacity (vph)	464	726	654	675	1288	1446
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.29	0.30	0.14	0.62	0.52
<b>Intersection Summary</b>						

Queues  
3: California Drive & Bayswater Avenue

Cumulative + Project AM Conditions

07/10/2020



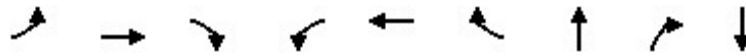
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	168	57	136	66	743	735
v/c Ratio	0.27	0.09	0.21	0.10	0.52	0.49
Control Delay	13.9	4.3	13.2	4.1	13.0	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	4.3	13.2	4.1	13.0	9.6
Queue Length 50th (ft)	40	0	32	0	93	56
Queue Length 95th (ft)	78	18	65	20	137	96
Internal Link Dist (ft)	1376		604		579	597
Turn Bay Length (ft)		60				
Base Capacity (vph)	621	654	641	660	1432	1495
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.09	0.21	0.10	0.52	0.49
<b>Intersection Summary</b>						

## Queues

Cumulative + Project AM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

07/10/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	35	290	23	76	287	283	468	197	755
v/c Ratio	0.11	0.42	0.04	0.23	0.42	0.37	0.28	0.22	0.57
Control Delay	17.8	21.3	7.2	19.8	21.2	3.9	11.4	2.3	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	21.3	7.2	19.8	21.2	3.9	11.4	2.3	15.1
Queue Length 50th (ft)	11	106	0	26	105	0	64	0	125
Queue Length 95th (ft)	31	173	14	58	171	47	94	29	178
Internal Link Dist (ft)		1254			826		1310		579
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	331	686	598	329	686	762	1681	915	1316
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.42	0.04	0.23	0.42	0.37	0.28	0.22	0.57

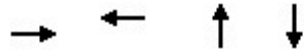
## Intersection Summary



Queues  
8: Park Road/Park Rd & Howard Avenue

Cumulative + Project AM Conditions

07/10/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	364	268	175	58
v/c Ratio	0.46	0.34	0.25	0.08
Control Delay	13.5	12.1	9.3	8.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.5	12.1	9.3	8.1
Queue Length 50th (ft)	83	58	27	8
Queue Length 95th (ft)	145	105	63	26
Internal Link Dist (ft)	708	272	1158	546
Turn Bay Length (ft)				
Base Capacity (vph)	795	786	699	692
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.46	0.34	0.25	0.08
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Cumulative + Project AM Conditions  
07/10/2020



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	93	51	50	995	1187
v/c Ratio	0.20	0.12	0.11	0.44	0.66
Control Delay	27.4	26.4	8.4	7.2	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	26.4	8.4	7.2	10.9
Queue Length 50th (ft)	41	22	0	119	182
Queue Length 95th (ft)	81	51	27	144	248
Internal Link Dist (ft)	501	1128		685	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	461	424	450	2236	1804
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.12	0.11	0.44	0.66
<b>Intersection Summary</b>					

Queues  
10: El Camino Real & Howard Avenue

Cumulative + Project AM Conditions

07/10/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	182	61	75	146	993	1152
v/c Ratio	0.41	0.24	0.16	0.29	0.46	0.81
Control Delay	29.4	30.1	27.6	6.5	8.6	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	30.1	27.6	6.5	8.6	13.4
Queue Length 50th (ft)	80	28	33	0	129	277
Queue Length 95th (ft)	141	63	69	45	170	401
Internal Link Dist (ft)	563		1		673	685
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	447	253	465	505	2157	1429
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.24	0.16	0.29	0.46	0.81

Intersection Summary

## Queues

Cumulative + Project AM Conditions

11: Carol Avenue/Primrose Road &amp; El Camino Real &amp; Cypress Avenue/Bayswater Avenue 07/10/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	124	132	1018	1073	39	33	31
v/c Ratio	0.56	0.59	0.46	0.53	0.31	0.22	0.26
Control Delay	45.1	46.8	9.6	10.6	45.8	42.7	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	46.8	9.6	10.6	45.8	42.7	45.0
Queue Length 50th (ft)	66	71	150	169	21	18	17
Queue Length 95th (ft)	124	131	245	280	56	51	49
Internal Link Dist (ft)	667	1376	617	673	752		384
Turn Bay Length (ft)							
Base Capacity (vph)	377	376	2219	2030	161	191	150
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.35	0.46	0.53	0.24	0.17	0.21
Intersection Summary							

Queues  
12: California Drive & Oak Grove Avenue

Cumulative + Project AM Conditions

07/10/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	23	285	125	206	10	603	296	126	717	56
v/c Ratio	0.05	0.62	0.37	0.56	0.06	0.61	0.45	0.44	0.49	0.08
Control Delay	26.2	34.3	34.5	31.3	40.9	29.4	6.1	39.5	19.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	34.3	34.5	31.3	40.9	29.4	6.1	39.5	19.1	0.2
Queue Length 50th (ft)	9	130	57	75	5	140	0	60	121	0
Queue Length 95th (ft)	30	231	117	157	22	232	62	128	247	0
Internal Link Dist (ft)		526		335		565			517	
Turn Bay Length (ft)					225		160	225		75
Base Capacity (vph)	626	652	494	515	166	1221	740	363	1756	846
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.44	0.25	0.40	0.06	0.49	0.40	0.35	0.41	0.07

Intersection Summary

## Queues

## Cumulative + Project PM Conditions

## 1: California Drive &amp; Burlingame Avenue

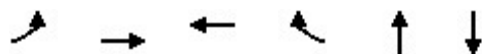
07/10/2020



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	259	120	844	784
v/c Ratio	0.41	0.47	0.50	0.73
Control Delay	15.6	30.1	10.4	21.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.6	30.1	10.4	21.5
Queue Length 50th (ft)	60	40	89	124
Queue Length 95th (ft)	118	84	127	181
Internal Link Dist (ft)	231		566	807
Turn Bay Length (ft)		100		
Base Capacity (vph)	633	290	2081	1202
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.41	0.41	0.65
Intersection Summary				

Queues  
2: California Drive & Howard Avenue

Cumulative + Project PM Conditions  
07/10/2020



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	133	271	212	74	928	753
v/c Ratio	0.35	0.42	0.41	0.13	0.72	0.47
Control Delay	18.0	11.6	18.2	4.7	12.2	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	11.6	18.2	4.7	12.2	9.5
Queue Length 50th (ft)	35	44	57	0	54	73
Queue Length 95th (ft)	76	98	109	23	112	113
Internal Link Dist (ft)		385	739		585	566
Turn Bay Length (ft)	50					
Base Capacity (vph)	383	652	516	589	1285	1601
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.42	0.41	0.13	0.72	0.47
<b>Intersection Summary</b>						

