Costa Azul Carmel Valley
Traffic Impact Analysis
City of San Diego, California

Prepared for:
Carmel Valley Centre Drive LLC
7969 Engineer Road, Suite 108
San Diego, CA 92111

Prepared by:
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Revised: February 6, 2019

February 6, 2019

Mr. Hunter Oliver
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7969 Engineer Road, Suite 108
San Diego, CA 92111

Subject: Transportation Impact Analysis: Costa Azul Carmel Valley, San Diego, California

Dear Mr. Oliver:

TJW ENGINEERING, INC. (TJW) is pleased to present you with this revised transportation impact analysis for the proposed **Costa Azul Carmel Valley** project in the City of San Diego. The proposed project is located north of Carmel Valley Road and east of Old El Camino Real in the Carmel Valley neighborhood of the City of San Diego. The proposed project would consist of a 128-key hotel, 87,385 square feet of office space, and a 4,815 square foot restaurant on the 3.065-acre site.

This traffic study has been prepared to meet the traffic study requirements for the City of San Diego and assesses the forecast traffic operations associated with the proposed project and its impact on the local street network. This report is being submitted to you for review and forwarding to the City of San Diego.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat, PE, TE
President

Jeff Weckstein
Transportation Planner

Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*

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1.0 EXECUTIVE SUMMARY

This report presents the results of the traffic impact analysis (TIA) prepared for the proposed **Costa Azul Carmel Valley** project in the City of San Diego. The proposed project is located north of Carmel Valley Road and east of Old El Camino Real in the Carmel Valley neighborhood of the City of San Diego and would consist of a 128-key hotel, 87,385 gross square feet of office space, and a 4,815square foot fine dining restaurant on the 3.065 acre site.

TJW Engineering, Inc. completed a preliminary analysis and met with City Transportation staff to determine the scope of work and study area for this traffic impact analysis. The preliminary analysis was based on a Series 12 select zone model run provided by SANDAG. TJW completed a scoping agreement process with City Transportation staff which identified study area intersections, roadway segments, freeway segments and metered freeway ramps as well as the proposed project's trip generation and distribution.

Utilizing the City of San Diego Trip Generation Manual, the proposed project is projected to generate approximately 3,159 daily trips, 295 AM peak hour trips (218 in, 77 out) and 357 PM peak hour trips (112 in, 245 out) at the project driveways. Using cumulative trip generation rates, the proposed project would generate approximately 3,111 daily trips, 295 AM peak hour trips (218 inbound, 77 outbound) and 353 PM peak hour trips (109 inbound, 244 outbound) on the surrounding roadway network after accounting for pass-by trips.

Consistent with the City's traffic study guidelines, potential impacts to traffic and circulation were assessed by evaluating the following scenarios:

- *Existing Traffic Conditions;*
- *Existing Plus Project Conditions;*
- *Near Term Without Project (2020) Conditions;*
- *Near Term With Project (2020) Conditions;*
- *Long Term Cumulative (2035) Without Project Conditions; and*
- *Long Term Cumulative (2035) With Project Conditions.*

1.1 SUMMARY OF ANALYSIS RESULTS

Existing Conditions

- The study intersections are currently operating at an acceptable LOS (LOS D or better) during the AM and PM peak hours.
- The study roadway segments are currently operating at an acceptable LOS (LOS D or better) for existing conditions.
- The study freeway segments are currently operating at an acceptable LOS (LOS D or better) for existing conditions.
- The study metered freeway ramps are currently operating with acceptable delays and queues based on observed conditions.

- The longest observed queue in the field at the Carmel Valley Road/I-5 Southbound On-Ramp during the AM peak hour was 9 vehicles (225 feet).
- The longest observed queue in the field at the Carmel Valley Road/I-5 Northbound On-Ramp during the PM peak hour was 3 vehicles (75 feet) in the HOV lane and 11 vehicles (275 feet) in the SOV lane.
- The longest observed queue in the field at the El Camino Real/SR-56 Eastbound On-ramp was 12 vehicles (300 feet)
- The queues reported above at the metered freeway on ramps occur when a platoon of vehicles is released from the upstream traffic signal, and typically clear before the next platoon arrives.

Existing Plus Project Conditions

- The study intersections are projected to continue to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *existing plus project* conditions.
- The study roadway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *existing plus project* conditions.
- The study freeway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *existing plus project* conditions.
- The proposed project would add approximately one vehicle to existing observed queues at the study ramp meters.
- If Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter, there would be excess demand of 158 vehicles per lane with an 18.6 minute delay and 3,950 foot queue per lane in the PM peak hour for *existing plus project conditions*.

Near Term Without Project (2020) Conditions

- The study intersections are projected to continue to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *near term without project (2020)* conditions.
- The study roadway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *near term without project (2020)* conditions.
- The study freeway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *near term without project (2020)* conditions.
- If Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter, there would be excess demand of 171 vehicles per lane with a 20.1 minute delay and 4,275 foot queue per lane in the PM peak hour for *near term without project conditions*.

Near Term With Project (2020) Conditions

- The study intersections are projected to continue to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *near term with project (2020)* conditions.
- The study roadway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *near term with project (2020)* conditions.

- The study freeway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *near term with project (2020)* conditions.
- If Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter, there would be excess demand of 187 vehicles per lane with a 22.0 minute delay and 4,675 foot queue per lane in the PM peak hour for *near term with project (2020)* conditions.

Long Term Cumulative (2035) Without Project Conditions

- The study intersections are projected to continue to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *long term cumulative (2035) without project* conditions.
- The study roadway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *long term cumulative (2035) without project* conditions.
- The study freeway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *long term cumulative (2035) without project* conditions with the exception of SR-56 between El Camino Real and Carmel Creek Road which is projected to operate at LOS F.
- If Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter for the entire peak hour, there would be excess demand of 87 vehicles per lane with an 10.2 minute delay and 2,175 foot queue during the AM peak hour and excess demand of 217 vehicles per lane with a 25.5 minute delay and 5,425 foot queue in the PM peak hour for *long term cumulative (2035) without project conditions*. If Caltrans were to utilize the most restrictive rate at the Carmel Valley Road/I-5 Northbound On Ramp for the entire peak hour, there would be excess demand of 38 vehicles with an 3.4 minute delay and 950 foot queue during the AM peak hour in the single occupant vehicle lane for *long term cumulative (2035) without project conditions.*

Long Term Cumulative (2035) With Project Conditions

- The study intersections are projected to continue to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *long term cumulative (2035) with project* conditions.
- The study roadway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *long term cumulative (2035) with project* conditions.
- The study freeway segments are projected to continue to operate at an acceptable LOS (LOS D or better) for *long term cumulative (2035) with project* conditions with the exception of SR-56 between El Camino Real and Carmel Creek Road which is projected to operate at LOS F.
- If Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter for the entire peak hour, there would be excess demand of 92 vehicles per lane with an 10.8 minute delay and 2,300 foot queue during the AM peak hour and excess demand of 233 vehicles per lane with a 27.4 minute delay and 5,825 foot queue in the PM peak hour for *long term cumulative (2035) with project conditions*. If Caltrans were to utilize the most restrictive rate at the Carmel Valley Road/I-5 Northbound On-Ramp

for the entire peak hour, there would be excess demand of 45 vehicles with a 4.0 minute delay and 1,125 foot queue during the AM peak hour in the single occupant vehicle lane for *long term cumulative (2035) with project conditions.*

1.2 SUMMARY OF IMPACTS AND RECOMMENDED IMPROVEMENTS/MITIGATION MEASURES

Existing Plus Project Conditions

- Based on the City's thresholds of significance, the addition of project generated trips is not expected to have a significant direct impact at any of the study intersections, study roadway segments, study freeway segments, or metered freeway on ramps for *existing plus project* conditions.

Near Term With Project (2020) Conditions

- Based on the City's thresholds of significance, the addition of project generated trips is not expected to have a significant direct impact at any of the study intersections, study roadway segments, study freeway segments, or metered freeway on ramps for *near term with project* conditions.

Long Term Cumulative (2035) With Project Conditions

- Based on the City's thresholds of significance, the addition of project generated trips is not expected to have a significant cumulative impact at any of the study intersections, study roadway segments, or study freeway segments for *long term cumulative (2035) with project* conditions.
- Based on the City's thresholds of significance, the addition of project generated trips is not expected to have a cumulative impact at the El Camino Real/SR-56 EB On-Ramp meter during the PM peak hour for *long term cumulative (2035) with project* conditions, assuming Caltrans were to continue to utilize the current meter rates.

Recommended Improvements

- Since the proposed project is not projected to have a significant impact at any of the study facilities, no recommended improvements have been identified.

1.3 TRANSPORTATION DEMAND MANAGEMENT

The Costa Azul Carmel Valley project is proposing to incorporate several TDM measures to encourage alternative modes of transportation and to reduce SOV trips to/from the site including the following:

- Provision of 46 bicycle parking spaces, including 23 short-term and 23 long-term bicycle parking spaces (meets or exceeds City code).
- Provision of 37 carpool/zero emissions and electric vehicle parking spaces.

- Provision of shower and locker facilities.
- Provision of transit subsidies/parking cash out.
- The proposed hotel will offer a free shuttle to locations within a 5-mile radius such as transit stations and major activity centers such as One Paseo.
- Asset Property Management, Inc. has been retained to coordinate TDM activities at the site.
- Provide incentives for carpooling, such as inclusion of a carpool/rideshare information kiosk in the office component of the project, contracting with a ride-matching platform such as RideAmigos to facilitate carpooling, and potential monetary incentives such as a parking cash out.

1.4 PARKING

Based on the ULI shared parking analysis prepared by the project architect, the project would be required to provide 454 automobile parking spaces, 10 motorcycle parking spaces, 23 short-term bicycle parking spaces, 23 bicycle parking spaces

The proposed project plans on providing 454 automobile parking spaces, 10 motorcycle parking spaces, 23 short-term bicycle parking spaces and 23 long-term bicycle parking spaces.

2.0 INTRODUCTION

This traffic study analyzes the forecast traffic operations associated with the proposed **Costa Azul Carmel Valley** project in the City of San Diego. The proposed project is located north of Carmel Valley Road and east of Old El Camino Real and would consist of a 128-key hotel, 87,385 gross square feet of office space, and a 4,815square foot fine dining restaurant on the 3.065 acre site. ***Figure 1*** shows the project site location.

Figure 1– *Project Location*

The proposed project is expected to generate 3,159 daily trips, 295 AM peak hour trips (218 in, 77 out) and 357 PM peak hour trips (112 in, 245 out) at the project driveways. The project site is currently vacant, does not have any previous entitlements, and is zoned CVPD-VC and CV-1-1. The project requires a Coastal Development Permit, Site Development Permit and Planned Development Permit.

Site access for the proposed project is planned at one full access ingress/egress on the cul-de-sac of Old El Camino Real (and two full access ingress/egress driveways on the cul-de-sac at the western terminus of Valley Centre Drive. The project site is bound by existing hotel developments to the north and east, Carmel Valley Road to the south, and the cul-de-sac of Old El Camino Real to the west. ***Exhibit 1*** shows the proposed Costa Azul Carmel Valley site plan.

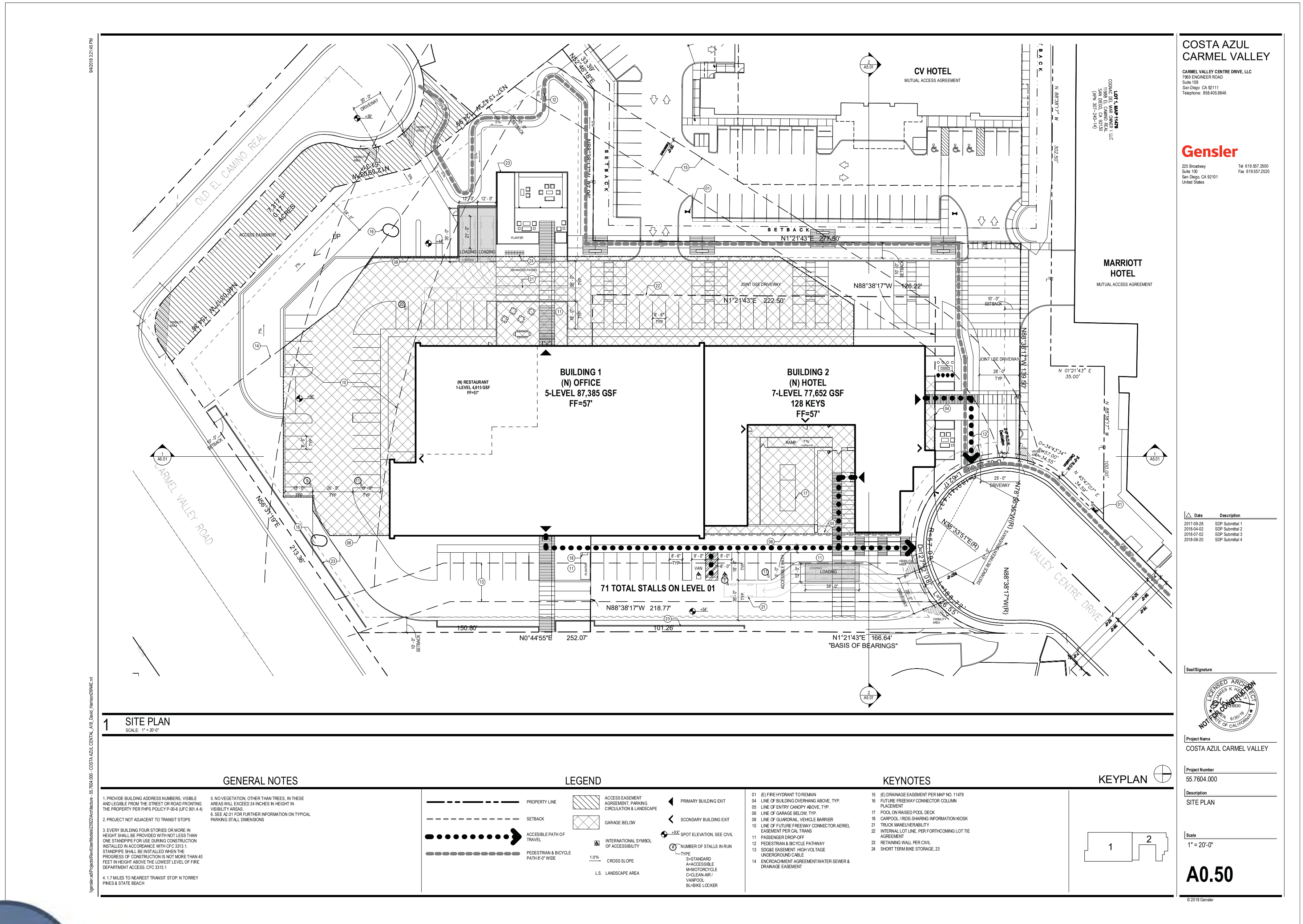

Exhibit 1: Proposed Project Site Plan

CVC-15-001 Costa Azul Pacific Traffic Impact Analysis

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2.1 STUDY AREA

In order to determine the proposed project trip distribution and study area for the traffic analysis, TJW Engineering ("TJW") obtained a select zone model run for the proposed project from SANDAG, based on the SANDAG Series 12 Transportation Model. The select zone model run is included in ***Appendix A.*** TJW utilized the City of San Diego Traffic Impact Study Manual guidelines in conjunction with the model run to determine the study area. The City of San Diego's Traffic Impact Study Manual contains thresholds for determining the minimum study area of a traffic impact analysis. These thresholds are summarized below:

- All street system segments and intersections, including freeway on/off ramp intersections, where the proposed project will add 50 or more peak hour trips;
- Mainline Freeway locations where the proposed project will add 50 or more peak hour trips in either direction;
- Ramp meters where the proposed project will add 20 or more peak hour trips.

The study area was agreed upon based upon consultation with City Transportation Development staff.

The following twelve (12) signalized intersections in the vicinity of the project site have been included in the intersection level of service (LOS) analysis:

- El Camino Real (NS) at Townsgate Drive (EW);
- El Camino Real (NS) at Elijah Court (EW);
- El Camino Real (NS) at High Bluff Drive (EW);
- El Camino Real (NS) at Del Mar Corporate Court/Paseo View Court (EW);
- El Camino Real (NS) at Valley Centre Drive (EW);
- El Camino Real (NS) at Carmel Valley Road (EW);
- El Camino Real (NS) at SR-56 Eastbound (EW);
- Carmel Vista Road (NS) at Valley Centre Drive (EW)
- Carmel View Road (NS) at Valley Centre Drive (EW);
- I-5 Southbound Ramps (NS) at Carmel Valley Road (EW);
- I-5 Northbound Ramps (NS) at Carmel Valley Road (EW);
- Old El Camino Real (NS) at Carmel Valley Road (EW).

The study intersections are located within the City of San Diego.

The following ten (10) roadway segments in the vicinity of the project site have been included in the roadway segment analysis:

- El Camino Real between Townsgate Drive and Elijah Court;
- El Camino Real between Elijah Court and High Bluff Drive;
- El Camino Real between High Bluff Drive and Del Mar Corporate Court;
- El Camino Real between Del Mar Corporate Court and Valley Centre Drive;

- El Camino Real between Valley Centre Drive and Carmel Valley Road (WB);
- El Camino Real between Carmel Valley Road (WB) and SR-56 (EB);
- Valley Centre between El Camino Real and Carmel View Road;
- Carmel Valley Road between I-5 SB Ramps and I-5 NB Ramps;
- Carmel Valley Road between I-5 NB Ramps and Old El Camino Real; and
- Carmel Valley Road between Old El Camino Real and El Camino Real.

The following six (6) freeway segments in the vicinity of the project site have been included in the analysis:

- Northbound I-5 between Del Mar Heights Road and Carmel Valley Road;
- Southbound I-5 between Del Mar Heights Road and Carmel Valley Road;
- Northbound I-5 between Carmel Valley Road and Carmel Mountain Road;
- Southbound I-5 between Carmel Valley Road and Carmel Mountain Road;
- Westbound SR-56 between El Camino Real and Carmel Creek Road; and
- Eastbound SR-56 between El Camino Real and Carmel Creek Road.

The following three (3) metered freeway on ramps in the vicinity of the project site have been included in the analysis:

- El Camino Real/Eastbound SR-56 On-Ramp;
- Carmel Valley Road/Northbound I-5 On-Ramp; and
- Carmel Valley Road/Southbound I-5 On-Ramp.

This traffic analysis follows the City of San Diego Traffic Impact Study Manual guidelines.

Exhibit 2 shows the location of the study facilities, which are analyzed for the following study scenarios:

(1) Existing Traffic Conditions;
(2) Existing Plus Project Conditions;
(3) Near Term Without Project (2020) Conditions;
(4) Near Term With Project (2020) Conditions;
(5) Long Term Cumulative (2035) Without Project Conditions; and
(6) Long Term Cumulative (2035) With Project Conditions.

Intersection traffic operations are evaluated for the following time periods:

- Weekday AM Peak Hour occurring within 7:00 AM to 9:00 AM; and
- Weekday PM Peak Hour occurring within 4:00 PM to 6:00 PM.

Legend:

- Study Intersection
- Study Roadway Segment
- Study Freeway Segment
- Project Site

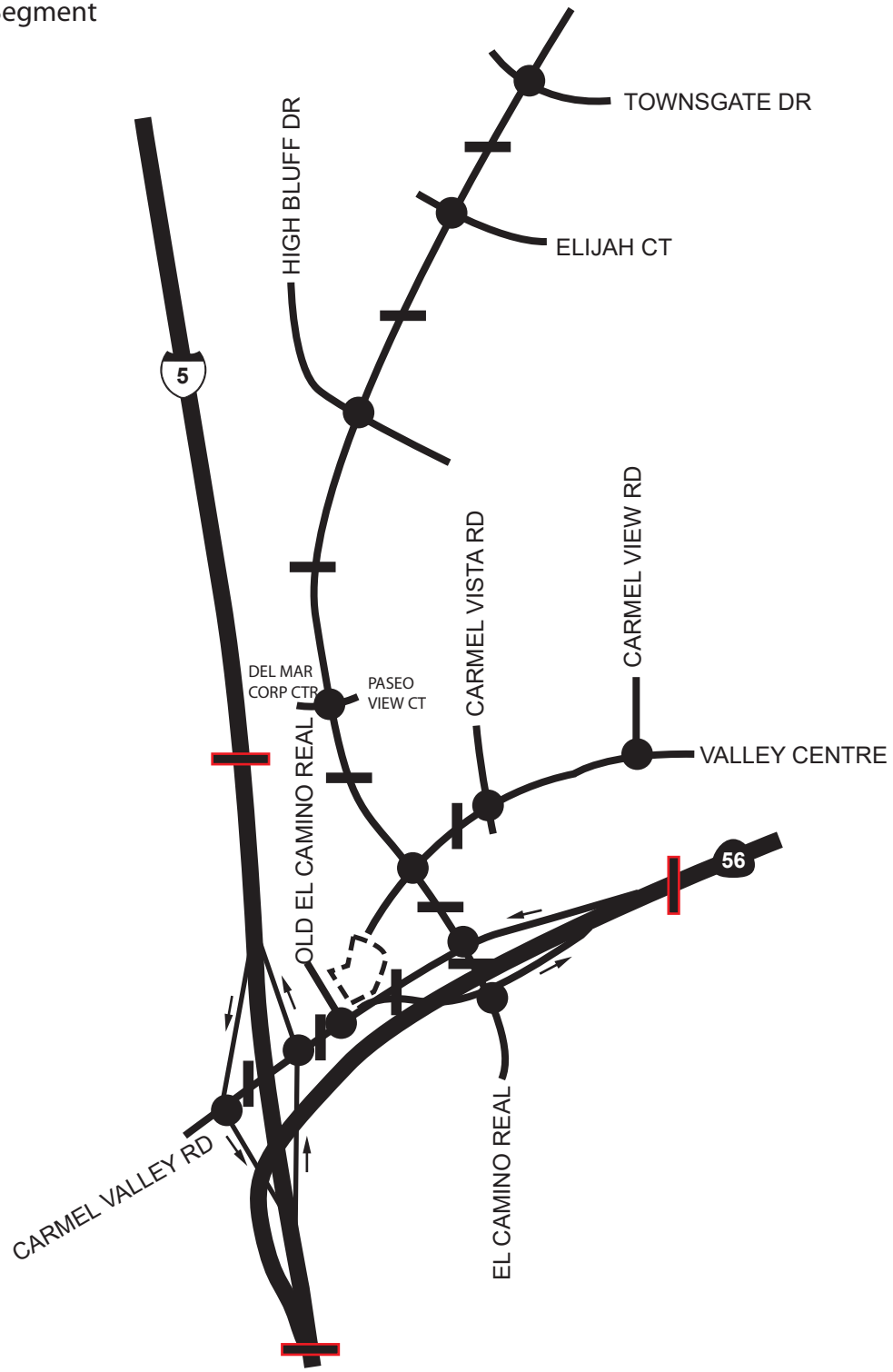

Exhibit 2: Project Location and Study Area

CVC-15-001 Costa Azul Carmel Valley TIA

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2.2 ANALYSIS METHODOLOGY

This study was prepared pursuant to the City's Traffic Impact Study Manual and significance determination thresholds. The Manual provides guidance regarding preparation of traffic impact analysis in the City of San Diego. It establishes criteria which identify the analysis methodology required for each type of facility and the significance thresholds establish the allowable change in the applicable performance measure.