Queues  
3: California Drive & Bayswater Avenue

Cumulative + Project PM Conditions

07/10/2020



Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	153	86	103	66	871	777
v/c Ratio	0.24	0.13	0.16	0.10	0.58	0.50
Control Delay	14.2	4.1	13.3	4.4	13.2	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	4.1	13.3	4.4	13.2	8.8
Queue Length 50th (ft)	37	0	24	0	111	70
Queue Length 95th (ft)	74	23	52	20	160	95
Internal Link Dist (ft)	1398		604		586	585
Turn Bay Length (ft)		60				
Base Capacity (vph)	629	647	657	634	1505	1549
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.13	0.16	0.10	0.58	0.50
<b>Intersection Summary</b>						

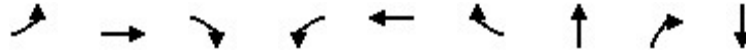


## Queues

## Cumulative + Project PM Conditions

## 4: San Mateo Drive/California Drive &amp; Peninsula Avenue

07/10/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	23	306	46	122	333	349	557	196	830
v/c Ratio	0.06	0.36	0.06	0.28	0.39	0.42	0.40	0.25	0.85
Control Delay	12.7	15.7	4.3	15.9	16.1	7.1	16.7	3.1	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.7	15.7	4.3	15.9	16.1	7.1	16.7	3.1	30.9
Queue Length 50th (ft)	6	95	0	37	106	38	97	0	187
Queue Length 95th (ft)	19	154	17	75	169	96	137	35	#303
Internal Link Dist (ft)		1254			826		1310		586
Turn Bay Length (ft)	125		165	150		195		150	
Base Capacity (vph)	405	849	747	429	849	839	1389	794	972
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.36	0.06	0.28	0.39	0.42	0.40	0.25	0.85

## Intersection Summary

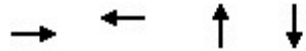
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues  
8: Park Road/Park Rd & Howard Avenue

Cumulative + Project PM Conditions

07/10/2020



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	379	413	187	128
v/c Ratio	0.51	0.55	0.27	0.19
Control Delay	13.7	14.6	7.6	7.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.7	14.6	7.6	7.0
Queue Length 50th (ft)	80	91	21	13
Queue Length 95th (ft)	145	163	55	40
Internal Link Dist (ft)	710	296	1160	536
Turn Bay Length (ft)				
Base Capacity (vph)	750	753	693	678
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.55	0.27	0.19
<b>Intersection Summary</b>				

Queues  
9: El Camino Real & Burlingame Avenue

Cumulative + Project PM Conditions

07/10/2020



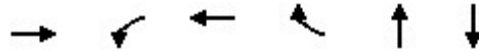
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	87	92	117	1287	1173
v/c Ratio	0.20	0.24	0.24	0.59	0.72
Control Delay	27.4	28.2	9.4	7.6	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	28.2	9.4	7.6	12.6
Queue Length 50th (ft)	39	41	9	151	195
Queue Length 95th (ft)	77	82	50	178	273
Internal Link Dist (ft)	501	1089		644	1862
Turn Bay Length (ft)			100		
Base Capacity (vph)	446	387	485	2178	1630
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.24	0.24	0.59	0.72

Intersection Summary

Queues  
10: El Camino Real & Howard Avenue

Cumulative + Project PM Conditions

07/10/2020



Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	172	141	120	273	1114	1284
v/c Ratio	0.46	0.64	0.30	0.59	0.50	0.94
Control Delay	34.3	47.4	31.9	19.8	7.6	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	47.4	31.9	19.8	7.6	23.0
Queue Length 50th (ft)	82	73	57	58	136	353
Queue Length 95th (ft)	145	#154	107	140	177	#518
Internal Link Dist (ft)	563		1		669	644
Turn Bay Length (ft)		115		170		
Base Capacity (vph)	371	219	403	462	2240	1370
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.64	0.30	0.59	0.50	0.94

Intersection Summary

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

Queues

Cumulative + Project PM Conditions

11: Carol Avenue/Primrose Road & El Camino Real & Cypress Avenue/Bayswater Avenue 07/10/2020



Lane Group	EBT	WBT	NBT	SBT	NET	SWL	SWT
Lane Group Flow (vph)	95	139	1104	1107	15	61	60
v/c Ratio	0.41	0.57	0.54	0.59	0.11	0.47	0.46
Control Delay	37.2	42.0	12.0	13.1	36.5	47.9	47.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	42.0	12.0	13.1	36.5	47.9	47.4
Queue Length 50th (ft)	45	68	174	183	7	31	30
Queue Length 95th (ft)	90	124	273	293	26	75	74
Internal Link Dist (ft)	667	1398	621	669	752		941
Turn Bay Length (ft)							
Base Capacity (vph)	365	389	2049	1864	166	152	153
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.36	0.54	0.59	0.09	0.40	0.39

Intersection Summary

Queues  
12: California Drive & Oak Grove Avenue

Cumulative + Project PM Conditions

07/10/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	169	202	160	36	692	214	60	676	37
v/c Ratio	0.09	0.46	0.51	0.39	0.23	0.60	0.35	0.39	0.49	0.06
Control Delay	29.7	33.8	33.2	27.6	43.6	24.8	9.7	47.5	21.7	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	33.8	33.2	27.6	43.6	24.8	9.7	47.5	21.7	1.1
Queue Length 50th (ft)	13	69	83	56	16	140	23	27	135	0
Queue Length 95th (ft)	43	159	182	135	56	247	85	#90	241	5
Internal Link Dist (ft)		164		201		420			323	
Turn Bay Length (ft)					225		160	75		225
Base Capacity (vph)	1073	1112	1073	1078	155	2099	997	155	2099	969
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.15	0.19	0.15	0.23	0.33	0.21	0.39	0.32	0.04

Intersection Summary

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

**Appendix C**  
**Approved Project List**





# Residential Applications Overview

March 2020



## Approved Projects

The following projects have received approval and are in various stages of construction:

Address	Units	BMR Units	Status				Notes	Information Page
			Planning Approval	Building Permit Submitted	Building Permit Issued	Under Construction		
1008-1028 Carolan Avenue (SummerHill)	290	29					Includes 29 Moderate Income units (120% AMI) for 25 years	<a href="http://www.burlingame.org/summerhill">www.burlingame.org/summerhill</a>
1491-93 Oak Grove Avenue	10							<a href="http://www.burlingame.org/1491-93oakgrove">www.burlingame.org/1491-93oakgrove</a>
1509 El Camino Real	11	1					Includes 1 Moderate Income unit (120% AMI) for 10 years	<a href="http://www.burlingame.org/1509elcaminoreal">www.burlingame.org/1509elcaminoreal</a>
1433 Floribunda Avenue	8							<a href="http://www.burlingame.org/1433floribunda">www.burlingame.org/1433floribunda</a>
1128-32 Douglas Avenue	27	2					Includes 2 Moderate Income units (110% AMI) for 25 years	<a href="http://www.burlingame.org/1128-32douglas">www.burlingame.org/1128-32douglas</a>
920 Bayswater Avenue	128	13					Includes 13 Moderate Income units (120% AMI) for 30 years	<a href="http://www.burlingame.org/920bayswater">www.burlingame.org/920bayswater</a>
The Village at Burlingame (Lot F Affordable Housing)	132	132					82 units up to 50% AMI, 35 units up to 80% AMI, 14 units up to 120% AMI.	<a href="http://www.burlingame.org/villageatburlingame">www.burlingame.org/villageatburlingame</a>
619-625 California Drive Live/Work	26							<a href="http://www.burlingame.org/619-25california">www.burlingame.org/619-25california</a>
1431 El Camino Real	6							<a href="http://www.burlingame.org/1431elcaminoreal">www.burlingame.org/1431elcaminoreal</a>
1457 El Camino Real	9							<a href="http://www.burlingame.org/1457elcaminoreal">www.burlingame.org/1457elcaminoreal</a>
21 Park Road	7							<a href="http://www.burlingame.org/21park">www.burlingame.org/21park</a>
1 Adrian Court	265	38					Includes 38 Low Income units (80% AMI) for 55 years	<a href="http://www.burlingame.org/1adriancourt">www.burlingame.org/1adriancourt</a>
1095 Rollins Road	150	15					Includes 15 Moderate Income units (120% AMI) for 55 years	<a href="http://www.burlingame.org/1095rollins">www.burlingame.org/1095rollins</a>
<b>TOTAL</b>	<b>1069</b>	<b>230</b>						

## Proposed Projects

The following projects have applications that have been submitted for review, but have not yet been acted on by the Planning Commission:

Address	Units	BMR Units	Status					Notes	Information Page
			Plans Under Review	PC Study Session	CEQA	PC Action	City Council		
556 El Camino Real	21			1/25/16 2/24/14		7/24/17 5/29/18		<a href="http://www.burlingame.org/556elcaminoreal">www.burlingame.org/556elcaminoreal</a>	
1214 Donnelly Avenue	14			10/9/18				<a href="http://www.burlingame.org/1214donnelly">www.burlingame.org/1214donnelly</a>	
123-125 Primrose Road	14							<a href="http://www.burlingame.org/123-125primrose">www.burlingame.org/123-125primrose</a>	
128 Lorton Avenue	19	4		10/15/19				<a href="http://www.burlingame.org/128Lorton">www.burlingame.org/128Lorton</a>	
509-511 California Drive	24			6/10/19				<a href="http://www.burlingame.org/509-511california">www.burlingame.org/509-511california</a>	
1766 El Camino Real	60	6		9/23/19 10/28/19				<a href="http://www.burlingame.org/1766elcaminoreal">www.burlingame.org/1766elcaminoreal</a>	
1868 Ogden Drive	120	6		11/12/19			Includes 6 Low Income units (80% AMI) for 55 years	<a href="http://www.burlingame.org/1868Ogden">www.burlingame.org/1868Ogden</a>	
1870 El Camino Real	169	17		3/9/20			Includes 17 Moderate Income units (120% AMI) for 55 years	<a href="http://www.burlingame.org/1870elcaminoreal">www.burlingame.org/1870elcaminoreal</a>	
601 California Drive	26			12/9/19					
30 Ingold Road	298	43					Includes 43 Low Income units (80% AMI) for 55 years. Includes 4,060 SF commercial.		
1412 Bellevue Avenue	15	2					Includes 2 Moderate Income units (120% AMI) for 55 years		
<b>TOTAL</b>	<b>780</b>	<b>78</b>							

### Key to Application Status:

**Plans Under Review** – Application has been submitted and plans are being reviewed by staff. Planning Commission study session will be scheduled once plan check comments have been addressed.

**PC Study Session** – Planning Commission study session to review proposed design and identify environmental issues to be studied. No action (approval) in this meeting.

**CEQA** – Environmental review in compliance with California Environmental Quality Act (CEQA).

**PC Action** – Planning Commission public hearing to consider action (approval) of the application.

**City Council** – City Council hearing if application includes a General Plan/Zoning Amendment, if the Planning Commission decision is appealed, or if the application is called up by a councilmember.

## Preliminary Projects

The following projects have been variously presented to the public in conceptual form, but either have not been formally submitted for review, or in the instance of the Peninsula Wellness Community is a master plan with development projects to be submitted at later dates. Estimated unit counts should be considered very tentative and subject to change if and when a development application is submitted.

Address	Estimated Units	Status	Information Page
Peninsula Wellness Community Master Plan	477	Resubmittal anticipated in early 2020. Proposed to include 184 affordable units.	<a href="http://www.burlingame.org/masterplan">www.burlingame.org/masterplan</a>
<b>TOTAL</b>	<b>477</b>		



# Commercial Applications Overview

March 2020

## Approved Projects

The following projects have received approval and are in various stages of construction:

Address	Square Feet	Status				Information Page
		Planning Approval	Building Permit Submitted	Building Permit Approved	Under Construction	
300 Airport Boulevard (Burlingame Point)	767,000					<a href="http://www.burlingame.org/burlingamepoint">www.burlingame.org/burlingamepoint</a>
250 California Drive	33,845					<a href="http://www.burlingame.org/250california">www.burlingame.org/250california</a>
1499 Bayshore Highway	285,010 404 rooms					<a href="http://www.burlingame.org/1499bayshore">www.burlingame.org/1499bayshore</a>
<b>TOTAL</b>	<b>1,085,855</b>					

## Proposed Projects

The following projects have applications that have been formally submitted for review, but have not yet been acted on by the Planning Commission:

Address	Square Feet	Status					Information Page
		Plans Under Review	PC Study Session	CEQA	PC Action	City Council	
1300 Bayshore Highway	241,737		12/11/17 9/12/16				<a href="http://www.burlingame.org/1300bayshore">www.burlingame.org/1300bayshore</a>
1214 Donnelly Avenue	5,000		10/9/18				<a href="http://www.burlingame.org/1214donnelly">www.burlingame.org/1214donnelly</a>
Top Golf	84,140		5/13/19				<a href="http://www.burlingame.org/topgolf">www.burlingame.org/topgolf</a>
1766 El Camino Real	148,327		9/23/19 10/28/19				<a href="http://www.burlingame.org/1766elcaminoreal">www.burlingame.org/1766elcaminoreal</a>
<b>TOTAL</b>	<b>479,204</b>						

### Key to Application Status:

**Plans Under Review** – Application has been submitted and plans are being reviewed by staff. Planning Commission study session will be scheduled once plan check comments have been addressed.