2.2.1 Intersection Analysis

Level of Service (LOS) is commonly used to describe the quality of flow on roadways and at intersections using a range of LOS from LOS A (free flow with little congestion) to LOS F (severely congested conditions). The definitions for LOS for interruption of traffic flow differ depending on the type of traffic control (traffic signal, unsignalized intersection with side street stops, unsignalized intersection with all-way stops). The Highway Capacity Manual (HCM) 2010 (Transportation Research Board, 2010) methodology expresses the LOS of an intersection in terms of delay time for the intersection approaches. The HCM methodology utilizes different procedures for different types of intersection control.

The City of San Diego traffic impact study manual requires signalized intersection operations be analyzed utilizing the most current Highway Capacity Manual (HCM) methodology for analyzing signalized intersections. The most current HCM is the HCM 6th Edition.

Intersection LOS for signalized intersections is based on the intersection's average control delay for all movements at the intersection during the peak hour. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. All the study intersections analyzed in this analysis are signalized intersections.

Table 1 describes the general characteristics of traffic flow and accompanying delay ranges at signalized intersections.

Table 1
HCM – LOS & Delay Ranges – Signalized Intersections

LEVEL OF SERVICE	DESCRIPTION	DELAY (in seconds)
A	Very favorable progression; most vehicles arrive during green signal and do not stop. Short cycle lengths.	0 – 10.00
B	Good progression, short cycle lengths. More vehicles stop than for LOS A.	10.01 – 20.00
C	Fair progression; longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, though many vehicles still pass through without stopping.	20.01 – 35.00
D	Progression less favorable, longer cycle length and high flow/capacity ratio. The proportion of vehicles that pass through without stopping diminishes. Individual cycle failures are obvious.	35.01 – 55.00
E	Severe congestion with some long standing queues on critical approaches. Poor progression, long cycle lengths and high flow/capacity ratio. Individual cycle failures are frequent.	55.01 – 80.00
F	Very poor progression, long cycle lengths and many individual cycle failures. Arrival flow rates exceed capacity of intersection.	> 80.01

Source: Transportation Research Board, *Highway Capacity Manual*, HCM2010 Edition (Washington D.C., 2010).

Collected peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. It is a common practice in LOS analysis to conservatively use a peak 15-minute flow rate applied to the entire hour to derive flow rates in vehicles per hour that are used in the LOS analysis. The use of a 15-minute PHF produces a more detailed and conservative analysis compared to analyzing vehicles per hour.

This analysis utilizes the Synchro 10 analysis software for all study intersections.

2.2.2 Roadway Segment Capacity Analysis

Roadway segment operations have been evaluated using the City of San Diego roadway capacity values contained in *the* City's traffic impact study manual. The daily roadway segment capacity for each type of roadway is shown in ***Table 2***. Roadway capacities tend to be "rule of thumb," estimated for planning purposes and are affected by factors such as intersection spacing, configuration and control, access control, roadway grade, design geometrics, sight distance and vehicle mix. Typically, when Average Daily Traffic (ADT)-based roadway segment analysis indicates a deficiency a review of peak hour operation of the intersections on either end of the segment is undertaken. The more detailed peak hour intersection operation analysis takes into account the factors that affect roadway capacity; unless the peak hour intersection analysis indicates the need for additional through lanes, roadway segment widening is not recommended on the basis of ADT analysis alone.

Table 2
City of San Diego Roadway Classifications, LOS and ADT

STREET CLASSIFICATION	LANES	LEVEL OF SERVICE				
		A	B	C	D	E
Expressway	6 lanes	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) Continuos Left-Turn Lane	4 lanes 2 lanes	5,000	7,000	 10,000	13,000	15,000
Collector (no fronting property)	2 lanes	4,000	5,500	7,500	9,000	10,000
Collector (comercial-industrial fronting)	2 lanes	2,500	3,500	5,000	6,500	8,000
Collector (Multifamily)	2 lanes	2,500	3,500	5,000	6,500	8,000
Sub-Collector (Single family)	2 lanes			2,300		

Source: City of San Diego Traffic Impact Study Manual (July, 1998).

2.2.3 Freeway Segment Analysis Methodology

To determine the LOS of main lane freeway segments, the Caltrans Guide for the Preparation of Traffic Impact Studies (Caltrans, December 2002), specifies the use of HCM operational analysis which determines level of service based on the volume to capacity (V/C) ratio. The calculated V/C ratio is compared to the range of V/C values corresponding to the various levels of service for each facility. The LOS represents an approximation of existing and/or future freeway operation conditions in the peak direction of travel during the peak hour.

2.3 CONGESTION MANAGEMENT PROGRAM (CMP)

Federal Highway Administration Code of Federal Regulation, Title 23 Section 450.320 (FHWA 23 CFR 450.320) requires that Transportation Management Areas (TMAs) address congestion management through a process involving analysis of area wide multimodal strategies that are cooperatively developed to foster safety and integrated management of new and existing transportation facilities eligible for federal funding.

SANDAG is the designated TMA for the San Diego Region. The 2050 Regional Transportation Plan meets the requirements of FHWA 23 CFR 450.320 since it incorporates methods to monitor and evaluate the performance of the multimodal transportation system, land use impact analysis, congestion management tools, identifies improvements and implementation strategies and is integrated with the regional transportation improvement program process.

California State Proposition 111 established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP). The requirements were developed to monitor the performance of the transportation system, develop programs to address near- and long-term congestion and to integrate transportation planning and land use planning to a greater degree than was currently being practiced. SANDAG created a CMP in 1991 and regularly updated it through 2008. In October 2009, the San Diego region elected to exempt itself from the State CMP process; SANDAG has been complying with FHWA 23 CFR 450.320 in its planning efforts to maintain the region's adherence to the Federal congestion management process. Therefore the City of San Diego has been exempted from the requirements of the State process. The City's Growth Management Plan, as well as its participation in SANDAG's Trans Net Local Street Improvement Program, complies with the congestion management requirements to address local near-term and long-term congestion.

The City of San Diego traffic impact study guidelines are consistent with CMP guidelines in terms of study area determination and other factors

2.4 PERFORMANCE CRITERIA

Both the City of San Diego and the CMP guidelines adopted by SANDAG have established LOS D or better as acceptable LOS, and LOS E or LOS F as unacceptable for both intersections and roadway segments.

2.5 THRESHOLDS OF SIGNIFICANCE

According to California Environmental Quality Act (CEQA) guidelines, a project is considered to cause a significant impact to a transportation system if it:

- Conflicts with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel.
- Results in an increase in projected traffic which is substantial in relation to the existing traffic load and capacity of the street system.
- Adds a substantial amount of traffic to a congested freeway segment, interchange or ramp.
- Conflicts with adopted policies or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decreases the performance or safety of such facilities.

Per the City of San Diego's traffic study guidelines, a "significant" direct traffic impact under CEQA occurs when a study facility is projected to operate at an unacceptable LOS (LOS E or F) and the City's significance thresholds are exceeded, or when the addition of project trips causes a facility operating at an acceptable LOS to operate at an unacceptable LOS. ***Table 3*** summarizes the City's significance thresholds, which are used to determine if project mitigation is required.

Table 3
City of San Diego Significance Thresholds

Level of Service With Project *	Allowable Change Due to Project Impact **					
	Freeways		Roadway Segments		Intersections	Ramp Meters
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (Min)
E (or ramp meter delays above 15 minutes)	0.010	1.0	0.02	1.0	2.0	2.0[1]
F (or ramp meter delays above 15 minutes)	0.005	0.5	0.01	0.5	1.0	1.0[2]

1 = The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS E is 2 minutes.
2 = The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS F is 1 minute.

* - LOS measurements are based upon HCM procedures for peak hour conditions except for roadway segments which are estimated based on average daily traffic volumes using Table 2 of the City's traffic impact study manual. The acceptable LOS for freeways, roadways and intersections is LOS D. For metered freeway ramps, LOS does not apply but meter delays above 15 minutes are considered excessive.
** - If a proposed project's traffic causes the values in the table to be exceeded, the impacts are determined to be significant.

When the City's significance thresholds are exceeded for existing plus project or near term with project conditions, the impact is considered a significant "direct" impact. When the City's significance thresholds are exceeded for long term cumulative with project conditions the impact is considered a significant "cumulative" impact. Cumulative traffic impacts are the result of a combination of the proposed project and other future developments contributing to the overall traffic impact at an intersection in the long-term cumulative with project scenario. A fair share contribution can be used to mitigate a long-term cumulative impact, if there is an identified improvement to contribute towards.

3.0 Existing Conditions

3.1 EXISTING CIRCULATION NETWORK/STUDY AREA CONDITIONS

The characteristics of the roadway system in the vicinity of the proposed project site are described below:

El Camino Real is a north-south divided roadway with a raised, landscaped median, classified as a major arterial in the Carmel Valley Community Circulation Element. From Townsgate Drive to Valley Centre Drive, El Camino Real is a six lane major arterial with an LOS E capacity of 50,000 ADT. Between Valley Centre Drive and Carmel Valley Road, El Camino Real is a five lane major arterial with an LOS E capacity of 45,000 ADT. South of Carmel Valley Road, El Camino Real is a six lane major arterial with an LOS capacity of 50,000 ADT. On-street parking is not permitted on El Camino Real. The posted speed limit on El Camino Real is 45 miles per hour between Townsgate Drive and Carmel Valley Road and 50 miles per hour south of Carmel Valley Road. There is a Class II bicycle lane on El Camino Real throughout the study area.

Valley Centre Drive is an east-west roadway classified as a collector in the Carmel Valley Community Circulation Element. Valley Centre Drive terminates in a cul-de-sac west of El Camino Real, and is a two lane undivided roadway with a posted speed limit of 25 miles per hour between its western terminus and El Camino Real. East of El Camino Real, Valley Centre Drive functions as a four-lane major arterial with a raised, landscaped median, an LOS E capacity of 40,000 ADT and a posted speed limit of 40 miles per hour. With the exception of the cul-de-sac of Valley Centre Drive west of El Camino Real where it is permitted, on-Street parking is not permitted on Valley Centre Drive. With the exception of the cul-de-sac of Valley Centre Drive west of El Camino Real, where there is no bicycle lane, there are Class II bicycle lanes on Valley Centre Drive throughout the study area. The proposed project will have a full access driveway at the end of the existing cul-de-sac on Valley Centre Drive.

Carmel Valley Road is an east-west divided roadway with a raised, landscaped median, classified as a primary arterial in the Carmel Valley Community Circulation Element. In the study area, Carmel Valley Road is a six-lane primary arterial with an LOS E capacity of 60,000 ADT. The posted speed limit on Carmel Valley Road is 40 miles per hour and on-street parking is not allowed. There is no bicycle lane on Carmel Valley Road in the study area.

High Bluff Drive is a northwest-southeast divided roadway with a raised median, classified as a collector in the Carmel Valley Community Circulation Element. In the vicinity of El Camino Real, High Bluff Drive is a four lane collector with a posted speed limit of 35 miles per hour west of El Camino Real and 40 miles per hour east of El Camino Real. On-Street parking in not permitted on High Bluff Drive. There is a Class II bicycle lane on High Bluff Drive throughout the study area.

Interstate 5 (I-5) between Del Mar Heights Road and Carmel Valley Road is a 14-lane freeway facility with five general purpose lanes, one auxiliary lane and one High Occupancy Vehicle (HOV) lane in each direction. South of its interchange with Carmel Valley Road and SR-56, I-5 is a 16-lane freeway facility with seven general purpose lanes and one High Occupancy Vehicle (HOV) lane in each direction. I-5 has a posted speed limit of 65 miles per hour and provides direct access to Encinitas, Carlsbad, Oceanside and San Diego. I-5 originates at the Mexico/California border and

continues north through California, Oregon and Washington to its terminus at the Canadian border. Access to the proposed project is provided via the I-5/Carmel Valley Road interchange.

State Route 56 (SR-56) is a six lane east-west freeway facility with two general purpose lanes and one auxiliary lane in each direction east of El Camino Real. SR-56 has a posted speed limit of 65 miles per hour and provides access to I-5 on the west and I-15 to the east. Access to the proposed project is provided via the SE-56/El Camino Real interchange.

Old El Camino Real is a north-south undivided roadway, approximately 250-feet in length that currently provides access to the Carmel Valley Shell gasoline station. The proposed project will have a full access driveway at the end of the existing cul-de-sac on Old El Camino Real. On-Street parking is currently permitted at the end of the cul-de-sac.

Exhibit 3 shows existing conditions study area intersection and roadway geometry.

3.2 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

There are Class II bicycle lanes on both sides of El Camino Real, High Bluff Drive and Valley Centre Drive (with the exception of the cul-de-sac at its western terminus) in the study area. Sidewalks and curb ramps are present at all study intersections and sidewalks are provided along all study roadway segments, with the exception of the east side of Old El Camino Real.

3.3 EXISTING PUBLIC TRANSIT SERVICES

The San Diego Metropolitan Transit System (MTS) consists of bus lines and a trolley system. There are no San Diego MTS routes directly serving the Carmel Valley area. There are no near-term opportunities for fixed route transit in the vicinity of the proposed project site.

3.4 EXISTING TRAFFIC VOLUMES

This analysis is an update to the traffic study dated September 14, 2015 that had used traffic data collected in July 2015. Since the previous intersection turning movement data was greater than two years old, intersection turning movement counts were collected at all of the study intersections on Tuesday May 9, 2017. Average daily traffic (ADT) counts were collected at three of the study roadway segments on Tuesday May 9, 2017. Based on a comparison of previously collected ADT counts in 2015 and the 2017 daily traffic volumes at these three segments shown below, TJW determined that use of the 2015 average daily traffic volumes for the study roadway segments in the updated analysis still provide an accurate depiction of existing 2017 volumes.

Segment	2015 ADT	2017 ADT	Change	
El Camino between Valley Centre & Carmel Valley WB	28958	26434	-2524	-8.7%
Valley Centre between El Camino and Carmel View	10539	11001	462	4.4%
Carmel Valley between I-5 NB Ramps and Old El Camino	45372	43149	-2223	-4.9%

The traffic volumes at the study intersections used in this analysis are from the highest hour within the peak period counted. Detailed traffic count data is provided in ***Appendix B.***

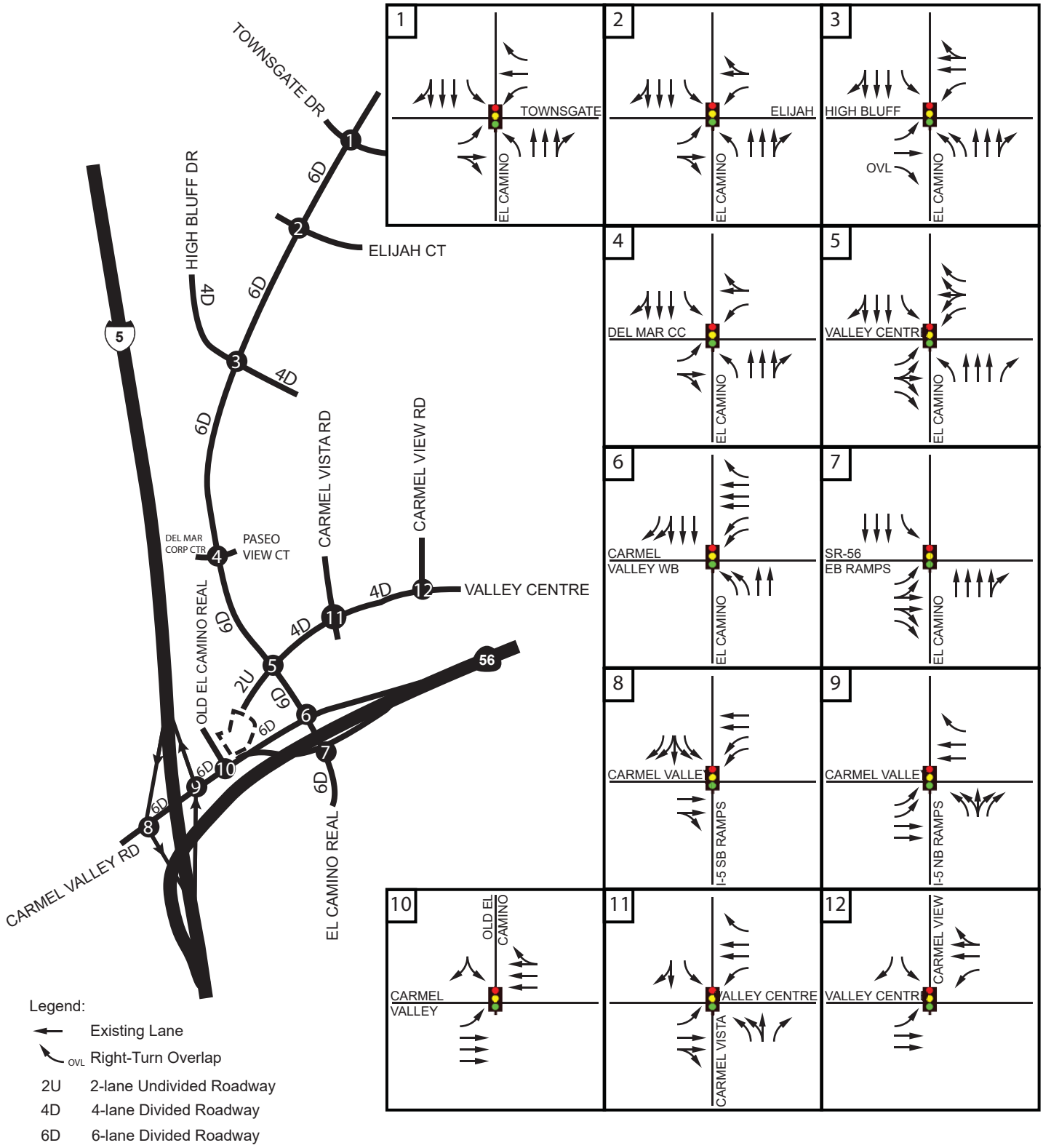

Exhibit 3:
Existing Lane Geometry & Intersection Control

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Not to Scale

Exhibit 4 shows existing AM and PM peak hour volumes at the study intersections and ADT volumes at the study roadway segments.

3.5 EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

Existing conditions AM and PM peak hour intersection analysis is shown in ***Table 4***. Calculations are based on the existing geometrics at the study area intersections shown in ***Exhibit 3.*** HCM analysis sheets are provided in ***Appendix C***.

Table 4
Intersection Analysis – Existing Conditions

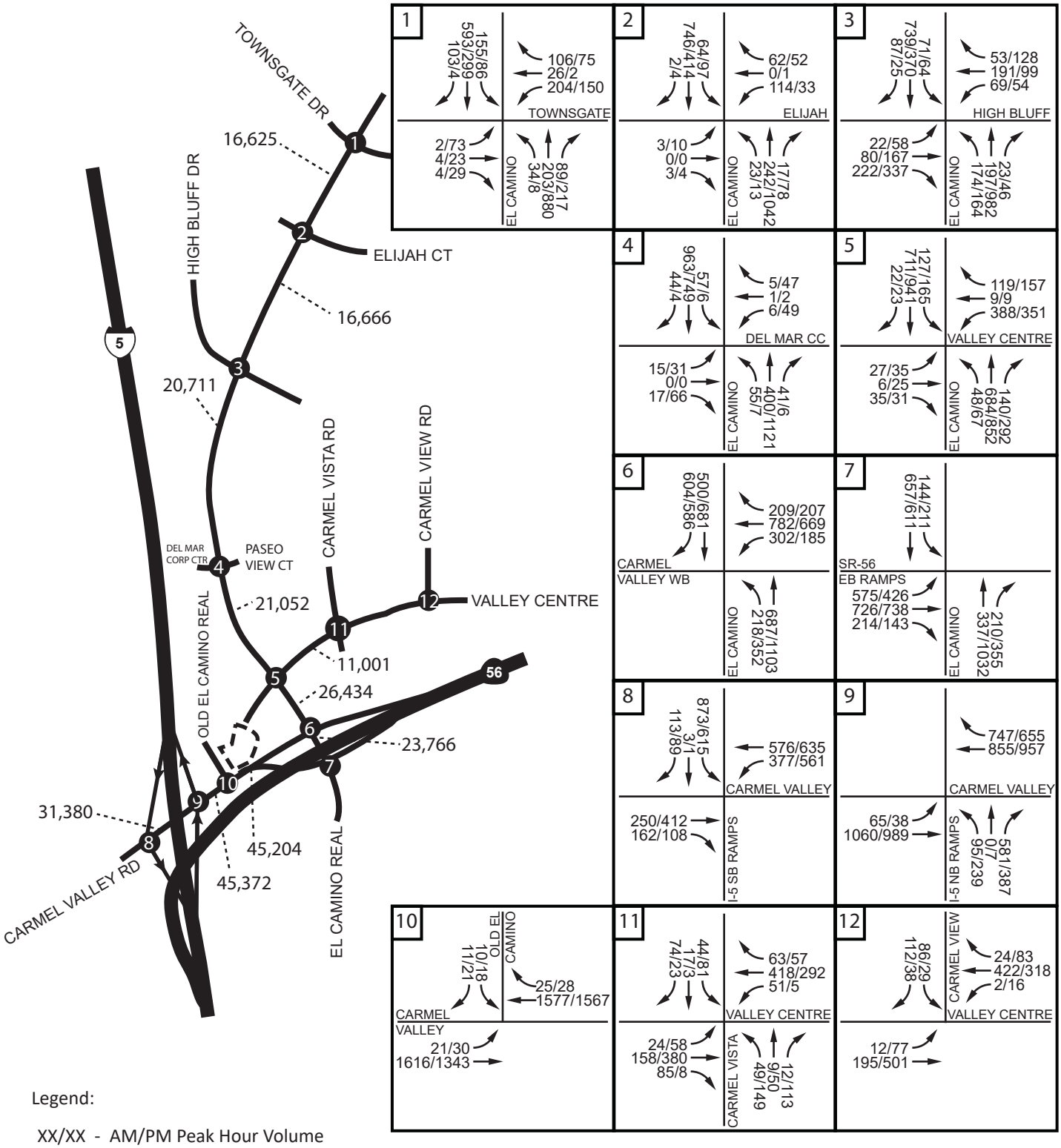
Intersection		Control Type	AM Peak Hour	PM Peak Hour
			Delay - LOS	Delay - LOS
1	El Camino Real/Townsgate Dr	Signal	35.0 – D	24.2 – C
2	El Camino Real/Elijah Court	Signal	15.4 – B	21.5 – C
3	El Camino Real/High Bluff Dr	Signal	24.2 – C	20.5 – C
4	El Camino Real/Del Mar Corp Ctr-Paseo	Signal	18.7 – B	7.5 – A
5	El Camino Real/Valley Centre Dr	Signal	34.9 – C	26.0 – C
6	El Camino Real/Carmel Valley Rd	Signal	21.1 – C	17.9 – B
7	El Camino Real/SR-56 Eastbound	Signal	36.1 – D	39.3 – D
8	I-5 SB Ramps/Carmel Valley Rd	Signal	33.9 – C	36.5 – D
9	I-5 NB Ramps/Carmel Valley Rd	Signal	31.2 – C	24.7 – C
10	Old El Camino Real/Carmel Valley Rd	Signal	27.2 – C	26.6 – C
11	Carmel Vista Rd/Valley Centre Dr	Signal	21.9 – C	18.6 – B
12	Carmel View Rd/Valley Centre Dr	Signal	18.5 – B	20.5 – C

Note: Delay shown in seconds per vehicle

As shown in ***Table 4***, the intersections are currently operating at an acceptable LOS (LOS D or better) during the AM and PM peak hours.

3.6 EXISTING CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 5 summarizes existing conditions roadway segment analysis based on the LOS E capacities contained in the City of San Diego traffic impact study guidelines, previously summarized in ***Table 2***.



Legend:

XX/XX - AM/PM Peak Hour Volume
X,XXX - ADT Volume

Exhibit 4: Existing AM/PM Peak Hour Volumes

CVC-15-001 Costa Azul Carmel Valley TIA

Not to Scale

Table 5
Roadway Segment Analysis – Existing Conditions

Roadway Segment	Functional Class	LOS E Capacity	Existing		
			ADT	V/C	LOS
El Camino Real – Townsgate Dr to Elijah Ct	6 – M	50,000	16,625	0.333	A
El Camino Real – Elijah Ct to High Bluff Dr	6 – M	50,000	16,666	0.333	A
El Camino Real – High Bluff Dr to Del Mar Corporate	6 – M	50,000	20,711	0.414	A
El Camino Real – Del Mar Corporate to Valley Centre	6 – M	50,000	21,052	0.421	A
El Camino Real – Valley Centre to Carmel Valley	5 – M	45,000	28,958	0.644	B
El Camino Real – Carmel Valley to SR-56 EB	5 – M	45,000	23,766	0.528	A
Valley Centre Drive – El Camino Real to Carmel View	4 – M	40,000	10,539	0.263	A
Carmel Valley Rd – I-5 SB Ramps to I-5 NB Ramps	6 – PA	60,000	31,380	0.523	A
Carmel Valley Rd – I-5 NB Ramps to Old El Camino	6 – PA	60,000	45,372	0.756	C
Carmel Valley Rd – Old El Camino to El Camino	6 – PA	60,000	45,204	0.753	C

Note: 6-M = 6 Lane Major, 5-M = 5 Lane Major, 4-C = 4 Lane Collector, 6-PA = 6 Lane Primary Arterial

As shown in Table 5, the study roadway segments are currently operating at an acceptable LOS (LOS D or better).

3.7 EXISTING CONDITIONS FREEWAY SEGMENT ANALYSIS

Table 6 summarizes the results of the freeway segment analysis for existing conditions on I-5 and SR-56.

Table 6
Freeway Segment Analysis – Existing Conditions

Segment	Direction	Lanes	Capacity	ADT*	Peak Hour	Peak Hour %	Directional Split	Truck Factor	Peak Hour Volume	V/C	LOS
I-5											
Del Mar Heights Road/SR-56	NB	5 GP + 1 AUX + 1 HOV	15150	263000	PM	0.068	0.5268	0.98	9628	0.635	B
Del Mar Heights Road/SR-56	SB	5 GP + 1 AUX + 1 HOV	15150	263000	AM	0.070	0.5486	0.98	10291	0.679	B
SR-56/Carmel Mountain Rd	NB	7GP + 1HOV	18050	217000	PM	0.068	0.5268	0.98	7944	0.440	A
SR-56/Carmel Mountain Rd	SB	7GP + 1HOV	18050	217000	AM	0.070	0.5486	0.98	8491	0.470	A
SR-56											
El Camino Real/Carmel Creek	EB	2 GP + 1AUX	6500	74000	PM	0.084	0.639	0.98	4059	0.624	B
El Camino Real/Carmel Creek	WB	2 GP + 1AUX	6500	74000	AM	0.094	0.657	0.98	4639	0.714	C

Peak hour and split data from Caltrans Traffic Census Program: http://www.dot.ca.gov/trafficops/census/

* Caltrans 2017 Traffic Volumes

ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
LOS = Level of Service
#GP = # of General Purpose Lanes
#HOV = # of High Occupancy Vehicle Lanes
#AUX = # of Auxiliary Lanes
#M = # of managed (express) lanes

Capacity for LOS E on freeway is 2,350 vehicles per hour per lane for General Purpose Lanes
Capacity for LOS E on freeway is 1,600 vehicles per hour per lane for HOV Lanes
Capacity for LOS E on freeway mainline is 1,800 vehicles per hour per lane for Auxiliary Lanes
(Source: Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002)
Peak Hour % and Directional Split taken Caltrans traffic data
Capacity for LOS E on freeway is 1,680 vehicles per hour per lane for managed lanes

As shown in ***Table 6*** the study freeway segments are currently operating at an acceptable LOS.

3.8 EXISTING RAMP METER ANALYSIS

Table 7 summarizes the delays and queues for the study ramp meters, based both on the observed meter rate in the field and based on the potential most restrictive meter rates provided by Caltrans. ***Appendix B*** contains the meter rate information provided by Caltrans as well as the maximum observed queue and maximum observed delay at the ramp meters.

Table 7
Ramp Meter Analysis – Existing Conditions

Most Restrictive Meter Rate						
Location		**Demand (Veh/Hr/Ln)**	**Meter Rate (Veh/Hr/Ln)**	**Excess Demand (Veh/Hr/Ln)**	**Delay (min)**	**Queue (feet)**
Carmel Valley Road/I-5 SB On Ramp	AM	271	710	0	0	0
	PM	Meter is not turned on				
Carmel Valley Road/I-5 NB On Ramp	AM	Meter is not turned on				
	PM (HOV)	147	677	0	0.0	0
	PM (SOV)	560	677	0	0.0	0
El Camino Real/SR-56 EB On Ramp	AM	Meter is not turned on				
	PM	652	510	142	16.7	3550
Observed Meter Delay & Queue						
Location		**Ramp Meter Lanes**		**Maximum Observed Delay (Min)**	**Maximum Observed Queue (Feet)**	
Carmel Valley Road/I-5 SB On Ramp	AM	2 SOV		1.0	225	
	PM			Not turned on		
Carmel Valley Road/I-5 NB On Ramp	AM			Not turned on		
	PM	1 HOV		1.0	75	
	PM	1 SOV		2.0	275	
El Camino Real.SR-56 EB On Ramp	AM			Not turned on		
	PM	2 SOV		2.0	300	

Delay = (Excess Demand Per Lane - Meter Rate) / Meter Rate Per Lane * 60 minutes/hour

Queue per lane = Excess Demand *25 feet/vehicle

Note: SOV = Single Occupancy Vehicle Lane, HOV = High Occupancy Vehicle Lane

As shown in ***Table 7*** the ramp meters are operating with minimal delay and queue under existing observed conditions. The maximum observed queues ranged from 75-300 feet with maximum delays of 2 minutes or less. The queues occur because platoons of vehicles are released to the ramps from the adjacent traffic signals and then have to stop at the meter. Currently these queues clear before the next platoon is released.

4.0 Proposed Project

4.1 Project Description

The proposed project is located north of Carmel Valley Road and east of Old El Camino Real and would consist of a 128-key hotel, 87,385 gross square feet of office space, and a 4,815square foot fine dining restaurant on the 3.065 acre site.

The project site is currently vacant and is zoned CVPD-VC and CV-1-1. The project requires a Coastal Development Permit, Site Development Permit and Planned Development Permit.

Site access for the proposed project is planned at one full access ingress/egress on the cul-de-sac of Old El Camino Real and two full access ingress/egress on the cul-de-sac at the western terminus of Valley Centre Drive. The project site is bound by existing hotel developments to the north and east, Carmel Valley Road to the south, and the cul-de-sac of Old El Camino Real to the west. ***Exhibit 1*** previously showed the proposed Costa Azul Carmel Valley site plan.

4.2 Project Trip Generation

Trip generation represents the amount of traffic, both inbound and outbound, produced by a development. Determining trip generation for a proposed project is based on projecting the amount of traffic that the specific land uses being proposed will produce. *TJW* has calculated trip generation for the proposed project land uses based on the City of San Diego Trip General Manual, with appropriate reductions taken for pass-by trips. Conservatively, no mixed-use project or internal trip capture reductions were applied to the proposed project trip generation.

Table 8 shows the City of San Diego Trip Generation Manual rates used to calculate projected trip generation of the proposed project.

Table 8
Costa Azul Project Trip Generation Rates

Land Use	Unit	Daily	AM		PM		Pass-by %
			%	In/Out Split	%	In/Out Split	
Office	TSF	LN(T)= 0.756 * LN(X) +3.95	13%	90/10	14%	20/80	0%
Hotel (Motel)	Keys	9	8%	40/60	9%	40/60	0%
Quality Restaurant	TSF	100	1%	60/40	8%	70/30	10%

Note: TSF = Thousand Square Feet
Source: San Diego Trip Generation Manual (2003)

Table 9 shows the projected trip generation at the project driveways based on the trip generation rates shown in ***Table 8***.

Table 9
Projected Trip Generation at Project Driveways

Land Use	Quantity	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	**87.385 TSF**	1,525	178	20	198	43	171	214
Hotel (Motel)	**128 Keys**	1,152	37	55	92	42	62	104
Quality Restaurant	**4.815 TSF**	482	3	2	5	27	12	39
	Total	3,159	218	77	295	112	245	357

Note: TSF = thousand square feet

As shown in ***Table 9***, the proposed project is projected to generate approximately 3,159 daily trips, 295 AM peak hour trips and 357 PM peak hour trips at the project driveways.

The San Diego Trip Generation Manual includes both driveway vehicle trip rates and cumulative vehicle trip rates. Cumulative vehicle trip rates take into account pass-by effects. A pass-by trip adjustment is applicable to land uses located along busy arterial roadways attracting vehicle trips already on the roadway; particularly when the roadway is experiencing peak operating conditions. For example, during the AM or PM peak hour, a motorist traveling along El Camino Real between work and home may stop at the proposed project site.

Table 10 summarizes the projected cumulative trip generation of the proposed project after accounting for pass-by trips, based on the pass-by trip allowances contained in the City of San Diego Trip General Manual and stated in ***Table 8***.

Table 10
Projected Proposed Project Cumulative Trip Generation

Land Use	Quantity	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	**87.385 TSF**	1,525	178	20	198	43	171	214
Hotel (Motel)	**128 Keys**	1,152	37	55	92	42	62	104
Quality Restaurant	**4.815TSF**	482	3	2	5	27	12	39
	Less 10% Pass-by	-48	0	0	0	-3	-1	-4
	Total	3,111	218	77	295	109	244	353

Note: TSF = thousand square feet

As shown in ***Table 10***, the proposed project is projected to generate 3,111 daily trips, 295 AM peak hour trips and 353 PM peak hour trips on the surrounding roadway network. As outlined in the City of San Diego Traffic Impact Study Manual, a full transportation impact analysis is required.

4.3 Project Trip Distribution

TJW interfaced with SANDAG staff to obtain a SANDAG Transportation Model Select Zone run for the proposed project's Traffic Analysis Zone. The Select Zone Model Run is used to determine the trip distribution of project generated trips. The proposed study intersections, study roadway segments, study freeway segments and study metered freeway ramps discussed previously, are based on the results of the SANDAG Select Zone Model run. ***Appendix A*** contains the raw SANDAG select zone model run output.

Exhibit 5 shows the projected trip distribution of proposed project trips.

4.4 Modal Split

The traffic reducing potential of public transit, walking and bicycling have not been considered in this analysis since there is no fixed route public transit available in the study area. While there are sidewalks and Class II bicycle lanes in the study area, this analysis conservatively assumes no reduction in vehicular trip generation due to these alternative modes of transportation.

4.5 Project Trip Assignment

Exhibit 6 shows the corresponding projected AM/PM peak hour trip and ADT assignment of project trips.

4.6 Cumulative Projects Traffic

CEQA guidelines require that other reasonably foreseeable development projects which are either approved or are currently being processed in the study area also be included as part of a cumulative analysis scenario. TJW worked with City staff to determine a list of appropriate projects to include in the cumulative scenario. Based on these discussions it was determined that there was one potential project in the study area that was appropriate to include in the cumulative scenario; the New One Paseo project. ***Exhibit 7*** shows the location of the New One Paseo development.

The City provided the trip generation table for the New One Paseo project. ***Table 11*** summarizes the trip generation of the New One Paseo project.

Table 11
Cumulative Projects Trip Generation

Cumulative Project	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
New One Paseo							
- Total Driveway Trips	17,879	710	426	1,136	885	1,144	2,029
- Net Cumulative Trips	13,468	611	360	971	643	903	1,546

Note: TSF = thousand square feet

Legend:

XX% Percent Trip Distribution

Project Site

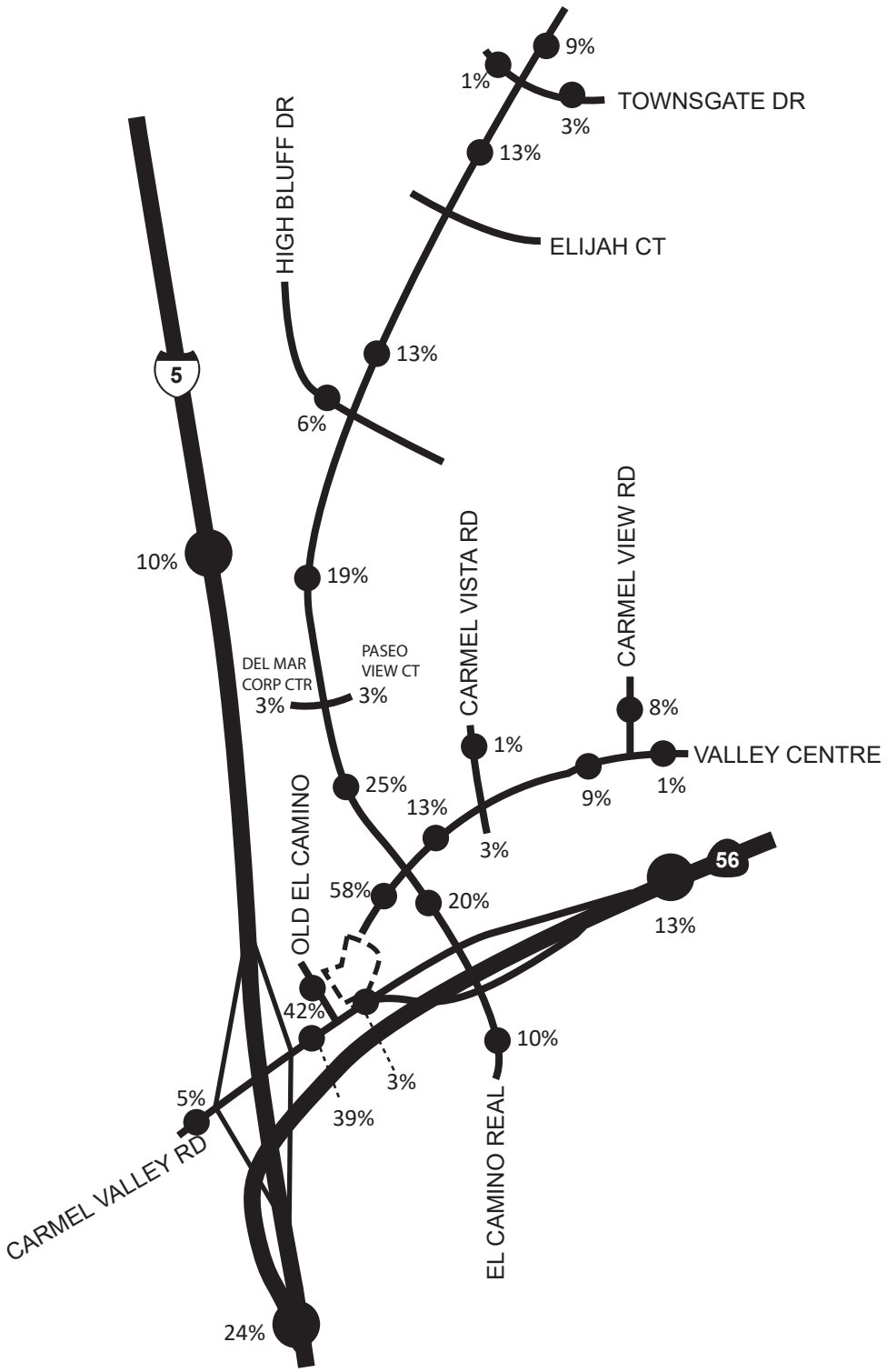
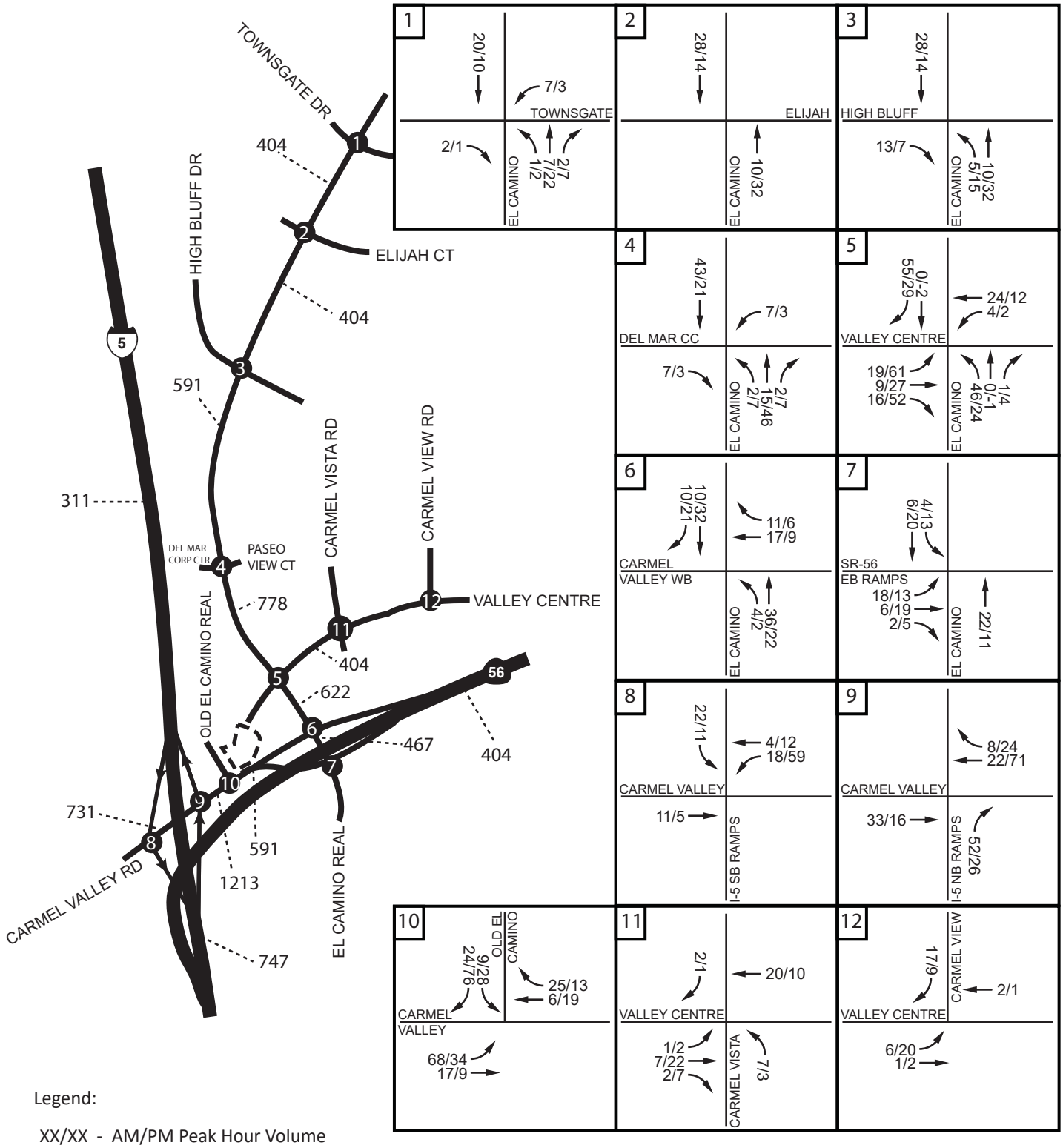