**PC Study Session** – Planning Commission study session to review proposed design and identify environmental issues to be studied. No action (approval) in this meeting.

**CEQA** – Environmental review in compliance with California Environmental Quality Act (CEQA).

**PC Action** – Planning Commission public hearing to consider action (approval) of the application.

**City Council** – City Council hearing if application includes a General Plan/Zoning Amendment, if the Planning Commission decision is appealed, or if the application is called up by a councilmember.

## Preliminary Projects

The following projects have been variously presented to the public in conceptual form, but either have not been formally submitted for review, or in the instance of the Peninsula Wellness Community is a master plan with development projects to be submitted at later dates. Estimated building area should be considered very tentative and subject to change if and when a development application is submitted.

Address	Estimated Square Feet	Status
220 Park Road (former post office)	140,000 office 15,000 retail	Previous submittal repealed; resubmittal anticipated early 2020.
Peninsula Wellness Community Master Plan	100,000	Resubmittal anticipated early 2020.

## **Appendix D**

### **Signal Warrant Analysis**





Lorton Avenue and Burlingame Avenue

**TRAFFIC SIGNAL WARRANTS WORKSHEET**

Analyst: SS date: 6/29/20

Major Street: Burlingame Avenue  
 Minor Street: Lorton Avenue

Critical Approach Speed\* (mph) 25  
 Critical Approach Speed\* (mph) 25  
 \*Posted Speed.

Critical speed of major street traffic > 50 mph (64 km/h).....  }  
 or } **Rural (R)**  
 In built up area of isolated community of < 10,000 population.....  }  
 **Urban (U)**

**AM PEAK PERIOD**

**Warrant 3 - Peak Hour**

**PART A**

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB	SB	SB		
Highest Minor Street Average Delay (sec/veh)	8.3	8.5	8.6	8.7	8.7	9.0		
Corresponding Minor Street Approach Volume (veh/hr)	137	137	147	147	151	161		
Minor Street Total Delay (veh-hrs)	0.3	0.3	0.4	0.4	0.4	0.4		
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; <u>AND</u>	No	No	No	No	No	No		
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; <u>AND</u>	Yes	Yes	Yes	Yes	Yes	Yes		
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	No	No	No	No		
<b>Signal Warranted based on Part A?</b>	No	No	No	No	No	No		

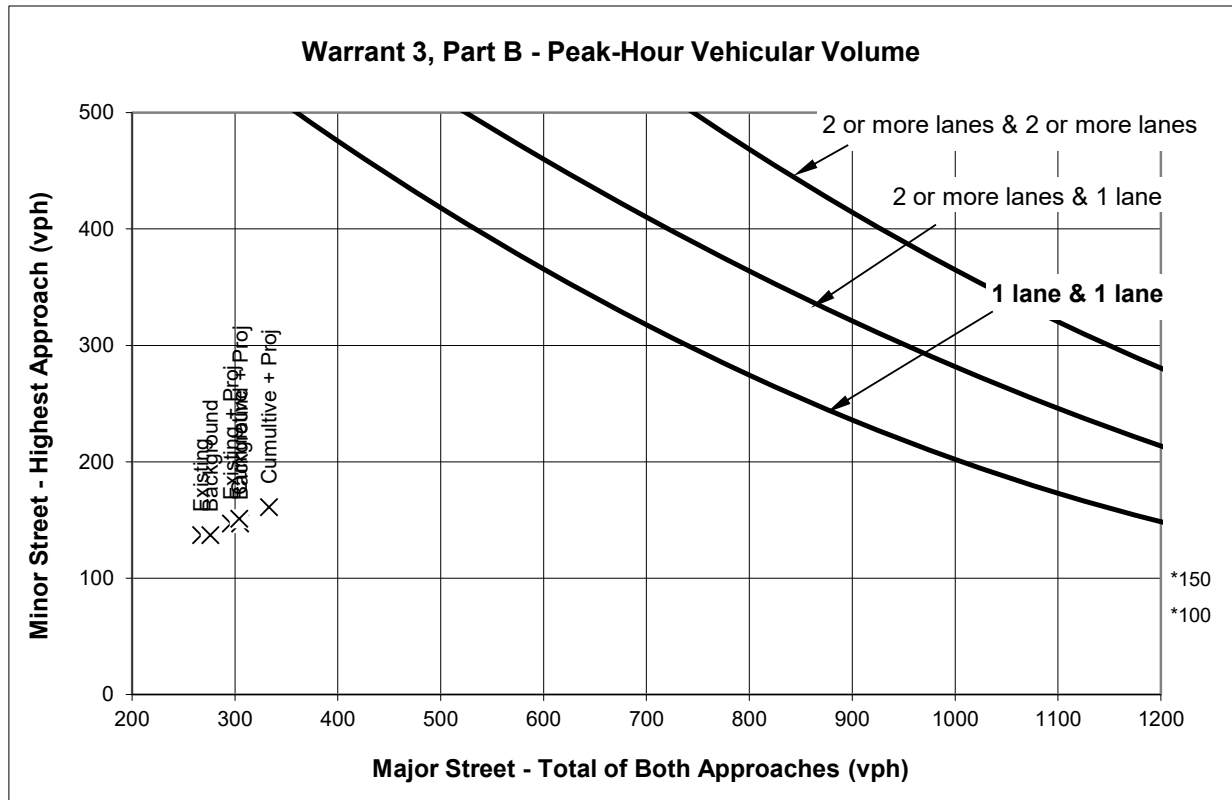
**PART B**

AM PEAK PERIOD

		Approach Lanes		Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
		One	2 or More								
Major Street - Both Approaches	Burlingame Avenue	X		267	276	296	305	304	333		
Minor Street - Highest Approach	Lorton Avenue	X		137	137	147	147	151	161		
<b>Signal Warranted based on Part B?</b>				No	No	No	No	No	No		

The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).  
 Notes:



Source: Figure 4C-3 California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

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

**Warrant 3, Part B - Peak-Hour Vehicular Volume**

		Approach Lanes		AM PEAK PERIOD							
		2 or More	One	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Major Street - Both Approaches	Burlingame Avenue	X		267	276	296	305	304	333		
Minor Street - Highest Approach	Lorton Avenue	X		137	137	147	147	151	161		
<b>Signal Warranted Based on Part B - Peak-Hour Volumes?</b>				<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		

\*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Lorton Avenue and Burlingame Avenue

**TRAFFIC SIGNAL WARRANTS WORKSHEET**

Analyst: SS date: 6/29/20

Major Street: Burlingame Avenue  
 Minor Street: Lorton Avenue

Critical Approach Speed\* (mph) 25  
 Critical Approach Speed\* (mph) 25  
 \*Posted Speed.