Exhibit 5: Proposed Project Trip Distribution

CVC-15-001 Costa Azul Carmel Valley TIA

Not to Scale



Legend:

XX/XX - AM/PM Peak Hour Volume
XXX or XXXX - ADT Volume

Exhibit 6: Projected Project Trip Assignment (Including Pass-By Trips)

CVC-15-001 Costa Azul Carmel Valley TIA

Not to Scale

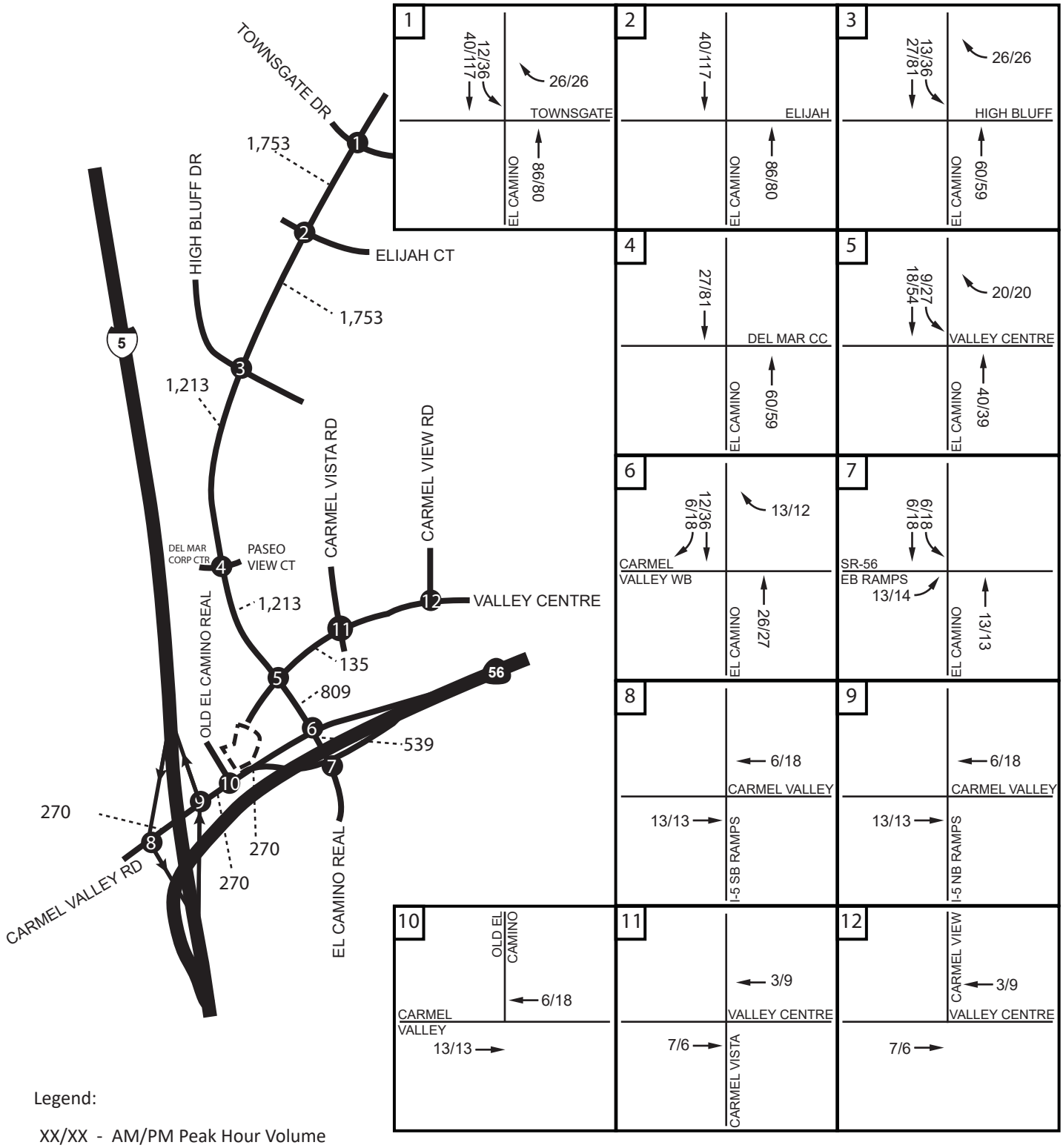
Soure: Image - Google Earth Pro

Exhibit 7: Cumulative Project Location

CVC-15-001 Costa Azul Carmel Valley TIA

Not to Scale

Based on the trip assignment for the One Paseo project provided in the original One Paseo traffic analysis, cumulative project ADT volumes and AM and PM peak intersection turning movement volumes for the New One Paseo project are shown on ***Exhibit 8.***



Legend:

XX/XX - AM/PM Peak Hour Volume
X,XXX - ADT Volume

Exhibit 8:
Projected Cumulative Project Trip Assignment

CVC-15-001 Costa Azul Carmel Valley TIA

Not to Scale

5.0 Existing Plus Project Conditions

Existing plus project conditions analysis is intended to identify the project-related impacts on the existing circulation system.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the *existing plus project* scenario are consistent with existing conditions, previously shown in ***Exhibit 3***, with the exception of project driveways and other facilities assumed to be constructed by the proposed project to provide site access.

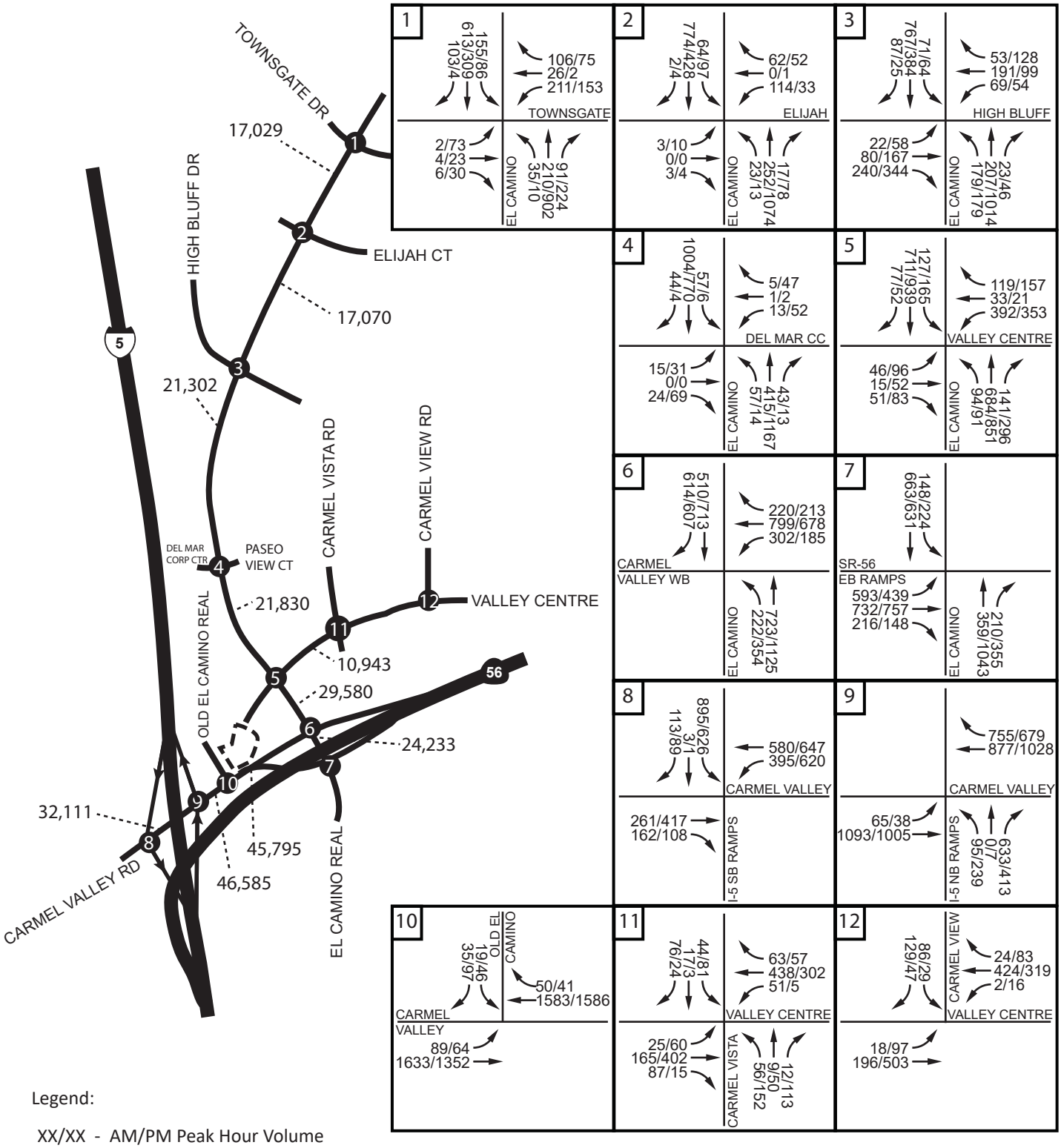
5.2 EXISTING PLUS PROJECT TRAFFIC VOLUMES

Existing plus project volumes include existing volumes plus the traffic projected to be generated by the proposed project at the study intersections, roadway segments, freeway segments and ramp meters.

Exhibit 9 shows *existing plus project* AM and PM peak hour volumes at the study intersections and ADT volumes at the study roadway segments.

5.3 EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE ANALYSIS

Existing plus project conditions AM and PM peak hour intersection analysis is shown in ***Table 12***. Calculations are based on the existing geometrics at the study area intersections as shown in ***Exhibit 3.*** HCM analysis sheets are provided in ***Appendix D***.



Legend:

XX/XX - AM/PM Peak Hour Volume
X,XXX - ADT Volume

Exhibit 9: Existing Plus Project Volumes

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Not to Scale

Table 12
Intersection Analysis – Existing Plus Project Conditions

	Intersection	Existing		Existing Plus Project				
		Delay – LOS		Delay – LOS		Change in Delay		Significant Impact?
		AM	PM	AM	PM	AM	PM	
1	El Camino Real/Townsgate Dr	35.0 – D	24.2 – C	36.2 – D	24.4 – C	1.2	0.2	No
2	El Camino Real/Elijah Court	15.4 – B	21.5 – C	15.4 – B	21.8 – C	0.0	0.3	No
3	El Camino Real/High Bluff Dr	24.2 – C	20.5 – C	21.3 – C	20.2 – C	-2.9	-0.3	No
4	El Camino Real/Del Mar Corp Ctr-Paseo	18.7 – B	7.5 – A	19.1 – B	7.7 – A	0.4	0.2	No
5	El Camino Real/Valley Centre Dr	34.9 – C	26.0 – C	35.4 – D	27.8 – C	0.5	1.8	No
6	El Camino Real/Carmel Valley Rd	21.1 – C	17.9 – B	21.1 – C	17.6 – B	0.0	-0.3	No
7	El Camino Real/SR-56 Eastbound	36.1 – D	39.3 – D	36.2 – D	39.5 – D	0.1	0.2	No
8	I-5 SB Ramps/Carmel Valley Rd	33.9 – C	36.5 – D	34.3 – C	36.9 – D	0.4	0.4	No
9	I-5 NB Ramps/Carmel Valley Rd	31.2 – C	24.7 – C	32.1 – C	24.7 – C	0.9	0.0	No
10	Old El Camino Real/Carmel Valley Rd	27.2 – C	26.6 – C	26.6 – C	25.7 – C	-0.6	-0.9	No
11	Carmel Vista Rd/Valley Centre Dr	21.9 – C	18.6 – B	22.0 – C	18.8 – B	0.1	0.2	No
12	Carmel Vie Rd/Valley Centre Dr	18.5 – B	20.5 – C	18.4 – B	20.2 – C	-0.1	-0.2	No

As shown in ***Table 12***, the intersections are projected to continue to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for existing plus project conditions. When analyzing intersections based on HCM methodology, which calculates average delay, it is possible for the addition of project trips to improve the overall average delay at an intersection; this happens when the proposed project adds trips to a movement that experiences lower delay than the intersection as a whole, and/or when the proposed project adds trips to an underutilized phase.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study intersections for existing plus project conditions.

5.4 EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 13 summarizes *existing plus project* conditions roadway segment analysis based on the LOS E capacities contained in the City of San Diego traffic impact study guidelines.

Table 13
Roadway Segment Analysis – Existing Plus Project Conditions

Roadway Segment	Functional Class	LOS E Capacity	Existing			Existing Plus Project				
			ADT	V/C	LOS	ADT	V/C	LOS	Change in V/C	Sig Imp?
El Camino Real – Townsgate Dr to Elijah Ct	6 – M	50,000	16,625	0.333	A	17,029	0.341	A	0.008	No
El Camino Real – Elijah Ct to High Bluff Dr	6 – M	50,000	16,666	0.333	A	17,070	0.341	A	0.008	No
El Camino Real – High Bluff Dr to Del Mar Corporate	6 – M	50,000	20,711	0.414	A	21,302	0.426	A	0.012	No
El Camino Real – Del Mar Corporate to Valley Centre	6 – M	50,000	21,052	0.421	A	21,830	0.437	A	0.016	No
El Camino Real – Valley Centre to Carmel Valley	5 – M	45,000	28,958	0.644	B	29,580	0.657	B	0.013	No
El Camino Real – Carmel Valley to SR-56 EB	5 – M	45,000	23,766	0.528	A	24,233	0.539	A	0.011	No
Valley Centre Drive – El Camino Real to Carmel View	4 – M	40,000	10,539	0.263	A	10,943	0.274	A	0.011	No
Carmel Valley Rd – I-5 SB Ramps to I-5 NB Ramps	6 – PA	60,000	31,380	0.523	A	32,111	0.535	A	0.012	No
Carmel Valley Rd – I-5 NB Ramps to Old El Camino	6 – PA	60,000	45,372	0.756	C	46,585	0.776	C	0.020	No
Carmel Valley Rd – Old El Camino to El Camino	6 – PA	60,000	45,204	0.753	C	45,795	0.763	C	0.010	No

Note: 6-M = 6 Lane Major, 5-M = 5 Lane Major, 4-C = 4 Lane Collector, 6-PA = 6 Lane Primary Arterial

As shown in ***Table*** 13, the study roadway segments are projected to operate at an acceptable LOS (LOS D or better) for *existing plus project* conditions.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study roadway segments for existing plus project conditions.

5.5 EXISTING PLUS PROJECT FREEWAY SEGMENT ANLAYSIS

Table 14 summarizes the results of the freeway segment analysis for existing plus project conditions on I-5 and SR-56.

Table 14
Freeway Segment Analysis – Existing Plus Project Conditions

Segment	Direction	Lanes	Capacity	Ex+P ADT	Peak Hour	Peak Hour %	Directional Split	Truck Factor	Peak Hour Volume	V/C	LOS
I-5											
Del Mar Heights Road/SR-56	NB	5 GP + 1 AUX + 1 HOV	15150	263311	PM	0.068	0.5268	0.98	9639	0.636	B
Del Mar Heights Road/SR-56	SB	5 GP + 1 AUX + 1 HOV	15150	263311	AM	0.070	0.5486	0.98	10303	0.680	B
SR-56/Carmel Mountain Rd	NB	7GP + 1HOV	18050	217747	PM	0.068	0.5268	0.98	7971	0.442	A
SR-56/Carmel Mountain Rd	SB	7GP + 1HOV	18050	217747	AM	0.070	0.5486	0.98	8520	0.472	A
SR-56											
El Camino Real/Carmel Creek	EB	2 GP + 1AUX	6500	74404	PM	0.084	0.639	0.98	4081	0.628	B
El Camino Real/Carmel Creek	WB	2 GP + 1AUX	6500	74404	AM	0.094	0.657	0.98	4664	0.718	C

Peak hour and split data from Caltrans Traffic Census Program: http://www.dot.ca.gov/trafficops/census/

ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
LOS = Level of Service
#GP = # of General Purpose Lanes
#HOV = # of High Occupancy Vehicle Lanes
#AUX = # of Auxiliary Lanes
#M = # of managed (express) lanes

Capacity for LOS E on freeway is 2,350 vehicles per hour per lane for General Purpose Lanes
Capacity for LOS E on freeway is 1,600 vehicles per hour per lane for HOV Lanes
Capacity for LOS E on freeway mainline is 1,800 vehicles per hour per lane for Auxiliary Lanes
(Source: Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002)
Peak Hour % and Directional Split taken Caltrans traffic data
Capacity for LOS E on freeway is 1,680 vehicles per hour per lane for managed lanes

As shown in ***Table 14,*** the study freeway segments are projected to operate at an acceptable LOS (LOS D or better) for *existing plus project* conditions.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study freeway segments for existing plus project conditions.

5.6 EXISTING PLUS PROJECT RAMP METER ANALYSIS

Table 15 summarizes the *existing plus project* delays and queues for the study ramp meters, based on the most restrictive meter rates provided by Caltrans.

The proposed project is projected to add 8 trips to the I-5 Northbound On-Ramp at Carmel Valley Road. Assuming a cycle length of 120 seconds (30 cycles per hour), the project would add a fraction of a trip to on-ramp during each cycle. Thus, the projected maximum queue would increase from 225 to 250 feet, with little to no change in delay given the current frequency of the ramp meter.

The proposed project is projected to add 59 trips to the I-5 Southbound On-Ramp at Carmel Valley Road. Assuming a cycle length of 120 seconds (30 cycles per hour), the project would add three trips to this two-lane on-ramp during each cycle. Thus, the projected maximum queue would increase from 275 to 325 feet in each lane, with a small increase in delay.

The proposed project is projected to add 32 trips to the SR-56 Eastbound On-Ramp at El Camino Real. Assuming a cycle length of 120 seconds (30 cycles per hour), the project would add approximately one trip to this two-lane on ramp during each cycle. Thus, the projected maximum queue would increase from 300 to 325 feet, with little to no change in delay given the current frequency of the ramp meter.

Table 15
Ramp Meter Analysis – Existing Plus Project Conditions

Location		Demand (Veh/Hr/Ln)	Meter Rate (Veh/Hr/Ln)	Excess Demand (Veh/Hr/Ln)	Delay (min)	Queue (feet)
Carmel Valley Road/I-5 SB On Ramp	AM	280	710	0	0	0
	PM	Meter is not turned on				
Carmel Valley Road/I-5 NB On Ramp	AM	Meter is not turned on				
	PM (HOV)	145	677	0	0.0	0
	PM (SOV)	579	677	0	0.0	0
El Camino Real/SR-56 EB On Ramp	AM	Meter is not turned on				
	PM	668	510	158	18.6	3950
Observed Meter Delay & Queue Plus Project Trips						
Location		**Ramp Meter Lanes**		**Maximum Projected Delay (Min)**	**Maximum Projected Queue (Feet)**	
Carmel Valley Road/I-5 SB On Ramp	AM	2 SOV		1.0	250	
	PM			Not turned on		
Carmel Valley Road/I-5 NB On Ramp	AM			Not turned on		
	PM	1 HOV		1.0	75	
	PM	1 SOV		2.5	325	
El Camino Real.SR-56 EB On Ramp	AM			Not turned on		
	PM	2 SOV		2.0	325	

Delay = (Excess Demand Per Lane - Meter Rate) / Meter Rate Per Lane * 60 minutes/hour

Queue per lane = Excess Demand *25 feet/vehicle

Note: SOV = Single Occupancy Vehicle Lane, HOV = High Occupancy Vehicle Lane

As shown in ***Table 15,*** if Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter for the entire peak hour, there would be excess demand of 158 vehicles per lane with a 18.6 minute delay and 3,950 foot queue per lane in the PM peak hour for *existing plus project conditions*.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study ramp meters for *existing plus project conditions* since the corresponding freeway segment the ramp meter is located on is operating at LOS D or better.