Critical speed of major street traffic > 50 mph (64 km/h).....  }  
 In built up area of isolated community of < 10,000 population.....  } **Rural (R)**  
 **Urban (U)**

**PM PEAK HOUR**

**Warrant 3 - Peak Hour**

**PART A**

(All parts 1, 2, and 3 below must be satisfied)

	PM PEAK HOUR						
	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj	
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB	SB	SB	
Highest Minor Street Average Delay (sec/veh)	9.5	9.6	9.8	9.9	10.1	10.6	
Corresponding Minor Street Approach Volume (veh/hr)	196	196	199	199	216	219	
Minor Street Total Delay (veh-hrs)	0.5	0.5	0.5	0.5	0.6	0.6	
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; <u>AND</u>	No	No	No	No	No	No	
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; <u>AND</u>	Yes	Yes	Yes	Yes	Yes	Yes	
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	No	No	No	Yes	
<b>Signal Warranted based on Part A?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	

**PART B**

				PM PEAK HOUR						
		Approach Lanes		Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj	
		One	2 or More							
Major Street - Both Approaches	Burlingame Avenue	X		401	403	409	411	445	453	
Minor Street - Highest Approach	Lorton Avenue	X		196	196	199	199	216	219	
<b>Signal Warranted based on Part B?</b>				<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	

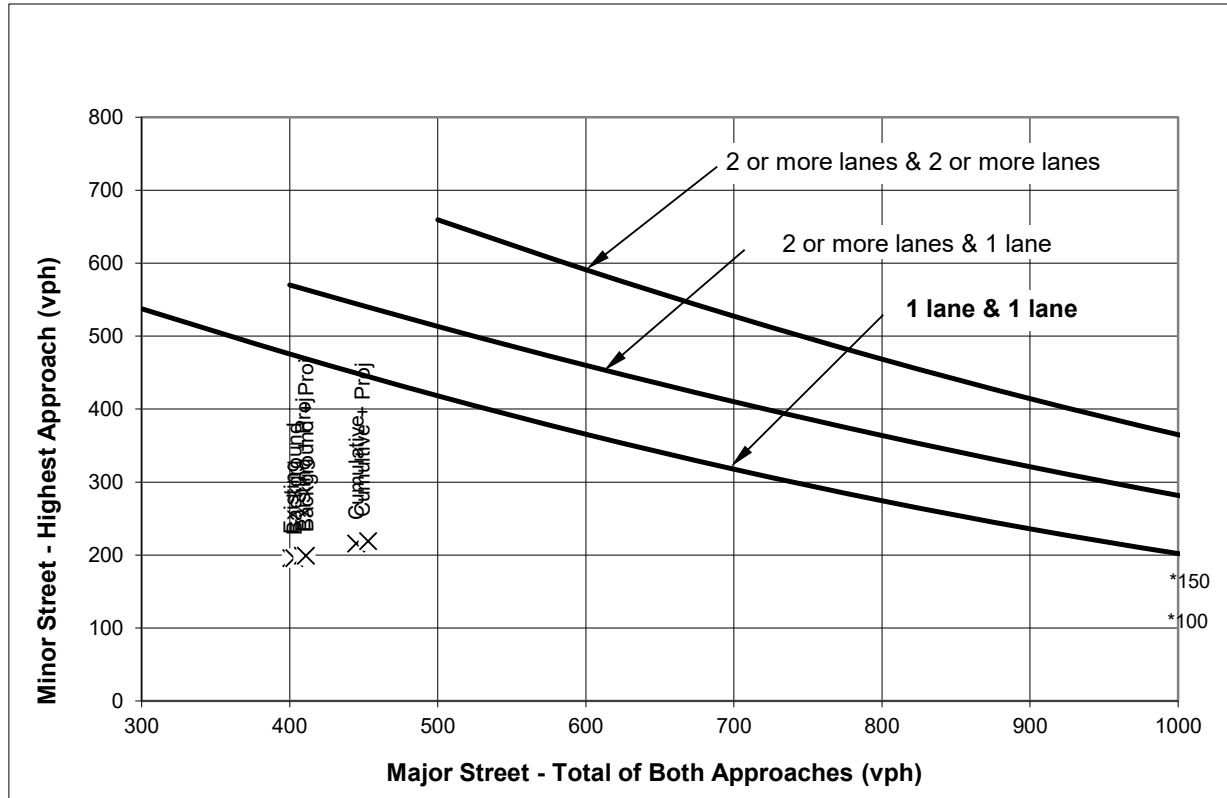
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).  
 Notes:

Lorton Avenue and Burlingame Avenue

**Lorton Avenue and Burlingame Avenue**

**PM PEAK HOUR**



Source: Figure 4C-3 California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

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

**Warrant 3, Part B - Peak-Hour Vehicular Volume**

		Approach Lanes		PM PEAK HOUR							
		2 or	One More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Major Street - Both Approaches	Burlingame Avenue	X		401	403	409	411	445	453		
Minor Street - Highest Approach	Lorton Avenue	X		196	196	199	199	216	219		
<b>Signal Warranted Based on Part B - Peak-Hour Volumes?</b>				<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		

\*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Lorton Avenue and Howard Avenue

**TRAFFIC SIGNAL WARRANTS WORKSHEET**

Analyst: SS date: 6/29/20

Major Street: Howard Avenue  
 Minor Street: Lorton Avenue

Critical Approach Speed\* (mph) 25  
 Critical Approach Speed\* (mph) 25  
 \*Posted Speed.

Critical speed of major street traffic > 50 mph (64 km/h).....  }  
 In built up area of isolated community of < 10,000 population.....  } **Rural (R)**  
 **Urban (U)**

**AM PEAK PERIOD**

**Warrant 3 - Peak Hour**

**PART A**

(All parts 1, 2, and 3 below must be satisfied)

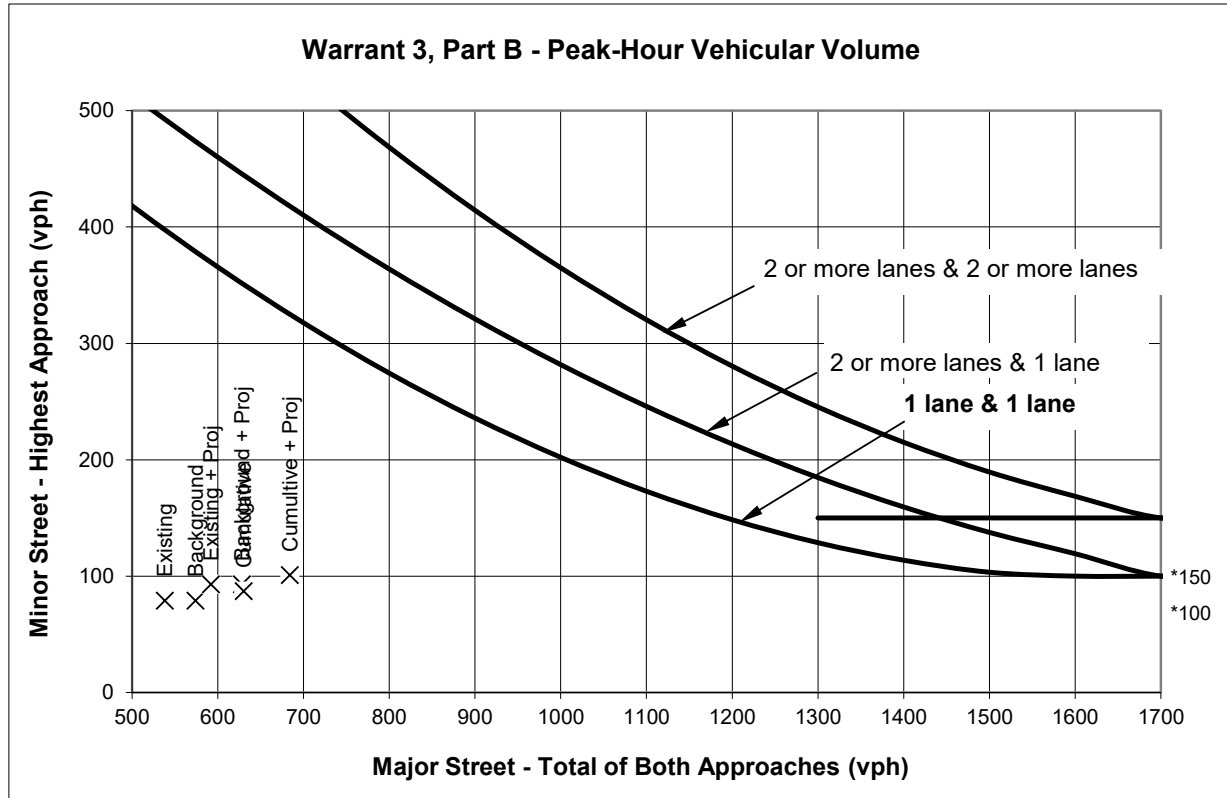
	AM PEAK PERIOD							
	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB	SB	SB		
Highest Minor Street Average Delay (sec/veh)	8.8	8.9	9.3	9.5	9.2	9.8		
Corresponding Minor Street Approach Volume (veh/hr)	79	79	93	93	87	101		
Minor Street Total Delay (veh-hrs)	0.2	0.2	0.2	0.2	0.2	0.3		
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; <u>AND</u>	No	No	No	No	No	No		
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; <u>AND</u>	No	No	No	No	No	Yes		
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	No	Yes	No	Yes		
<b>Signal Warranted based on Part A?</b>	No	No	No	No	No	No		

**PART B**

	Approach Lanes	AM PEAK PERIOD									
		Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj				
										One	2 or More
Major Street - Both Approaches	Howard Avenue	X		538	574	592	628	630	684		
Minor Street - Highest Approach	Lorton Avenue	X		79	79	93	93	87	101		
<b>Signal Warranted based on Part B?</b>		No	No	No	No	No	No	No	No		

The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).  
 Notes:



Source: Figure 4C-3 California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

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

**Warrant 3, Part B - Peak-Hour Vehicular Volume**

		Approach Lanes		AM PEAK PERIOD									
				2 or One More		Existing	Background	Existing + Proj	Background + Proj			Cumulative	Cumulative + Proj
				X									
Major Street - Both Approaches	Howard Avenue	X		538	574	592	628	630	684				
Minor Street - Highest Approach	Lorton Avenue	X		79	79	93	93	87	101				
<b>Signal Warranted Based on Part B - Peak-Hour Volumes?</b>				<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>				

\*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Lorton Avenue and Howard Avenue

**TRAFFIC SIGNAL WARRANTS WORKSHEET**

Analyst: SS date: 6/29/20

Major Street: Howard Avenue  
 Minor Street: Lorton Avenue

Critical Approach Speed\* (mph) 25  
 Critical Approach Speed\* (mph) 25  
 \*Posted Speed.

Critical speed of major street traffic > 50 mph (64 km/h).....  }  
 In built up area of isolated community of < 10,000 population.....  } **Rural (R)**  
 **Urban (U)**

**PM PEAK HOUR**

**Warrant 3 - Peak Hour**

**PART A**

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB	SB	SB		
Highest Minor Street Average Delay (sec/veh)	10.1	10.2	11.9	12.2	10.9	13.2		
Corresponding Minor Street Approach Volume (veh/hr)	128	136	210	218	149	231		
Minor Street Total Delay (veh-hrs)	0.4	0.4	0.7	0.7	0.5	0.8		

1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; <u>AND</u>	No	No	No	No	No	No		
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; <u>AND</u>	Yes	Yes	Yes	Yes	Yes	Yes		
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	Yes	Yes	Yes	Yes		
<b>Signal Warranted based on Part A?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		