6.0 Near Term Without Project (2020) Conditions

Near term without project (2020) conditions were analyzed to provide a baseline for determining if the addition of proposed project trips would result in any significant traffic impacts in the study area.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the near term baseline conditions scenario are consistent with the existing conditions previously shown in ***Exhibit 3***. *Near term without project* (2020) conditions analysis assumes the same signal timing as in existing conditions.

6.2 NEAR TERM WITHOUT PROJECT (2020) TRAFFIC VOLUMES

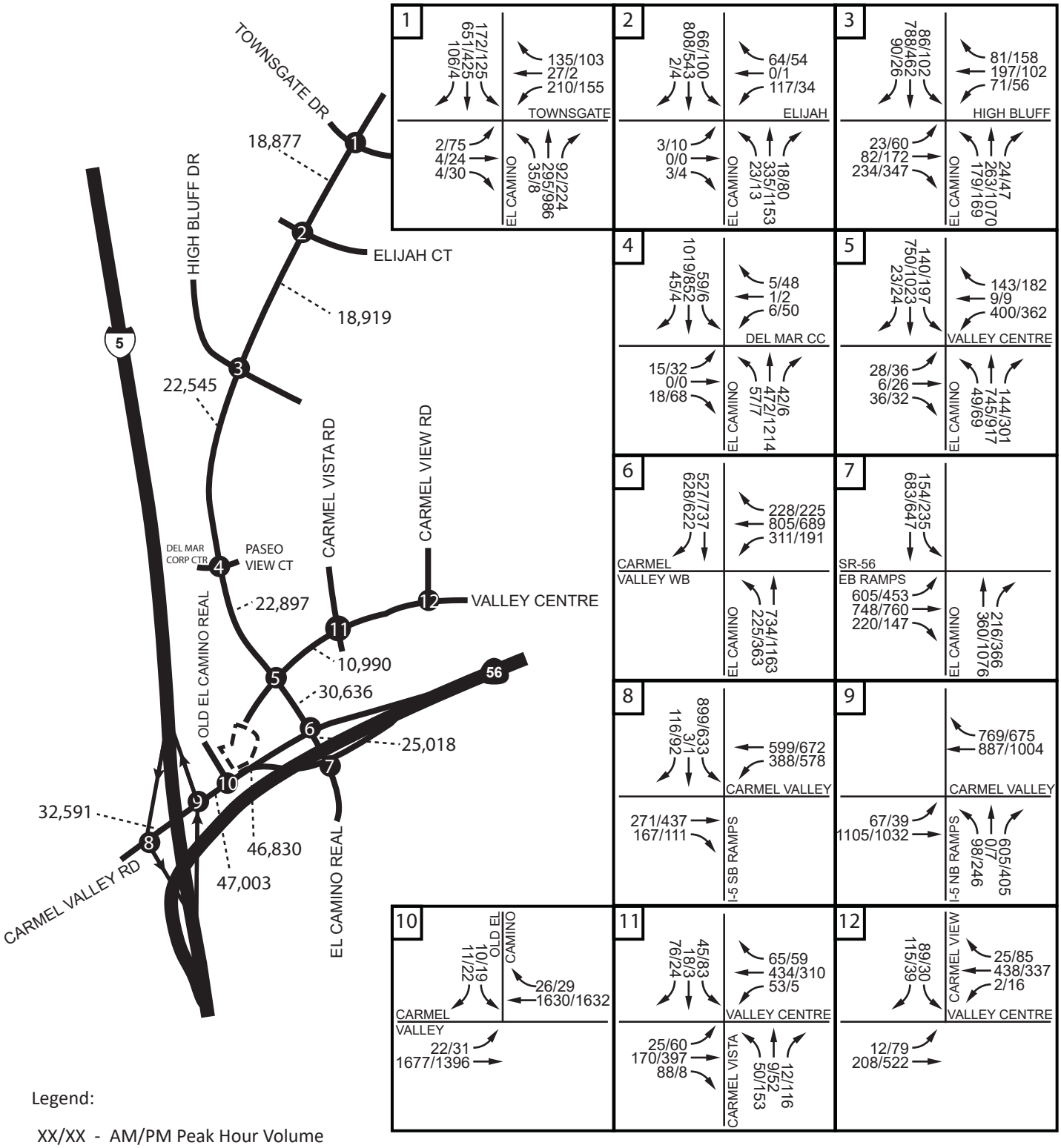
Near term without project (2020) traffic volumes were derived following the methodology outlined in the City of San Diego Traffic Impact Study Manual. *Near term without project (2020)* traffic volumes include background traffic plus ambient growth and the addition of the traffic projected to be generated by cumulative developments in the vicinity of the proposed project which are in various stages of planning, entitlement and construction. Since the proposed project is expected to be built and generating trips in 2020, *near term without project (2020)* traffic volumes include an ambient growth rate of 1% per year for three years, applied to existing volumes, to provide a conservative analysis. Based on SANDAG's traffic modeling, the long-term growth rate for the region is projected to be 0.68% per year. Traffic data has been collected twice for this project, once in 2015 and once in 2017, with the data collected on May 9, 2017 generally being lower than the data collected on July 23, 2015. Therefore, the use of a 1% per year growth rate is conservative.

As discussed previously TJW worked with City staff to determine a list of appropriate projects to include in the near term scenarios. It was determined that there was one potential project in the study area that could potentially be implemented in the near term and was appropriate to include in the cumulative scenario; New One Paseo. New One Paseo was previously discussed in *Section 4.6 Cumulative Projects Traffic.*

Near Term Without Project Traffic (2020) Volumes = (Existing Volumes * 1.01^{3}) + Cumulative Projects

The addition of both an ambient growth rate to account for potential unforeseen increases in traffic in the study area and cumulative projects traffic volumes represents a conservative projection of future traffic volumes.

Exhibit 10 shows *near term without project (2020)* AM and PM peak hour volumes at the study intersections and ADT volumes at the study roadway segments.



Legend:

XX/XX - AM/PM Peak Hour Volume
X,XXX - ADT Volume

Exhibit 10: Near Term Without Project Volumes

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Not to Scale

6.3 NEAR TERM WITHOUT PROJECT (2020) INTERSECTION LEVEL OF SERVICE ANALYSIS

Near term without project (2020) conditions AM and PM peak hour intersection analysis is shown in ***Table 16***. HCM analysis sheets are provided in ***Appendix E***.

Table 16
Intersection Analysis – Near Term without Project (2020) Conditions

Intersection		Control Type	AM Peak Hour	PM Peak Hour
			Delay - LOS	Delay - LOS
1	El Camino Real/Townsgate Dr	Signal	33.3 – C	25.9 – C
2	El Camino Real/Elijah Court	Signal	15.9 – B	22.3 – C
3	El Camino Real/High Bluff Dr	Signal	24.2 – C	20.2 – C
4	El Camino Real/Del Mar Corp Ctr-Paseo	Signal	19.0 – B	7.7 – A
5	El Camino Real/Valley Centre Dr	Signal	35.4 – D	26.3 – C
6	El Camino Real/Carmel Valley Rd	Signal	21.1 – C	17.5 – B
7	El Camino Real/SR-56 Eastbound	Signal	36.3 – D	40.1 – D
8	I-5 SB Ramps/Carmel Valley Rd	Signal	34.6 – C	36.8 – D
9	I-5 NB Ramps/Carmel Valley Rd	Signal	33.4 – C	24.7 – C
10	Old El Camino Real/Carmel Valley Rd	Signal	26.4 – C	25.6 – C
11	Carmel Vista Rd/Valley Centre Dr	Signal	22.1 – C	18.8 – B
12	Carmel View Rd/Valley Centre Dr	Signal	18.4 – B	20.3 – C

Note: Delay shown in seconds per vehicle

As shown in ***Table 16***, the intersections are projected to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *near term without project (2020)* conditions. When analyzing intersections based on HCM methodology, which calculates average delay, it is possible for the application of a growth rate and addition of cumulative project trips to improve the overall average delay at an intersection; this happens when the increase in trips is concentrated in movement that experiences lower delay than the intersection as a whole, and/or when additional trips are added to an underutilized phase.

6.4 NEAR TERM WITHOUT PROJECT (2020) ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 17 summarizes *near term without project (2020)* conditions roadway segment analysis based on capacities contained in the City of San Diego traffic impact study guidelines.

Table 17
Roadway Segment Analysis – Near Term without Project (2020) Conditions

Roadway Segment	Functional Class	LOS E Capacity	Near Term Without Project (2020)		
			ADT	V/C	LOS
El Camino Real – Townsgate Dr to Elijah Ct	6 – M	50,000	18,877	0.378	A
El Camino Real – Elijah Ct to High Bluff Dr	6 – M	50,000	18,919	0.378	A
El Camino Real – High Bluff Dr to Del Mar Corporate	6 – M	50,000	22,545	0.451	A
El Camino Real – Del Mar Corporate to Valley Centre	6 – M	50,000	22,897	0.458	A
El Camino Real – Valley Centre to Carmel Valley	5 – M	45,000	30,636	0.681	B
El Camino Real – Carmel Valley to SR-56 EB	5 – M	45,000	25,018	0.556	A
Valley Centre Drive – El Camino Real to Carmel View	4 – M	40,000	10,990	0.275	A
Carmel Valley Rd – I-5 SB Ramps to I-5 NB Ramps	6 – PA	60,000	32,591	0.543	A
Carmel Valley Rd – I-5 NB Ramps to Old El Camino	6 – PA	60,000	47,003	0.783	C
Carmel Valley Rd – Old El Camino to El Camino	6 – PA	60,000	46,830	0.781	C

Note: 6-M = 6 Lane Major, 5-M = 5 Lane Major, 4-C = 4 Lane Collector, 6-PA = 6 Lane Primary Arterial

As shown in ***Table 17***, the study roadway segments are projected to operate at an acceptable LOS (LOS D or better) for *near term without project (2020)* conditions.

6.5 NEAR TERM WITHOUT PROJECT (2020) FREEWAY SEGMENT ANLAYSIS

Table 18 summarizes the results of the freeway segment analysis for *near term without project (2020)* conditions on I-5 and SR-56. *Near term without project (2020)* conditions freeway volumes have been derived in a similar manner as intersection volumes; application of a 1% ambient growth rate for three years, plus cumulative project traffic volumes.

Table 18
Freeway Segment Analysis – Near Term without Project (2020) Conditions

Segment	Direction	Lanes	Capacity	2020 NP ADT	Peak Hour	Peak Hour %	Directional Split	Truck Factor	Peak Hour Volume	V/C	LOS
I-5											
Del Mar Heights Road/SR-56	NB	5 GP + 1 AUX + 1 HOV	15150	273317	PM	0.068	0.5268	0.98	10005	0.660	B
Del Mar Heights Road/SR-56	SB	5 GP + 1 AUX + 1 HOV	15150	273317	AM	0.070	0.5486	0.98	10695	0.706	C
SR-56/Carmel Mountain Rd	NB	7GP + 1HOV	18050	224858	PM	0.068	0.5268	0.98	8231	0.456	A
SR-56/Carmel Mountain Rd	SB	7GP + 1HOV	18050	224858	AM	0.070	0.5486	0.98	8799	0.487	A
SR-56											
El Camino Real/Carmel Creek	EB	2 GP + 1AUX	6500	76490	PM	0.084	0.639	0.98	4195	0.645	B
El Camino Real/Carmel Creek	WB	2 GP + 1AUX	6500	76490	AM	0.094	0.657	0.98	4795	0.738	C

Notes:

Peak hour and split data from Caltrans Traffic Census Program: http://www.dot.ca.gov/trafficops/census/

ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
LOS = Level of Service
#GP = # of General Purpose Lanes
#HOV = # of High Occupancy Vehicle Lanes
#AUX = # of Auxiliary Lanes
#M = # of managed (express) lanes

Capacity for LOS E on freeway is 2,350 vehicles per hour per lane for General Purpose Lanes
Capacity for LOS E on freeway is 1,600 vehicles per hour per lane for HOV Lanes
Capacity for LOS E on freeway mainline is 1,800 vehicles per hour per lane for Auxiliary Lanes
(Source: Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002)
Peak Hour % and Directional Split taken Caltrans traffic data
Capacity for LOS E on freeway is 1,680 vehicles per hour per lane for managed lanes

As shown in ***Table 18,*** the study freeway segments are projected to operate at an acceptable LOS (LOS D or better) for *near term without project (2020)* conditions.

6.6 NEAR TERM WITHOUT PROJECT (2020) RAMP METER ANALYSIS

Table 19 summarizes the *near term without project (2020)* delays and queues for the study ramp meters, based on the potential most restrictive meter rates provide by Caltrans.

Table 19
Ramp Meter Analysis – Near Term without Project (2020) Conditions

Location		Demand (Veh/Hr/Ln)	Meter Rate (Veh/Hr/Ln)	Excess Demand (Veh/Hr/Ln)	Delay (min)	Queue (feet)
Carmel Valley Road/I-5 SB On Ramp	AM	279	710	0	0	0
	PM	Meter is not turned on				
Carmel Valley Road/I-5 NB On Ramp	AM	Meter is not turned on				
	PM (HOV)	152	677	0	0.0	0
	PM (SOV)	577	677	0	0.0	0
El Camino Real/SR-56 EB On Ramp	AM	Meter is not turned on				
	PM	681	510	171	20.1	4275

Delay = (Excess Demand Per Lane - Meter Rate) / Meter Rate Per Lane * 60 minutes/hour

Queue per lane = Excess Demand *25 feet/vehicle

Note: SOV = Single Occupancy Vehicle Lane, HOV = High Occupancy Vehicle Lane

As shown in ***Table 19,*** at the currently observed meter rates, excess demand is projected at the El Camino Real/SR-56 Eastbound on-ramp meter for near-term without project conditions if Caltrans were to utilize the most restrictive meter rate for the entire peak hour. There would be excess demand of 171 vehicles per lane with a 20.1 minute delay and 4,275 foot queue per lane in the PM peak hour for *near term without project conditions*.

7.0 Near Term With Project (2020) Conditions

Near term with project (2020) conditions analysis is intended to identify the project-related impacts on the existing circulation system in the year the project is expected to be completed. The proposed project is expected to be built and generating trips in 2020.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the *near term without project (2020)* scenario are consistent with those previously shown in ***Exhibit 3***, with the exception of project driveways and other facilities assumed to be constructed by the proposed project to provide site access. *Near term with project (2020)* conditions analysis assumes existing signal timing.

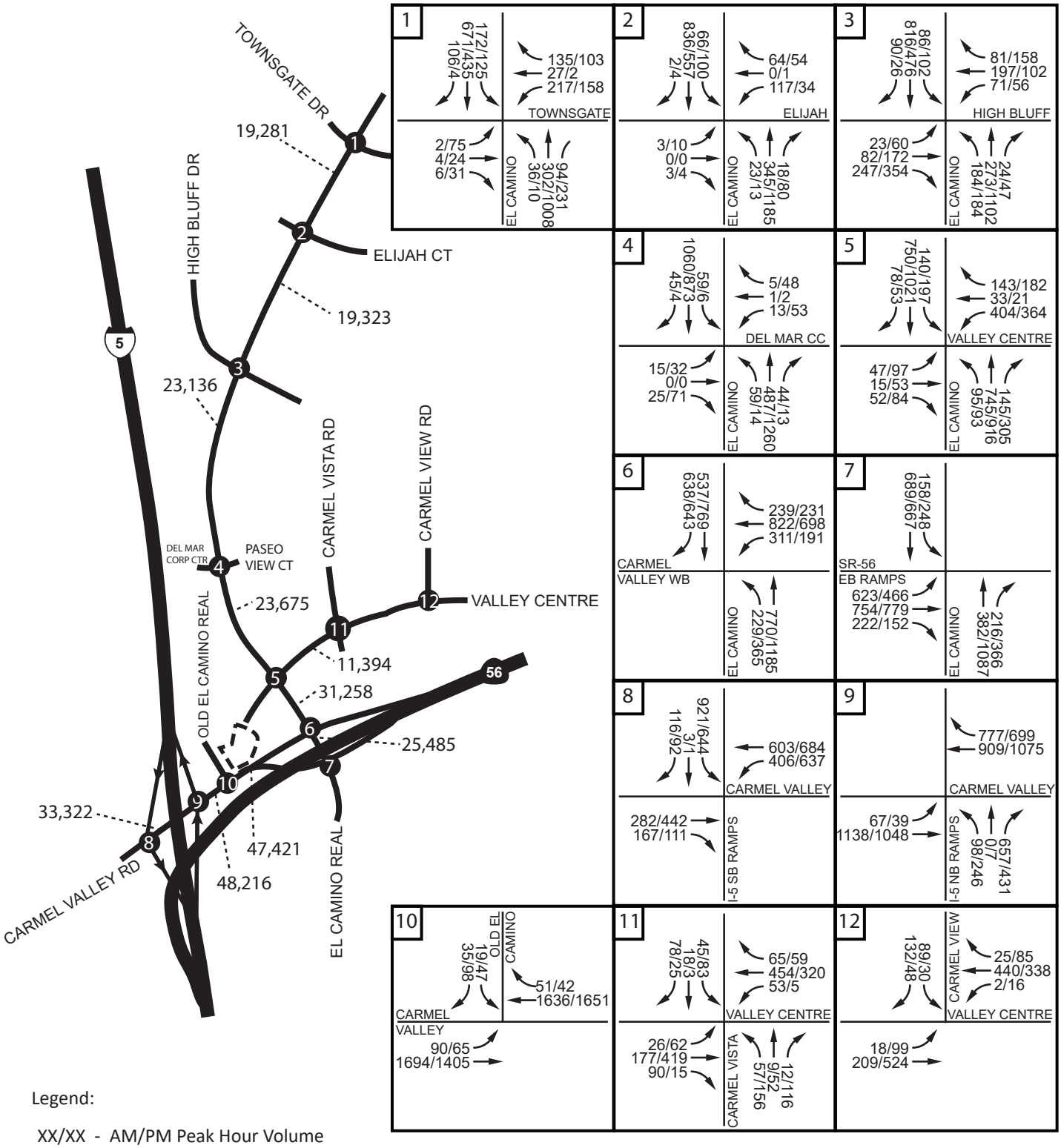
7.2 NEAR TERM WITH PROJECT (2020) TRAFFIC VOLUMES

Near term with project (2020) traffic volumes include *near term without project (2020)* traffic volumes plus the traffic projected to be generated by the proposed project at the study intersections, roadway segments, freeway segments and ramp meters.

Exhibit 11 shows *near term with project (2020)* AM and PM peak hour volumes at the study intersections and ADT volumes at the study roadway segments.

7.3 NEAR TERM WITH PROJECT (2020) INTERSECTION LEVEL OF SERVICE ANALYSIS

Near term with project (2020) conditions AM and PM peak hour intersection analysis is shown in ***Table 20.*** Calculations are based on the existing geometrics at the study area intersections as shown in ***Exhibit 3.*** HCM analysis sheets are provided in ***Appendix F***.



Legend:

XX/XX - AM/PM Peak Hour Volume
X,XXX - ADT Volume

Exhibit 11: Near Term With Project Volumes

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Not to Scale

Table 20
Intersection Analysis – Near Term with Project (2020) Conditions

	Intersection	Near-Term Without Project (2020)		Near-Term With Project (2020)				
		Delay – LOS		Delay – LOS		Change in Delay		Significant Impact?
		AM	PM	AM	PM	AM	PM	
1	El Camino Real/Townsgate Dr	33.3 – C	25.9 – C	33.5 – C	26.1 – C	0.2	0.2	No
2	El Camino Real/Elijah Court	15.9 – B	22.3 – C	16.0 – B	22.8 – C	0.1	0.5	No
3	El Camino Real/High Bluff Dr	24.2 – C	20.2 – C	21.6 – C	19.9 – B	-2.6	-0.3	No
4	El Camino Real/Del Mar Corp Ctr-Paseo	19.0 – B	7.7 – A	17.3 – B	8.0 – A	-1.7	0.3	No
5	El Camino Real/Valley Centre Dr	35.4 – D	26.3 – C	35.8 – D	28.1 – C	0.4	1.8	No
6	El Camino Real/Carmel Valley Rd	21.1 – C	17.5 – B	21.6 – C	17.3 – B	0.5	-0.2	No
7	El Camino Real/SR-56 Eastbound	36.3 – D	40.1 – D	36.3 – D	40.4 – D	0.0	0.3	No
8	I-5 SB Ramps/Carmel Valley Rd	34.6 – C	36.8 – D	36.4 – D	37.3 – D	1.8	0.5	No
9	I-5 NB Ramps/Carmel Valley Rd	33.4 – C	24.7 – C	34.4 – C	24.8 – C	1.0	0.1	No
10	Old El Camino Real/Carmel Valley Rd	26.4 – C	25.6 – C	24.9 – C	24.8 – C	-1.5	-0.8	No
11	Carmel Vista Rd/Valley Centre Dr	22.1 – C	18.8 – B	22.2 – C	18.9 – B	0.1	0.1	No
12	Carmel Vie Rd/Valley Centre Dr	18.4 – B	20.3 – C	18.3 – B	20.2 – C	-0.1	-0.1	No

As shown in ***Table 20***, the intersections are projected to continue to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *near term with project (2020)* conditions. When analyzing intersections based on HCM methodology, which calculates average delay, it is possible for the addition of project trips to improve the overall average delay at an intersection; this happens when the proposed project adds trips to a movement that experiences lower delay than the intersection as a whole, and/or when the proposed project adds trips to an underutilized phase.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study intersections for *near term with project (2020)* conditions.

7.4 NEAR TERM WITH PROJECT (2020) ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 21 summarizes *near term with project (2020)* conditions roadway segment analysis based on the LOS E capacities contained in the City of San Diego traffic impact study guidelines.

Table 21
Roadway Segment Analysis – Near Term with Project (2020) Conditions

Roadway Segment	Functional Class	LOS E Capacity	Near-Term Without Project			Near-Term With Project				
			ADT	V/C	LOS	ADT	V/C	LOS	Change in V/C	Sig Imp?
El Camino Real – Townsgate Dr to Elijah Ct	6 – M	50,000	18,877	0.378	A	19,281	0.386	A	0.008	No
El Camino Real – Elijah Ct to High Bluff Dr	6 – M	50,000	18,919	0.378	A	19,323	0.386	A	0.008	No
El Camino Real – High Bluff Dr to Del Mar Corporate	6 – M	50,000	22,545	0.451	A	23,136	0.463	A	0.012	No
El Camino Real – Del Mar Corporate to Valley Centre	6 – M	50,000	22,897	0.458	A	23,675	0.474	A	0.016	No
El Camino Real – Valley Centre to Carmel Valley	5 – M	45,000	30,636	0.681	B	31,258	0.695	B	0.014	No
El Camino Real – Carmel Valley to SR-56 EB	5 – M	45,000	25,018	0.556	A	25,485	0.566	A	0.010	No
Valley Centre Drive – El Camino Real to Carmel View	4 – M	40,000	10,990	0.275	A	11,394	0.285	A	0.010	No
Carmel Valley Rd – I-5 SB Ramps to I-5 NB Ramps	6 – PA	60,000	32,591	0.543	A	33,322	0.555	A	0.012	No
Carmel Valley Rd – I-5 NB Ramps to Old El Camino	6 – PA	60,000	47,003	0.783	C	48,216	0.804	D	0.021	No
Carmel Valley Rd – Old El Camino to El Camino	6 – PA	60,000	46,830	0.781	C	47,421	0.790	C	0.009	No

Note: 6-M = 6 Lane Major, 5-M = 5 Lane Major, 4-C = 4 Lane Collector, 6-PA = 6 Lane Primary Arterial

As shown in ***Table 21***, the study roadway segments are projected to operate at an acceptable LOS (LOS D or better) for *near term with project (2020)* conditions.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study roadway segments for *near term with project (2020)* conditions.

7.5 NEAR TERM WITH PROJECT (2020) FREEWAY SEGMENT ANLAYSIS

Table 22 summarizes the results of the freeway segment analysis for *near term with project (2020)* conditions on I-5 and SR-56. *Near term with project (2020)* conditions freeway volumes consist f *near term without project (2020) freeway volumes plus the addition of project trips.*

Table 22
Freeway Segment Analysis – Near Term with Project (2020) Conditions

Segment	Direction	Lanes	Capacity	2020 WP ADT	Peak Hour	Peak Hour %	Directional Split	Truck Factor	Peak Hour Volume	V/C	LOS
I-5											
Del Mar Heights Road/SR-56	NB	5 GP + 1 AUX + 1 HOV	15150	273628	PM	0.068	0.5268	0.98	10017	0.661	B
Del Mar Heights Road/SR-56	SB	5 GP + 1 AUX + 1 HOV	15150	273628	AM	0.070	0.5486	0.98	10707	0.707	C
SR-56/Carmel Mountain Rd	NB	7GP + 1HOV	18050	225605	PM	0.068	0.5268	0.98	8259	0.458	A
SR-56/Carmel Mountain Rd	SB	7GP + 1HOV	18050	225605	AM	0.070	0.5486	0.98	8828	0.489	A
SR-56											
El Camino Real/Carmel Creek	EB	2 GP + 1AUX	6500	76894	PM	0.084	0.639	0.98	4217	0.649	B
El Camino Real/Carmel Creek	WB	2 GP + 1AUX	6500	76894	AM	0.094	0.657	0.98	4820	0.742	C

Notes:

Peak hour and split data from Caltrans Traffic Census Program: http://www.dot.ca.gov/trafficops/census/

ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
LOS = Level of Service
#GP = # of General Purpose Lanes
#HOV = # of High Occupancy Vehicle Lanes
#AUX = # of Auxiliary Lanes
#M = # of managed (express) lanes

Capacity for LOS E on freeway is 2,350 vehicles per hour per lane for General Purpose Lanes
Capacity for LOS E on freeway is 1,600 vehicles per hour per lane for HOV Lanes
Capacity for LOS E on freeway mainline is 1,800 vehicles per hour per lane for Auxiliary Lanes
(Source: Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002)
Peak Hour % and Directional Split taken Caltrans traffic data
Capacity for LOS E on freeway is 1,680 vehicles per hour per lane for managed lanes

As shown in ***Table 22,*** the study freeway segments are projected to operate at an acceptable LOS (LOS D or better) for *near term with project (2020)* conditions.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study freeway segments for *near term with project (2020)* conditions.

7.6 NEAR TERM WITH PROJECT (2020) RAMP METER ANALYSIS

Table 23 summarizes the *near term with project (2020)* delays and queues for the study ramp meters, based on the potential most restrictive meter rates provide by Caltrans.

Table 23
Ramp Meter Analysis – Near Term with Project (2020) Conditions

Most Restrictive Meter Rate						
Location		Demand (Veh/Hr/Ln)	Meter Rate (Veh/Hr/Ln)	Excess Demand (Veh/Hr/Ln)	Delay (min)	Queue (feet)
Carmel Valley Road/I-5 SB On Ramp	AM	288	710	0	0	0
	PM	Meter is not turned on				
Carmel Valley Road/I-5 NB On Ramp	AM	Meter is not turned on				
	PM (HOV)	596	677	0	0.0	0
	PM (SOV)	0	677	0	0.0	0
El Camino Real/SR-56 EB On Ramp	AM	Meter is not turned on				
	PM	697	510	187	22.0	4675

Delay = (Excess Demand Per Lane - Meter Rate) / Meter Rate Per Lane * 60 minutes/hour

Queue per lane = Excess Demand *25 feet/vehicle

Note: SOV = Single Occupancy Vehicle Lane, HOV = High Occupancy Vehicle Lane

As shown in ***Table 23,*** if Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter for the entire peak hour, there would be excess demand of 187 vehicles per lane with a 22.0 minute delay and 4,675 foot queue per lane in the PM peak hour for *near term with project (2020)* conditions.

Based on the City's thresholds of significance, the addition of project generated trips to the study metered freeway ramps is not projected to result in a significant impact since the adjacent freeway section is projected to operate at an acceptable LOS.

8.0 Long Term Cumulative (2035) Without Project Conditions

Long term cumulative (2035) without project conditions represents Year 2035 traffic conditions absent the addition of the proposed Costa Azul Carmel Valley project. The SANDAG 2035 Series 12 regional traffic model is based on planning efforts involving all jurisdictions in San Diego County. SANDAG is the regional planning agency for San Diego County and is responsible for traffic modeling as well as the Regional Transportation Plan (RTP) which is used by the traffic model to estimate future traffic. SANDAG provided a model run based on the revenue constrained Series 12 traffic model without the SR-56/I-5 northbound connectors.

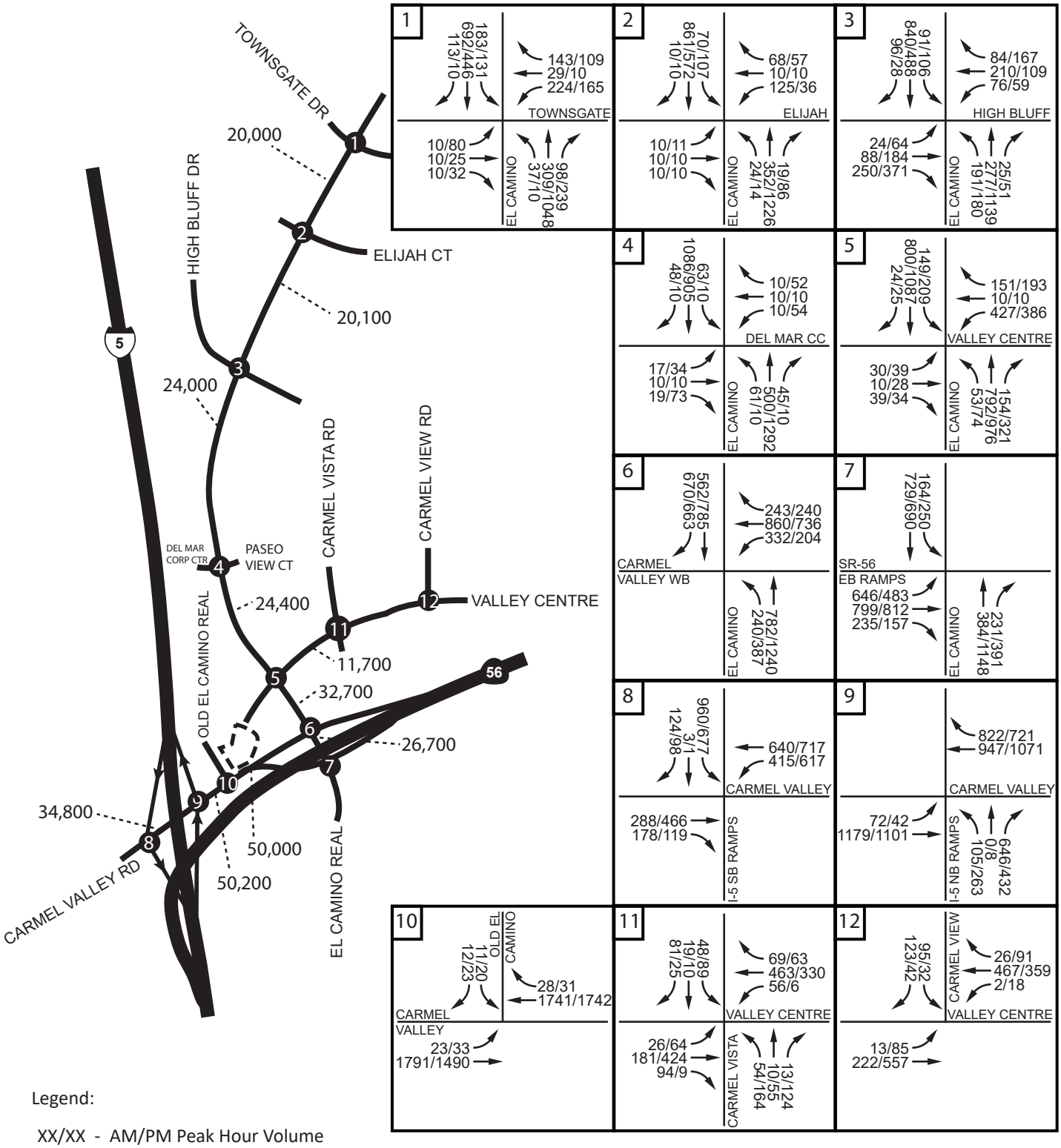
8.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the Long term cumulative scenario are consistent with existing conditions shown in ***Exhibit 3***. No changes to Camel Valley Road, El Camino Real or Valley Centre Drive are envisioned in the 2050 Regional Transportation Plan (RTP). In the RTP, I-5 in the study area is expected to be widened by one managed lane in each direction, with the existing HOV lane in each direction being converted to a managed lane, for a total of two managed lanes in each direction. This improvement is expected to occur by 2030. A Transportation Concept Report for SR-56 was completed by Caltrans in July 2017, which identifies the addition of one general purpose land and one managed lane in each direction on SR-56 in the study area. The addition of one general purpose lane in each direction is identified as a mid/long-term improvement, with the Segment of SR-56 in the study area (Segment 1) having the highest priority, The addition of one managed lane in each direction is identified as a long-term priority. Therefore, long-term cumulative analysis for freeway segments and ramp meters assume the addition of the one general purpose lane in each direction, but not that addition of the managed lane in each direction.

8.2 LONG TERM CUMULATIVE (2035) WITHOUT PROJECT TRAFFIC VOLUMES

Long term cumulative (2035) without project traffic volumes were derived from the Series 12 Model Run provided by SANDAG. For roadway and freeway mainline segments, daily traffic volumes from the model were utilized. AM/PM peak hour intersection volumes were first derived using an iterative method based on existing intersection turning movement volumes and the future AM/PM peak hour link volumes provided by SANDAG, utilizing the Bturns software. This method produced little to no growth in the long-term so a factoring method was then utilized to ensure that long-term cumulative without project volumes are at least 10% higher than existing volumes plus the inclusion of cumulative projects volumes.

Exhibit 12 shows *long term cumulative (2035) without project* AM and PM peak hour volumes at the study intersections and ADT volumes at the study roadway segments.



Legend:

XX/XX - AM/PM Peak Hour Volume
X,XXX - ADT Volume

Exhibit 12:
Long Term Cumulative Without Project Volumes

CVC-15-001 Costa Azul Carmel Valley TIA

Not to Scale

8.3 LONG TERM CUMULATIVE (2035) WITHOUT PROJECT INTERSECTION LEVEL OF SERVICE ANALYSIS

Long term cumulative (2035) without project conditions AM and PM peak hour intersection analysis is shown in ***Table 24***. HCM analysis sheets are provided in ***Appendix G***.

Table 24
Intersection Analysis – Long Term Cumulative (2035) without Project Conditions

Intersection		Control Type	AM Peak Hour	PM Peak Hour
			Delay - LOS	Delay - LOS
1	El Camino Real/Townsgate Dr	Signal	34.0 – C	26.9 – C
2	El Camino Real/Elijah Court	Signal	18.0 – B	23.5 – C
3	El Camino Real/High Bluff Dr	Signal	21.8 – C	20.4 – C
4	El Camino Real/Del Mar Corp Ctr-Paseo	Signal	16.7 – B	8.3 – A
5	El Camino Real/Valley Centre Dr	Signal	34.1 – C	27.1 – C
6	El Camino Real/Carmel Valley Rd	Signal	21.8 – C	17.4 – B
7	El Camino Real/SR-56 Eastbound	Signal	36.6 – D	42.1 – D
8	I-5 SB Ramps/Carmel Valley Rd	Signal	35.4 – D	37.5 – D
9	I-5 NB Ramps/Carmel Valley Rd	Signal	39.6 – D	25.0 – C
10	Old El Camino Real/Carmel Valley Rd	Signal	24.9 – C	24.2 – C
11	Carmel Vista Rd/Valley Centre Dr	Signal	22.4 – C	19.2 – B
12	Carmel View Rd/Valley Centre Dr	Signal	18.3 – B	20.1 – C

Note: Delay shown in seconds per vehicle

As shown in ***Table 24***, the intersections are projected to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *long term cumulative (2035) without project* conditions. It should be noted that in some instances it is possible for the delay/LOS at an intersection to be lower in the future than for existing conditions, even with higher volumes. This can occur if an intersection is underutilized/has available capacity, and the projected volumes growth is weighted more heavily towards movements with a delay less than the average intersection delay.

8.4 LONG TERM CUMULATIVE (2035) WITHOUT PROJECT ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table *25 summarizes long term cumulative (2035) without project* conditions roadway segment analysis based on capacities contained in the City of San Diego traffic impact study guidelines.

Table 25
Roadway Segment Analysis – Long Term Cumulative (2035) without Project Conditions

Roadway Segment	Functional Class	LOS E Capacity	Long Term Cumulative Without Project		
			ADT	V/C	LOS
El Camino Real – Townsgate Dr to Elijah Ct	6 – M	50,000	20,000	0.400	A
El Camino Real – Elijah Ct to High Bluff Dr	6 – M	50,000	20,100	0.402	A
El Camino Real – High Bluff Dr to Del Mar Corporate	6 – M	50,000	24,000	0.480	A
El Camino Real – Del Mar Corporate to Valley Centre	6 – M	50,000	24,400	0.488	A
El Camino Real – Valley Centre to Carmel Valley	5 – M	45,000	32,700	0.727	C
El Camino Real –Carmel Valley to SR-56 EB	5 – M	45,000	26,700	0.593	A
Valley Centre Drive – El Camino Real to Carmel View	4 – M	40,000	11,700	0.293	A
Carmel Valley Rd – I-5 SB Ramps to I-5 NB Ramps	6 – PA	60,000	34,800	0.580	A
Carmel Valley Rd – I-5 NB Ramps to Old El Camino	6 – PA	60,000	50,200	0.837	D
Carmel Valley Rd – Old El Camino to El Camino	6 – PA	60,000	50,000	0.833	D

Note: 6-M = 6 Lane Major, 5-M = 5 Lane Major, 4-C = 4 Lane Collector, 6-PA = 6 Lane Primary Arterial

As shown in ***Table 25***, the study roadway segments are projected to operate at an acceptable LOS (LOS D or better) for *long term cumulative (2035) without project* conditions.

8.5 LONG TERM CUMULATIVE (2035) WITHOUT PROJECT FREEWAY SEGMENT ANLAYSIS

Table 26 summarizes the results of the freeway segment analysis for *long term cumulative (2035) without project* conditions on I-5 and SR-56. *Long term cumulative (2035) without project* traffic volumes at the freeway segments were derived from the Series 12 Model Run provided by SANDAG. In the case of SR-56, the freeway volumes derived from the model were cross checked with the year 2040 volumes for segment 1 in the Transportation Concept Report.

Table 26
Freeway Segment Analysis – Long Term Cumulative (2035) without Project Conditions

Segment	Direction	Lanes	Capacity	2035 NP ADT	Peak Hour	Peak Hour %	Directional Split	Truck Factor	Peak Hour Volume	V/C	LOS
I-5											
Del Mar Heights Road/SR-56	NB	6GP + 2M	16910	315600	PM	0.068	0.5268	0.98	11553	0.683	C
Del Mar Heights Road/SR-56	SB	6GP + 2M	16910	315600	AM	0.070	0.5486	0.98	12349	0.730	C
SR-56/Carmel Mountain Rd	NB	7GP + 2M	19810	260400	PM	0.068	0.5268	0.98	9533	0.481	A
SR-56/Carmel Mountain Rd	SB	7GP + 2M	19810	260400	AM	0.070	0.5486	0.98	10189	0.514	A
SR-56											
El Camino Real/Carmel Creek	EB	3 GP + 1AUX	8850	113000	PM	0.084	0.639	0.98	6198	0.700	C
El Camino Real/Carmel Creek	WB	3 GP + 1AUX	8850	113000	AM	0.094	0.657	0.98	7083	0.800	D

Notes:

Peak hour and split data from Caltrans Traffic Census Program: http://www.dot.ca.gov/trafficops/census/

ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
LOS = Level of Service
#GP = # of General Purpose Lanes
#HOV = # of High Occupancy Vehicle Lanes
#AUX = # of Auxiliary Lanes
#M = # of managed (express) lanes

Capacity for LOS E on freeway is 2,350 vehicles per hour per lane for General Purpose Lanes
Capacity for LOS E on freeway is 1,600 vehicles per hour per lane for HOV Lanes
Capacity for LOS E on freeway mainline is 1,800 vehicles per hour per lane for Auxiliary Lanes
(Source: Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002)
Peak Hour % and Directional Split taken Caltrans traffic data
Capacity for LOS E on freeway is 1,680 vehicles per hour per lane for managed lanes

As shown in ***Table 26,*** the study freeway segments are projected to operate at an acceptable LOS (LOS D or better) for *long term cumulative (2035) without project* conditions, with the exception of SR-56 which is projected to operate at LOS F.

8.6 LONG TERM CUMULATIVE (2035) WITHOUT PROJECT RAMP METER ANALYSIS

Table 27 summarizes the *long term cumulative (2035) without project* delays and queues for the study ramp meters, based on the potential most restrictive meter rates provide by Caltrans.

Table 27
Ramp Meter Analysis – Long Term Cumulative (2035) without Project Conditions

Location		Demand (Veh/Hr/Ln)	Meter Rate (Veh/Hr/Ln)	Excess Demand (Veh/Hr/Ln)	Delay (min)	Queue (feet)
Carmel Valley Road/I-5 SB On Ramp	AM	298	710	0	0	0
	PM	369	710	0	0	0
Carmel Valley Road/I-5 NB On Ramp	AM (HOV)	179	677	0	0.0	0
	AM (SOV)	715	677	38	3.4	950
	PM (HOV)	154	677	0	0.0	0
	PM (SOV)	617	677	0	0.0	0
El Camino Real/SR-56 EB On Ramp	AM	597	510	87	10.2	2175
	PM	727	510	217	25.5	5425

Delay = (Excess Demand Per Lane - Meter Rate) / Meter Rate Per Lane * 60 minutes/hour

Queue per lane = Excess Demand *25 feet/vehicle

Note: SOV = Single Occupancy Vehicle Lane, HOV = High Occupancy Vehicle Lane

As shown in ***Table 27,*** if Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter for the entire peak hour, there would be excess demand of 87 vehicles per lane with an 10.2 minute delay and 2,175 foot queue during the AM peak hour and excess demand of 217 vehicles per lane with a 25.5 minute delay and 5,425 foot queue in the PM

peak hour for *long term cumulative (2035) without project conditions*. If Caltrans were to utilize the most restrictive rate at the Carmel Valley Road/I-5 Northbound On Ramp for the entire peak hour, there would be excess demand of 38 vehicles with a 3.4 minute delay and 950 foot queue during the AM peak hour in the single occupant vehicle lane for *long term cumulative (2035) without project conditions.*

9.0 Long Term Cumulative (2035) with Project Conditions

Long term cumulative (2035) with project conditions analysis is intended to identify the project-related impacts on the long term circulation system in the year the project is expected to be completed. The current long-term forecast year for SANDAG modeling is 2035, as discussed in section 8.0.