**PART B**

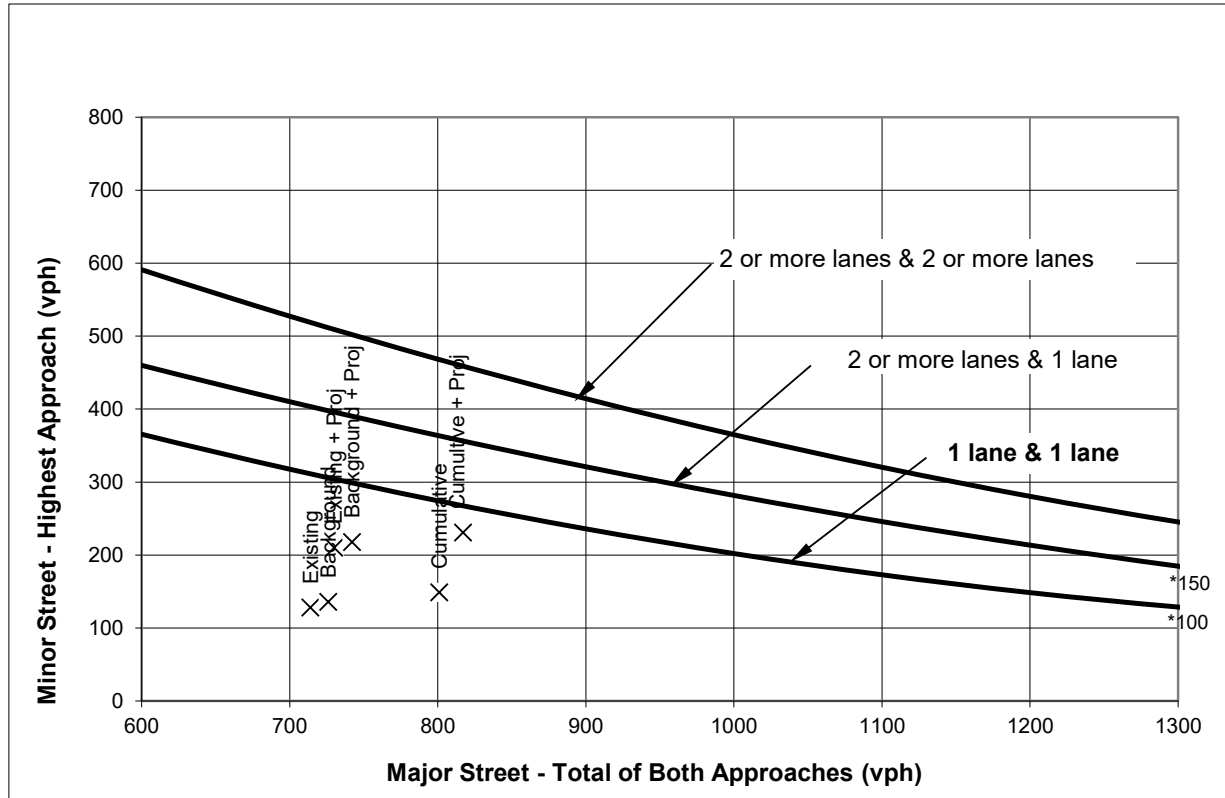
PM PEAK HOUR

	Approach Lanes	Approach Lanes		Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
		One	2 or More								
Major Street - Both Approaches	Howard Avenue	X		714	726	730	742	801	817		
Minor Street - Highest Approach	Lorton Avenue	X		128	136	210	218	149	231		
<b>Signal Warranted based on Part B?</b>		<b>No</b>		<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		

The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:



Source: Figure 4C-3 California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

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

**Warrant 3, Part B - Peak-Hour Vehicular Volume**

		Approach Lanes		PM PEAK HOUR							
		2 or	One More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Major Street - Both Approaches	Howard Avenue	X		714	726	730	742	801	817		
Minor Street - Highest Approach	Lorton Avenue	X		128	136	210	218	149	231		
<b>Signal Warranted Based on Part B - Peak-Hour Volumes?</b>				<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		

\*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.



Park Road and Burlingame Avenue

**TRAFFIC SIGNAL WARRANTS WORKSHEET**

Analyst: SS date: 6/29/20

Major Street: Burlingame Avenue  
 Minor Street: Park Road

Critical Approach Speed\* (mph) 25  
 Critical Approach Speed\* (mph) 25  
 \*Posted Speed.

Critical speed of major street traffic > 50 mph (64 km/h).....  }  
 In built up area of isolated community of < 10,000 population.....  } **Rural (R)**  
 **Urban (U)**

**AM PEAK PERIOD**

**Warrant 3 - Peak Hour**

**PART A**

(All parts 1, 2, and 3 below must be satisfied)

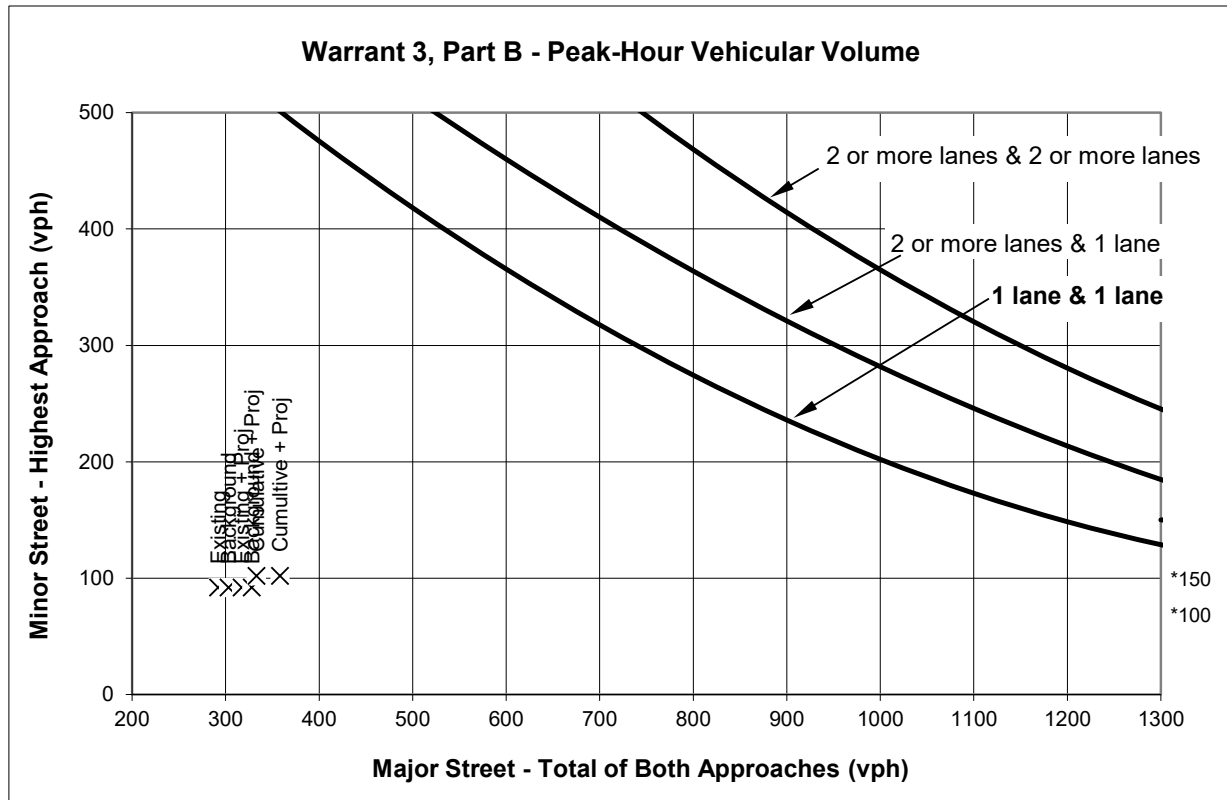
	AM PEAK PERIOD							
	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Minor Street Approach Direction w/ Highest Delay	NB	NB	NB	NB	NB	NB		
Highest Minor Street Average Delay (sec/veh)	7.9	7.9	8.0	8.1	8.1	8.2		
Corresponding Minor Street Approach Volume (veh/hr)	92	92	92	92	102	102		
Minor Street Total Delay (veh-hrs)	0.2	0.2	0.2	0.2	0.2	0.2		
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; <u>AND</u>	No	No	No	No	No	No		
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; <u>AND</u>	No	No	No	No	Yes	Yes		
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	No	No	No	No		
<b>Signal Warranted based on Part A?</b>	No	No	No	No	No	No		