9.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the existing conditions scenario are consistent with those previously shown in ***Exhibit 3***. No changes to Camel Valley Road, El Camino Real or Valley Centre Drive are envisioned in the 2050 Regional Transportation Plan (RTP). In the RTP, I-5 in the study area is expected to be widened by one managed lane in each direction, with the existing HOV lane in each direction being converted to a managed lane, for a total of two managed lanes in each direction. This improvement is expected to occur by 2030. A Transportation Concept Report for SR-56 was completed by Caltrans in July 2017, which identifies the addition of one general purpose land and one managed lane in each direction on SR-56 in the study area. The addition of one general purpose lane in each direction is identified as a mid/long-term improvement, with the Segment of SR-56 in the study area (Segment 1) having the highest priority, The addition of one managed lane in each direction is identified as a long-term priority. Therefore, long-term cumulative analysis for freeway segments and ramp meters assume the addition of the one general purpose lane in each direction, but not that addition of the managed lane in each direction.

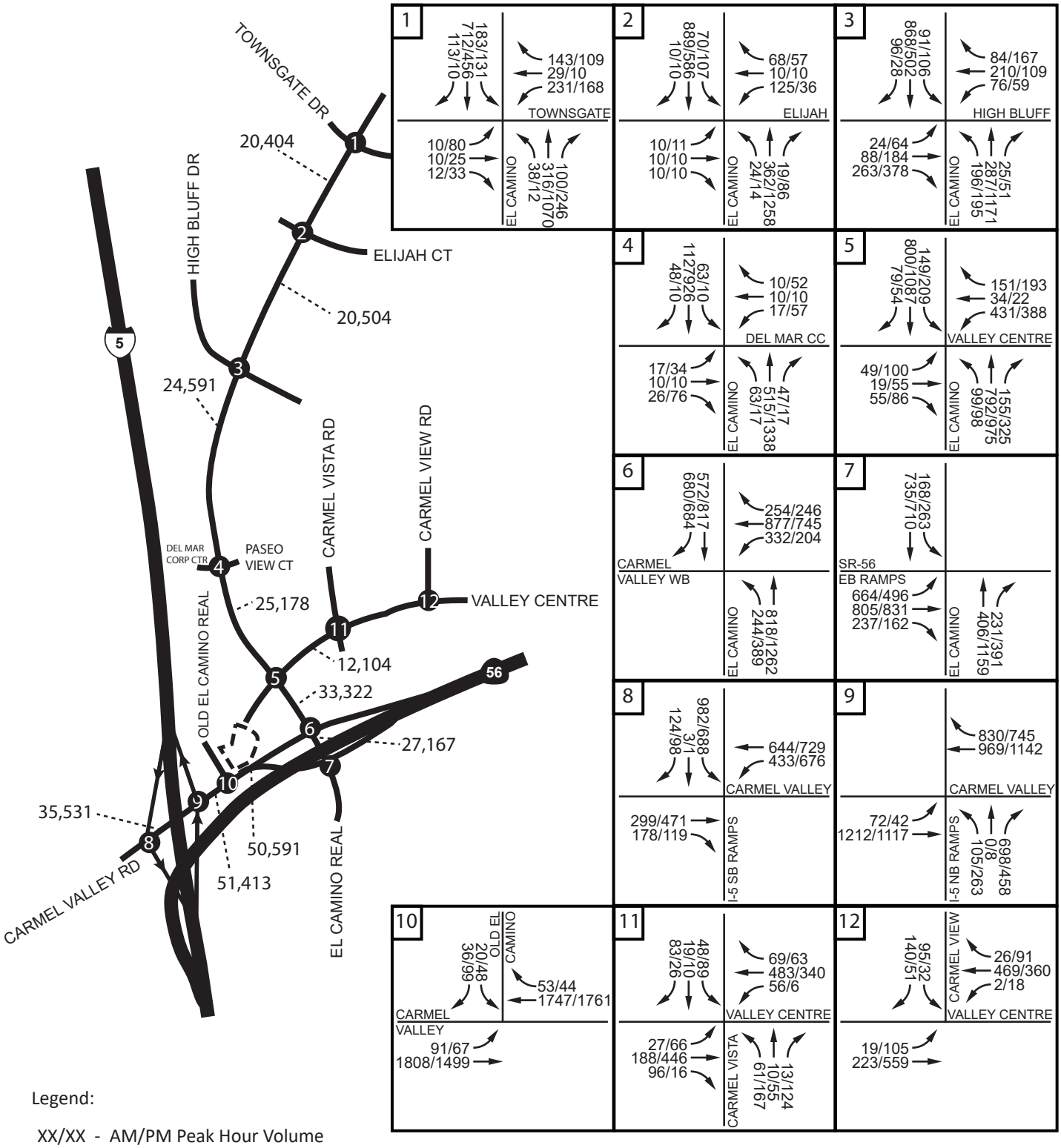
9.2 LONG TERM CUMULATIVE (2035) WITH PROJECT TRAFFIC VOLUMES

Long term cumulative (2035) with project traffic volumes include *long term cumulative (2035) without project* traffic volumes plus the traffic projected to be generated by the proposed project at the study intersections, roadway segments, freeway segments and ramp meters.

Exhibit 13 shows *long term cumulative (2035) with project* AM and PM peak hour volumes at the study intersections and ADT volumes at the study roadway segments.

9.3 LONG TERM CUMULATIVE (2035) WITH PROJECT INTERSECTION LEVEL OF SERVICE ANALYSIS

Long term cumulative (2035) with project conditions AM and PM peak hour intersection analysis is shown in ***Table 28.*** Calculations are based on the existing geometrics at the study area intersections as shown in ***Exhibit 3.*** HCM analysis sheets are provided in ***Appendix H***.



Legend:

XX/XX - AM/PM Peak Hour Volume
X,XXX - ADT Volume

Exhibit 13:
Long Term Cumulative With Project Volumes

CVC-15-001 Costa Azul Carmel Valley TIA

Not to Scale

Table 28
Intersection Analysis – Long Term Cumulative (2035) with Project Conditions

	Intersection	Long-Term Cumulative Without Project (2035)		Long-Term Cumulative With Project (2035)				
		Delay – LOS		Delay – LOS		Change in Delay		Significant Impact?
		AM	PM	AM	PM	AM	PM	
1	El Camino Real/Townsgate Dr	34.0 – C	26.9 – C	34.2 – C	27.2 – C	0.2	0.3	No
2	El Camino Real/Elijah Court	18.0 – B	23.5 – C	18.1 – B	24.2 – C	0.1	0.7	No
3	El Camino Real/High Bluff Dr	21.8 – C	20.4 – C	21.7 – C	20.4 – C	-0.1	-0.3	No
4	El Camino Real/Del Mar Corp Ctr-Paseo	16.7 – B	8.3 – A	17.1 – B	8.7 – A	0.4	0.4	No
5	El Camino Real/Valley Centre Dr	34.1 – C	27.1 – C	34.5 – C	28.7 – C	0.4	1.7	No
6	El Camino Real/Carmel Valley Rd	21.8 – C	17.4 – B	21.9 – C	17.2 – B	0.1	-0.2	No
7	El Camino Real/SR-56 Eastbound	36.6 – D	42.1 – D	36.7 – D	42.5 – D	0.1	0.4	No
8	I-5 SB Ramps/Carmel Valley Rd	35.4 – D	37.5 – D	35.9 – D	37.9 – D	0.5	0.4	No
9	I-5 NB Ramps/Carmel Valley Rd	39.6 – D	25.0 – C	40.8 – D	25.5 – C	1.2	0.5	No
10	Old El Camino Real/Carmel Valley Rd	24.9 – C	24.2 – C	23.4 – C	23.6 – C	-1.5	-0.6	No
11	Carmel Vista Rd/Valley Centre Dr	22.4 – C	19.2 – B	22.5 – C	19.6 – B	0.1	0.4	No
12	Carmel Vie Rd/Valley Centre Dr	18.3 – B	20.1 – C	18.2 – B	20.0 – C	-0.1	-0.1	No

As shown in ***Table 28***, the intersections are projected to continue to operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours for *long term cumulative (2035) with project* conditions. When analyzing intersections based on HCM methodology, which calculates average delay, it is possible for the addition of project trips to improve the overall average delay at an intersection; this happens when the proposed project adds trips to a movement that experiences lower delay than the intersection as a whole, and/or when the proposed project adds trips to an underutilized phase.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study intersections for *long term cumulative (2035) with project* conditions.

9.4 LONG TERM CUMULATIVE (2035) WITH PROJECT ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 29 summarizes *long term cumulative (2035) with project* conditions roadway segment analysis based on the LOS E capacities contained in the City of San Diego traffic impact study guidelines.

Table 29
Roadway Segment Analysis – Long Term Cumulative (2035) with Project Conditions

Roadway Segment	Functional Class	LOS E Capacity	Long Term Cumulative Without Project			Long Term Cumulative With Project				
			ADT	V/C	LOS	ADT	V/C	LOS	Change in V/C	Sig Imp?
El Camino Real – Townsgate Dr to Elijah Ct	6 – M	50,000	20,000	0.400	A	20,404	0.408	A	0.008	No
El Camino Real – Elijah Ct to High Bluff Dr	6 – M	50,000	20,100	0.402	A	20,504	0.410	A	0.008	No
El Camino Real – High Bluff Dr to Del Mar Corporate	6 – M	50,000	24,000	0.480	A	24,591	0.492	A	0.012	No
El Camino Real – Del Mar Corporate to Valley Centre	6 – M	50,000	24,400	0.488	A	25,178	0.504	A	0.016	No
El Camino Real – Valley Centre to Carmel Valley	5 – M	45,000	32,700	0.727	C	33,322	0.740	C	0.013	No
El Camino Real – Carmel Valley to SR-56 EB	5 – M	45,000	26,700	0.593	A	27,167	0.604	B	0.011	No
Valley Centre Drive – El Camino Real to Carmel View	4 – M	40,000	11,700	0.293	A	12,104	0.303	A	0.010	No
Carmel Valley Rd – I-5 SB Ramps to I-5 NB Ramps	6 – PA	60,000	34,800	0.580	A	35,531	0.592	A	0.012	No
Carmel Valley Rd – I-5 NB Ramps to Old El Camino	6 – PA	60,000	50,200	0.837	D	51,413	0.857	D	0.020	No
Carmel Valley Rd – Old El Camino to El Camino	6 – PA	60,000	50,000	0.833	D	50,591	0.843	D	0.010	No

Note: 6-M = 6 Lane Major, 5-M = 5 Lane Major, 4-C = 4 Lane Collector, 6-PA = 6 Lane Primary Arterial

As shown in ***Table 29***, the study roadway segments are projected to operate at an acceptable LOS (LOS D or better) for *long term cumulative (2035) with project* conditions.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study roadway segments for *long term cumulative (2035) with project* conditions.

9.5 LONG TERM CUMULATIVE (2035) WITH PROJECT FREEWAY SEGMENT ANLAYSIS

Table 30 summarizes the results of the freeway segment analysis for *long term cumulative (2035) with project* conditions on I-5 and SR-56.

Table 30
Freeway Segment Analysis – Long Term Cumulative (2035) with Project Conditions

Segment	Direction	Lanes	Capacity	2035 WP ADT	Peak Hour	Peak Hour %	Directional Split	Truck Factor	Peak Hour Volume	V/C	LOS
I-5											
Del Mar Heights Road/SR-56	NB	5GP + 1 AUX + 2M	16910	315911	PM	0.068	0.5268	0.98	11565	0.684	C
Del Mar Heights Road/SR-56	SB	5GP + 1 AUX + 2M	16910	315911	AM	0.070	0.5486	0.98	12362	0.731	C
SR-56/Carmel Mountain Rd	NB	7GP + 2M	19810	261147	PM	0.068	0.5268	0.98	9560	0.483	A
SR-56/Carmel Mountain Rd	SB	7GP + 2M	19810	261147	AM	0.070	0.5486	0.98	10219	0.516	A
SR-56											
El Camino Real/Carmel Creek	EB	2 GP + 1AUX	8850	113404	PM	0.084	0.639	0.98	6220	0.703	C
El Camino Real/Carmel Creek	WB	2 GP + 1AUX	8850	113404	AM	0.094	0.657	0.98	7109	0.803	D

Notes:
Peak hour and split data from Caltrans Traffic Census Program: http://www.dot.ca.gov/trafficops/census/
ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
LOS = Level of Service
#GP = # of General Purpose Lanes
#HOV = # of High Occupancy Vehicle Lanes
#AUX = # of Auxiliary Lanes
#M = # of managed (express) lanes

Capacity for LOS E on freeway is 2,350 vehicles per hour per lane for General Purpose Lanes
Capacity for LOS E on freeway is 1,600 vehicles per hour per lane for HOV Lanes
Capacity for LOS E on freeway mainline is 1,800 vehicles per hour per lane for Auxiliary Lanes
(Source: Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002)
Peak Hour % and Directional Split taken Caltrans traffic data
Capacity for LOS E on freeway is 1,680 vehicles per hour per lane for managed lanes

As shown in ***Table 30,*** the study freeway segments are projected to operate at an acceptable LOS (LOS D or better) for *long term cumulative (2035) with project* conditions with the exception of SR-56 which is projected to operate at LOS F.

Based on the City's thresholds of significance the addition of project generated trips is not projected to result in a significant direct impact at any of the study freeway segments for *long term cumulative (2035) with project* conditions.

9.6 LONG TERM CUMULATIVE (2035) WITH PROJECT RAMP METER ANALYSIS

Table 31 summarizes the *long term cumulative (2035) with project* delays and queues for the study ramp meters, based on the potential most restrictive meter rates provide by Caltrans.

Table 31
Ramp Meter Analysis – Long Term Cumulative (2035) with Project Conditions

Most Restrictive Meter Rate						
Location		Demand (Veh/Hr/Ln)	Meter Rate (Veh/Hr/Ln)	Excess Demand (Veh/Hr/Ln)	Delay (min)	Queue (feet)
Carmel Valley Road/I-5 SB On Ramp	AM	307	710	0	0	0
	PM	398	710	0	0	0
Carmel Valley Road/I-5 NB On Ramp	AM (HOV)	180	677	0	0.0	0
	AM (SOV)	722	677	45	4.0	1125
	PM (HOV)	159	677	0	0.0	0
	PM (SOV)	636	677	0	0.0	0
El Camino Real/SR-56 EB On Ramp	AM	602	510	92	10.8	2300
	PM	743	510	233	27.4	5825

Delay = (Excess Demand Per Lane - Meter Rate) / Meter Rate Per Lane * 60 minutes/hour

Queue per lane = Excess Demand *25 feet/vehicle

Note: SOV = Single Occupancy Vehicle Lane, HOV = High Occupancy Vehicle Lane

As shown in ***Table 31,*** if Caltrans were to utilize the most restrictive meter rate at the El Camino Real/SR-56 Eastbound on-ramp meter for the entire peak hour, there would be excess demand of 92 vehicles per lane with an 10.8 minute delay and 2,300 foot queue during the AM peak hour and excess demand of 233 vehicles per lane with a 27.4 minute delay and 5,825 foot queue in the PM peak hour for *long term cumulative (2035) with project conditions*. If Caltrans were to utilize the most restrictive rate at the Carmel Valley Road/I-5 Northbound On Ramp for the entire peak hour, there would be excess demand of 45 vehicles with a 4.0 minute delay and 1,125 foot queue during the AM peak hour in the single occupant vehicle lane for *long term cumulative (2035) with project conditions.*

Based on the City's thresholds of significance, the addition of project generated trips to the study metered freeway ramps is not projected to result in a significant impact since the adjacent freeway section is projected to operate at an acceptable LOS.

10.0 On-Site Circulation and Site Access

This section summarizes proposed site access and on-site circulation. The proposed Costa Azul Carmel Valley project has site access via Valley Centre Drive and Old El Camino Real.

Site access on Old El Camino Real will be at the end of the existing cul-de-sac and will provide direct ingress/egress into the first level of the project's subterranean parking garage. The project proposes a new driveway curb cut/access on Old El Camino Real. Site access on Valley Centre Drive will be provided at two driveways located at the end of the existing cul-de-sac. The first location is an existing driveway at the north end of the cul–de-sac that currently serves existing office and restaurant land uses adjacent to the proposed project site. This driveway provides access to surface parking in the rear (northern) portion of the site. A second driveway will be located at the west end of the cul-de-sac and will serve as the main entry/exit access to the hotel and restaurants; providing access both to surface parking as well as the two-level subterranean structure.

The proposed hotel will have an on-site porte-cochere for hotel guest loading/unloading.

11.0 Transportation Demand Management

Transportation Demand Management ("TDM") refers to strategies designed to reduce traffic impacts by reducing single occupant vehicle ("SOV") traffic to/from a site during the AM and PM peak hours, as well as in general. Since the most traffic congestion is experienced during the peak AM/PM commute hours, the goal of TDM is to shift SOV commuters to other modes of transportation, by encouraging peak spreading (encouraging commuting in non-peak periods), and by eliminating the need to travel by providing a mix of uses on a site.

The Costa Azul Carmel Valley project is proposing to incorporate several TDM measures to encourage alternative modes of transportation and to reduce SOV trips to/from the site including the following:

- Provision of 46 bicycle parking spaces, including 23 short-term and 23 long-term bike lockers.
- Designation of 37 preferential parking spaces for carpools/zero emissions and electric vehicles.
- Provision of shower and locker facilities.
- Provision of transit subsidies/parking cash out.
- The proposed hotel will offer a free shuttle to locations within a 5-mile radius such as transit stations and other major activity centers such as One Paseo.
- Asset Property Management, Inc. has been retained to coordinate TDM activities at the site.
- Provide incentives for carpooling, such as inclusion of a carpool/rideshare information kiosk in the office component of the project, contracting with a ride-matching platform such as RideAmigos to facilitate carpooling, and potential monetary incentives such as a parking cash out.

11.1 TRANSIT

Currently there are no local or rapid bus routes or fixed rail routes in the vicinity of the proposed project site. The 2050 Regional Transportation Plan (RTP) approved by SANDAG includes a Rapid Bus Service (Route 473) as part of the capital improvements in the revenue constrained plan. The proposed Rapid Bus Route 473 would travel from Oceanside to Westfield UTC and would travel along El Camino Real in the vicinity of the project site. This improvement is planned to occur in 2030.

For the foreseeable future, transit will not provide any potential for SOV trip reductions.

11.2 BIKING/WALKING

There are currently Class II bicycle lanes in both directions on El Camino Real, High Bluff Drive and Valley Centre Drive. East of the project site, there are several fairly dense residential communities. It is conceivable that anyone living 0-3 miles from the site in these communities, could bicycle to the site, either to visit the restaurants or to travel to work if they work in the office building.

Additionally there are several large office buildings and hotels within walking distance of the proposed project site. The restaurants proposed as part of the project represent an amenity to these office workers and guests that is easily accessible via bicycle or walking. Therefore the site does have some potential for bicycling and walking to reduce the number of vehicular trips to the site.

11.3 SHUTTLE SERVICE

The proposed hotel will offer a free shuttle service to locations within a 5-mile radius such as transit and other major activity centers which may reduce single occupancy vehicle travel within the study area.

11.4 PARKING

The project applicant has provided a ULI shared parking analysis, included as part of the site plan package, which is contained in ***Appendix I***. The shared parking analysis calculations are on sheets 15 and 16 in ***Appendix I,*** while the summary of parking required per the LDC and the proposed parking to be provided by the project is on sheet 5.

Per the analysis provided, based on LDC requirements, the project would be required to provide a minimum of 454 automobile parking spaces in total, 9 accessible parking spaces, 10 motorcycle parking spaces, 23 short-term bicycle parking spaces, 23 long-term bicycle parking spaces, 37 carpool/zero emissions parking spaces, and 3 loading zones.

The project proposes to provide 454 automobile parking spaces, 10 accessible parking spaces, 10 motorcycle parking spaces, 23 short-term bicycle parking spaces, 23 long-term bicycle parking spaces, 37 carpool/zero emissions parking spaces, 1 office loading space, and 2 hotel loading spaces.