**PART B**

	Approach Lanes	AM PEAK PERIOD									
		Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj				
										One	2 or More
Major Street - Both Approaches	Burlingame Avenue	X		292	303	317	328	333	358		
Minor Street - Highest Approach	Park Road	X		92	92	92	92	102	102		
<b>Signal Warranted based on Part B?</b>		No	No	No	No	No	No	No	No		

The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).  
 Notes:



Source: Figure 4C-3 California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

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

**Warrant 3, Part B - Peak-Hour Vehicular Volume**

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Major Street - Both Approaches	Burlingame Avenue	X		292	303	317	328	333	358		
Minor Street - Highest Approach	Park Road	X		92	92	92	92	102	102		
<b>Signal Warranted Based on Part B - Peak-Hour Volumes?</b>				<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		

\*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Park Road and Burlingame Avenue

**TRAFFIC SIGNAL WARRANTS WORKSHEET**

Analyst: SS date: 6/29/20

Major Street: Burlingame Avenue  
 Minor Street: Park Road

Critical Approach Speed\* (mph) 25  
 Critical Approach Speed\* (mph) 25  
 \*Posted Speed.

Critical speed of major street traffic > 50 mph (64 km/h).....  }  
 or } **Rural (R)**  
 In built up area of isolated community of < 10,000 population.....  }  
 **Urban (U)**

**PM PEAK HOUR**

**Warrant 3 - Peak Hour**

**PART A**

(All parts 1, 2, and 3 below must be satisfied)

	PM PEAK HOUR						
	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj	
Minor Street Approach Direction w/ Highest Delay	NB	NB	NB	NB	NB	NB	
Highest Minor Street Average Delay (sec/veh)	8.7	8.7	8.8	8.9	9.1	9.2	
Corresponding Minor Street Approach Volume (veh/hr)	141	141	141	141	156	156	
Minor Street Total Delay (veh-hrs)	0.3	0.3	0.3	0.3	0.4	0.4	
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; <u>AND</u>	No	No	No	No	No	No	
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; <u>AND</u>	Yes	Yes	Yes	Yes	Yes	Yes	
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	No	No	No	Yes	
<b>Signal Warranted based on Part A?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	

**PART B**

		PM PEAK HOUR								
		Approach Lanes		Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj	
		One	2 or More							
Major Street - Both Approaches	Burlingame Avenue	X		426	436	467	477	481	522	
Minor Street - Highest Approach	Park Road	X		141	141	141	141	156	156	
<b>Signal Warranted based on Part B?</b>		<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	

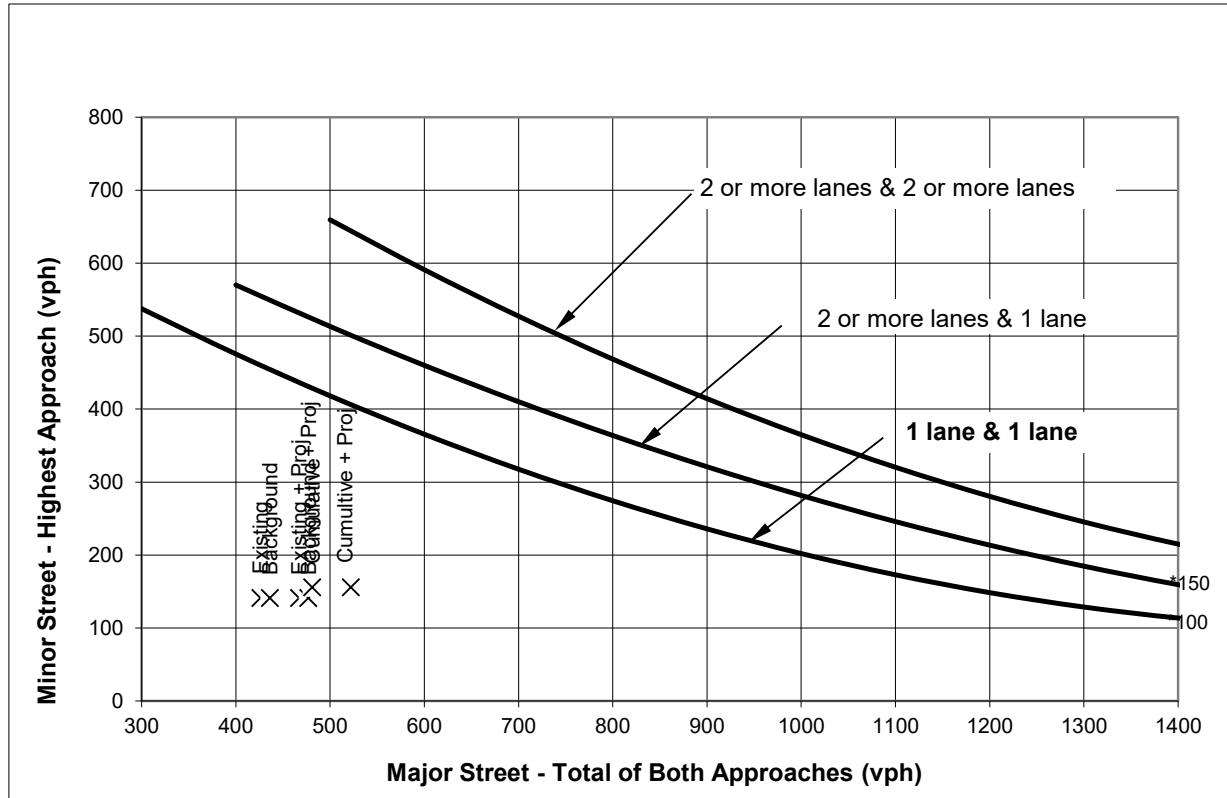
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).  
 Notes:

Park Road and Burlingame Avenue

**Park Road and Burlingame Avenue**

**PM PEAK HOUR**



Source: Figure 4C-3 California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

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

**Warrant 3, Part B - Peak-Hour Vehicular Volume**

		Approach Lanes		PM PEAK HOUR							
				Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumulative + Proj		
Major Street - Both Approaches	Burlingame Avenue	X		426	436	467	477	481	522		
Minor Street - Highest Approach	Park Road	X		141	141	141	141	156	156		
<b>Signal Warranted Based on Part B - Peak-Hour Volumes?</b>				<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		

\*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.