Appendices

APPENDIX A

SANDAG SELECT ZONE MODEL RUN

SANDAG Series 12
2035 2007 RTP
Revenue Constrained
Highway Network
Eastridge East Grading Study
Costa Azul Project Select Zone

CARMEL VALLEY Area

Model Run 6/26/15
SR12 V3 2035 RC RTP11

Forecasted Volumes:

- # Unadjusted Volume (in Thousands)
- # Select Link Volume
- # Select Link Percentage
- # Traffic Analysis Zone

Link Distributions:

- 100%
- 50.1% --> 99.9%
- 25.1% --> 50.0%
- 10.1% --> 25.0%
- 5.1% --> 10.0%
- 0.1% --> 5.0%
- 0%

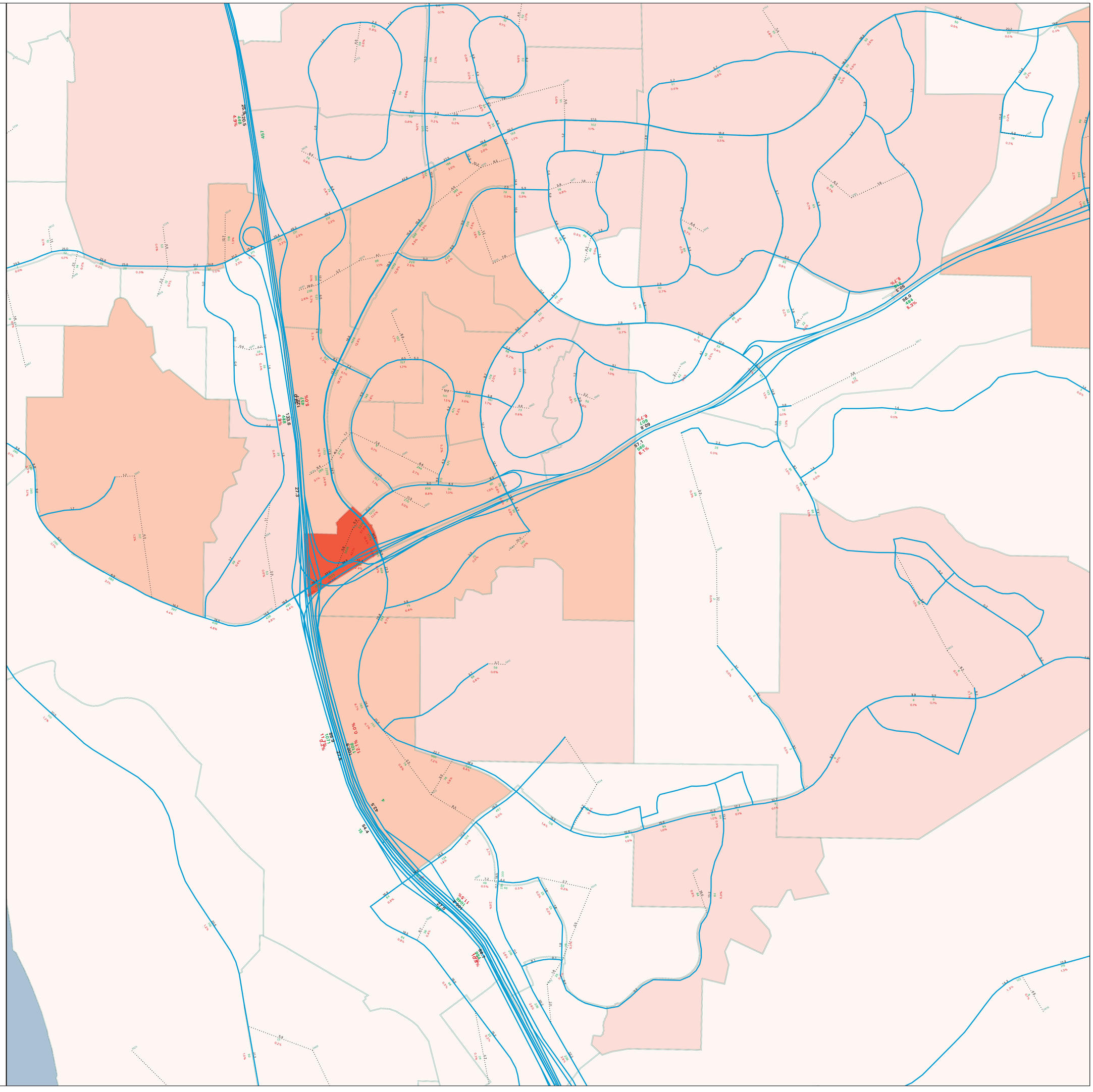
Zonal Distributions:

- 100%
- 25.1% --> 99.9%
- 10.1% --> 25.0%
- 1.1% --> 10.0%
- 0.6% --> 1.0%
- 0.1% --> 0.5%
- Zero Trips (0.0%)

Feet 0 500 1,000
Meters 60 180 300

SANDAG
San Diego's Regional Planning Agency

June 29, 2015



APPENDIX B

EXISTING TRAFFIC COUNTS AND RAMP METER INFORMATION

Tuesday, May 09, 2017 | CITY: San Diego | PROJECT: SC1324

Prepared by: Field Data Services of Arizona

ADT3 Carmel Valley between I-5 NB Ramps and Old El Camino Real. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	0		0		31		27			12:00	0		0		327		357		
0:15	0		0		20		22			12:15	0		0		309		312		
0:30	0		0		22		16			12:30	0		0		341		321		
0:45	0	0	0	0	15	88	14	79	167	12:45	0	0	0	0	339	1316	333	1323	2639
1:00	0		0		19		9			13:00	0		0		327		337		
1:15	0		0		14		8			13:15	0		0		340		340		
1:30	0		0		8		16			13:30	0		0		350		395		
1:45	0	0	0	0	7	48	9	42	90	13:45	0	0	0	0	399	1416	315	1387	2803
2:00	0		0		6		12			14:00	0		0		345		361		
2:15	0		0		6		13			14:15	0		0		449		353		
2:30	0		0		8		15			14:30	0		0		506		426		
2:45	0	0	0	0	8	28	7	47	75	14:45	0	0	0	0	512	1812	495	1635	3447
3:00	0		0		6		7			15:00	0		0		556		430		
3:15	0		0		6		11			15:15	0		0		446		370		
3:30	0		0		14		9			15:30	0		0		520		391		
3:45	0	0	0	0	11	37	10	37	74	15:45	0	0	0	0	476	1998	345	1536	3534
4:00	0		0		19		22			16:00	0		0		331		385		
4:15	0		0		22		24			16:15	0		0		374		335		
4:30	0		0		27		24			16:30	0		0		340		381		
4:45	0	0	0	0	29	97	42	112	209	16:45	0	0	0	0	306	1351	329	1430	2781
5:00	0		0		45		68			17:00	0		0		337		436		
5:15	0		0		67		50			17:15	0		0		408		372		
5:30	0		0		86		120			17:30	0		0		325		410		
5:45	0	0	0	0	135	333	125	363	696	17:45	0	0	0	0	303	1373	374	1592	2965
6:00	0		0		158		136			18:00	0		0		329		394		
6:15	0		0		245		221			18:15	0		0		343		375		
6:30	0		0		278		289			18:30	0		0		306		340		
6:45	0	0	0	0	318	999	284	930	1929	18:45	0	0	0	0	251	1229	275	1384	2613
7:00	0		0		256		370			19:00	0		0		236		256		
7:15	0		0		373		364			19:15	0		0		220		239		
7:30	0		0		459		417			19:30	0		0		240		198		
7:45	0	0	0	0	414	1502	387	1538	3040	19:45	0	0	0	0	185	881	180	873	1754
8:00	0		0		381		397			20:00	0		0		202		166		
8:15	0		0		383		388			20:15	0		0		236		134		
8:30	0		0		385		399			20:30	0		0		209		114		
8:45	0	0	0	0	377	1526	373	1557	3083	20:45	0	0	0	0	169	816	123	537	1353
9:00	0		0		380		368			21:00	0		0		137		117		
9:15	0		0		359		348			21:15	0		0		129		96		
9:30	0		0		324		342			21:30	0		0		135		89		
9:45	0	0	0	0	336	1399	359	1417	2816	21:45	0	0	0	0	123	524	82	384	908
10:00	0		0		268		291			22:00	0		0		129		67		
10:15	0		0		280		340			22:15	0		0		121		56		
10:30	0		0		294		375			22:30	0		0		97		47		
10:45	0	0	0	0	301	1143	281	1287	2430	22:45	0	0	0	0	67	414	38	208	622
11:00	0		0		330		331			23:00	0		0		71		39		
11:15	0		0		297		369			23:15	0		0		41		39		
11:30	0		0		338		384			23:30	0		0		51		36		
11:45	0	0	0	0	335	1300	400	1484	2784	23:45	0	0	0	0	36	199	24	138	337
Total Vol.						8500		8893	**17393**							13329		12427	**25756**

Daily Totals

NB	SB	EB	WB	**Combined**
		21829	21320	**43149**

			AM					**PM**		
Split %			48.9%	51.1%	**40.3%**			51.8%	48.2%	**59.7%**
Peak Hour	0:30	0:30	7:30	7:30	**7:30**			14:45	14:30	**14:30**
Volume			1637	1589	**3226**			2034	1721	**3741**
P.H.F.			0.89	0.95	**0.92**			0.91	0.87	**0.93**

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Tuesday, May 09, 2017 CITY: San Diego PROJECT: SC1324

Prepared by: Field Data Services of Arizona

ADT2 Valley Center between El Camino Real and Carmel View. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	0		0		1		6			12:00	0		0		113		133		
0:15	0		0		2		8			12:15	0		0		99		156		
0:30	0		0		2		3			12:30	0		0		88		115		
0:45	0	0	0	0	2	7	1	18	25	12:45	0	0	0	0	79	379	123	527	906
1:00	0		0		0		0			13:00	0		0		101		246		
1:15	0		0		3		0			13:15	0		0		115		131		
1:30	0		0		1		2			13:30	0		0		92		140		
1:45	0	0	0	0	1	5	1	3	8	13:45	0	0	0	0	67	375	127	644	1019
2:00	0		0		0		2			14:00	0		0		75		135		
2:15	0		0		2		1			14:15	0		0		72		111		
2:30	0		0		2		8			14:30	0		0		86		111		
2:45	0	0	0	0	1	5	3	14	19	14:45	0	0	0	0	64	297	125	482	779
3:00	0		0		2		4			15:00	0		0		68		118		
3:15	0		0		0		3			15:15	0		0		94		117		
3:30	0		0		1		2			15:30	0		0		79		125		
3:45	0	0	0	0	1	4	2	11	15	15:45	0	0	0	0	84	325	147	507	832
4:00	0		0		1		2			16:00	0		0		86		119		
4:15	0		0		0		0			16:15	0		0		88		98		
4:30	0		0		2		2			16:30	0		0		89		124		
4:45	0	0	0	0	7	10	5	9	19	16:45	0	0	0	0	101	364	113	454	818
5:00	0		0		3		7			17:00	0		0		113		145		
5:15	0		0		5		6			17:15	0		0		129		133		
5:30	0		0		6		14			17:30	0		0		109		139		
5:45	0	0	0	0	9	23	14	41	64	17:45	0	0	0	0	100	451	100	517	968
6:00	0		0		20		16			18:00	0		0		95		143		
6:15	0		0		14		20			18:15	0		0		109		124		
6:30	0		0		17		38			18:30	0		0		88		105		
6:45	0	0	0	0	40	91	43	117	208	18:45	0	0	0	0	83	375	78	450	825
7:00	0		0		38		62			19:00	0		0		59		90		
7:15	0		0		43		77			19:15	0		0		49		64		
7:30	0		0		53		84			19:30	0		0		40		46		
7:45	0	0	0	0	60	194	117	340	534	19:45	0	0	0	0	33	181	54	254	435
8:00	0		0		62		149			20:00	0		0		35		54		
8:15	0		0		60		130			20:15	0		0		35		42		
8:30	0		0		66		134			20:30	0		0		36		51		
8:45	0	0	0	0	78	266	103	516	782	20:45	0	0	0	0	21	127	28	175	302
9:00	0		0		81		109			21:00	0		0		23		27		
9:15	0		0		59		98			21:15	0		0		11		27		
9:30	0		0		74		105			21:30	0		0		13		15		
9:45	0	0	0	0	92	306	89	401	707	21:45	0	0	0	0	10	57	14	83	140
10:00	0		0		64		102			22:00	0		0		10		18		
10:15	0		0		63		78			22:15	0		0		10		10		
10:30	0		0		65		102			22:30	0		0		5		10		
10:45	0	0	0	0	61	253	89	371	624	22:45	0	0	0	0	4	29	8	46	75
11:00	0		0		87		93			23:00	0		0		9		18		
11:15	0		0		77		108			23:15	0		0		1		5		
11:30	0		0		99		128			23:30	0		0		7		7		
11:45	0	0	0	0	114	377	138	467	844	23:45	0	0	0	0	2	19	4	34	53
Total Vol.						1541		2308	**3849**							2979		4173	**7152**

Daily Totals

NB	SB	EB	WB	**Combined**
		4520	6481	**11001**

			AM						**PM**		
Split %			40.0%	60.0%	**35.0%**				41.7%	58.3%	**65.0%**
Peak Hour	0:30	0:30	11:30	11:30	**11:30**				16:45	13:00	**12:45**
Volume			425	555	**980**				452	644	**1027**
P.H.F.			0.93	0.89	**0.96**				0.88	0.65	**0.74**

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Tuesday, May 09, 2017 CITY: San Diego PROJECT: SC1324

Prepared by: Field Data Services of Arizona

ADT1 El Camino Real between Valley Center and Carmel Valley. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	7		16		0		0			12:00	181		236		0		0		
0:15	3		20		0		0			12:15	164		251		0		0		
0:30	3		7		0		0			12:30	166		235		0		0		
0:45	11	24	3	46	0	0	0	0	70	12:45	189	700	222	944	0	0	0	0	1644
1:00	2		4		0		0			13:00	175		243		0		0		
1:15	7		6		0		0			13:15	236		237		0		0		
1:30	2		12		0		0			13:30	182		258		0		0		
1:45	2	13	9	31	0	0	0	0	44	13:45	161	754	213	951	0	0	0	0	1705
2:00	3		10		0		0			14:00	168		259		0		0		
2:15	3		7		0		0			14:15	155		235		0		0		
2:30	3		11		0		0			14:30	178		269		0		0		
2:45	5	14	5	33	0	0	0	0	47	14:45	183	684	328	1091	0	0	0	0	1775
3:00	0		6		0		0			15:00	172		318		0		0		
3:15	2		5		0		0			15:15	225		271		0		0		
3:30	5		3		0		0			15:30	173		325		0		0		
3:45	4	11	5	19	0	0	0	0	30	15:45	259	829	318	1232	0	0	0	0	2061
4:00	2		5		0		0			16:00	240		342		0		0		
4:15	5		9		0		0			16:15	319		302		0		0		
4:30	11		5		0		0			16:30	297		302		0		0		
4:45	15	33	14	33	0	0	0	0	66	16:45	282	1138	275	1221	0	0	0	0	2359
5:00	25		18		0		0			17:00	258		389		0		0		
5:15	49		19		0		0			17:15	326		331		0		0		
5:30	58		29		0		0			17:30	332		330		0		0		
5:45	105	237	38	104	0	0	0	0	341	17:45	295	1211	294	1344	0	0	0	0	2555
6:00	106		32		0		0			18:00	264		301		0		0		
6:15	100		66		0		0			18:15	234		269		0		0		
6:30	128		78		0		0			18:30	212		246		0		0		
6:45	166	500	108	284	0	0	0	0	784	18:45	191	901	196	1012	0	0	0	0	1913
7:00	166		119		0		0			19:00	153		195		0		0		
7:15	201		160		0		0			19:15	158		190		0		0		
7:30	206		257		0		0			19:30	74		155		0		0		
7:45	230	803	244	780	0	0	0	0	1583	19:45	101	486	146	686	0	0	0	0	1172
8:00	217		300		0		0			20:00	112		114		0		0		
8:15	204		289		0		0			20:15	83		96		0		0		
8:30	224		284		0		0			20:30	82		99		0		0		
8:45	227	872	266	1139	0	0	0	0	2011	20:45	74	351	77	386	0	0	0	0	737
9:00	245		201		0		0			21:00	51		65		0		0		
9:15	263		223		0		0			21:15	38		69		0		0		
9:30	193		186		0		0			21:30	46		52		0		0		
9:45	218	919	200	810	0	0	0	0	1729	21:45	32	167	47	233	0	0	0	0	400
10:00	172		174		0		0			22:00	34		51		0		0		
10:15	173		173		0		0			22:15	37		38		0		0		
10:30	154		207		0		0			22:30	28		26		0		0		
10:45	182	681	189	743	0	0	0	0	1424	22:45	11	110	21	136	0	0	0	0	246
11:00	167		221		0		0			23:00	27		32		0		0		
11:15	165		197		0		0			23:15	11		22		0		0		
11:30	200		247		0		0			23:30	18		24		0		0		
11:45	182	714	206	871	0	0	0	0	1585	23:45	11	67	8	86	0	0	0	0	153
Total Vol.		4821		4893					**9714**			7398		9322					**16720**

Daily Totals

NB	SB	EB	WB	**Combined**
12219	14215			**26434**

	AM					**PM**		
Split %	49.6%	50.4%			**36.7%**	44.2%	55.8%	**63.3%**
Peak Hour	8:30	8:00	0:30	0:30	**8:00**	17:15	17:00	**17:00**
Volume	959	1139			**2011**	1217	1344	**2555**
P.H.F.	0.91	0.95			**0.97**	0.94	0.86	**0.96**

cs@aimtd.com Tell. 714 253 7888

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	El Camino Real	LOCATION #:	12
	EAST & WEST:	SR-56 EB Ramp	CONTROL:	SIGNAL

NOTES:

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☑ Add U-Turns to Left Turns

		NORTHBOUND El Camino Real			SOUTHBOUND El Camino Real			EASTBOUND SR-56 EB Ramp			WESTBOUND SR-56 EB Ramp				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	3.5	0.5	1	3	X	1.5	1	1.5	X	X	X		0	0	0	0	
AM	7:00 AM	0	75	22	19	99	0	112	104	45	0	0	0	476	0	0	0	0	0
	7:15 AM	0	45	24	31	130	0	124	182	65	0	0	0	601	0	0	0	0	0
	7:30 AM	0	64	31	32	143	0	137	237	55	0	0	0	699	0	0	0	0	0
	7:45 AM	0	53	22	34	140	0	148	207	54	0	0	0	658	0	0	0	0	0
	8:00 AM	0	59	28	26	177	0	145	178	63	0	0	0	676	0	0	0	0	0
	8:15 AM	0	92	59	36	171	0	132	190	50	0	0	0	730	0	0	0	0	0
	8:30 AM	0	76	58	37	154	0	152	189	42	0	0	0	708	0	0	0	0	0
	8:45 AM	0	110	65	45	155	0	146	169	59	0	0	0	749	0	0	0	0	0
	VOLUMES	0	574	309	260	1,169	0	1,096	1,456	433	0	0	0	5,297	0	0	0	0	0
	APPROACH %	0%	65%	35%	18%	82%	0%	37%	49%	15%	0%	0%	0%						
	APP/DEPART	883	/	1,670	1,429	/	1,602	2,985	/	2,025	0	/	0	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	0	337	210	144	657	0	575	726	214	0	0	0	2,863					
	APPROACH %	0%	62%	38%	18%	82%	0%	38%	48%	14%	0%	0%	0%						
	PEAK HR FACTOR		0.781			0.967			0.981			0.000		0.956					
	APP/DEPART	547	/	912	801	/	871	1,515	/	1,080	0	/	0	0					
PM	4:00 PM	0	187	61	52	146	0	106	183	42	0	0	0	777	0	0	0	0	0
	4:15 PM	0	191	65	52	152	0	121	199	49	0	0	0	829	0	0	0	0	0
	4:30 PM	0	175	77	56	103	0	132	164	59	0	0	0	766	0	0	0	0	0
	4:45 PM	0	183	86	68	114	0	147	156	45	0	0	0	799	0	0	0	0	0
	5:00 PM	0	202	91	49	167	0	105	187	33	0	0	0	834	0	0	0	0	0
	5:15 PM	0	272	86	56	179	0	106	203	34	0	0	0	936	0	0	0	0	0
	5:30 PM	0	292	95	66	150	0	103	180	36	0	0	0	922	0	0	0	0	0
	5:45 PM	0	266	83	40	165	0	112	168	40	0	0	0	874	0	0	0	0	0
	VOLUMES	0	1,768	644	439	1,176	0	932	1,440	338	0	0	0	6,737	0	0	0	0	0
	APPROACH %	0%	73%	27%	27%	73%	0%	34%	53%	12%	0%	0%	0%						
	APP/DEPART	2,412	/	2,700	1,615	/	1,514	2,710	/	2,523	0	/	0	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	1,032	355	211	661	0	426	738	143	0	0	0	3,566					
	APPROACH %	0%	74%	26%	24%	76%	0%	33%	56%	11%	0%	0%	0%						
	PEAK HR FACTOR		0.896			0.928			0.953			0.000		0.952					
	APP/DEPART	1,387	/	1,458	872	/	804	1,307	/	1,304	0	/	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	El Camino Real	LOCATION #:	11
	EAST & WEST:	SR-56 WB Ramp	CONTROL:	SIGNAL

NOTES:

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☑ Add U-Turns to Left Turns

		NORTHBOUND El Camino Real			SOUTHBOUND El Camino Real			EASTBOUND SR-56 WB Ramp			WESTBOUND SR-56 WB Ramp				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	2	X	X	2.5	1.5	X	X	X	2	3	1		0	0	0	0	
AM	7:00 AM	49	139	0	0	65	92	0	0	0	53	233	50	681	0	0	0	0	0
	7:15 AM	36	133	0	0	96	103	0	0	0	66	246	68	748	0	0	0	0	0
	7:30 AM	32	167	0	0	136	107	0	0	0	40	250	77	809	0	0	0	0	0
	7:45 AM	49	150	0	0	119	136	0	0	0	54	226	67	801	0	0	0	0	0
	8:00 AM	45	157	0	0	138	132	0	0	0	66	223	73	834	0	0	0	0	0
	8:15 AM	44	178	0	0	113	129	0	0	0	94	234	45	837	0	0	0	0	0
	8:30 AM	59	168	0	0	127	168	0	0	0	65	179	43	809	0	0	0	0	0
	8:45 AM	70	184	0	0	122	175	0	0	0	77	146	48	822	0	0	0	0	0
	VOLUMES	384	1,276	0	0	916	1,042	0	0	0	515	1,737	471	6,341	0	0	0	0	0
	APPROACH %	23%	77%	0%	0%	47%	53%	0%	0%	0%	19%	64%	17%						
	APP/DEPART	1,660	/	1,747	1,958	/	1,431	0	/	0	2,723	/	3,163	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	218	687	0	0	500	604	0	0	0	302	782	209	3,302					
	APPROACH %	24%	76%	0%	0%	45%	55%	0%	0%	0%	23%	60%	16%						
	PEAK HR FACTOR		0.891			0.929			0.000			0.867		0.986					
	APP/DEPART	905	/	896	1,104	/	802	0	/	0	1,293	/	1,604	0					
PM	4:00 PM	53	238	0	0	166	179	0	0	0	33	169	35	873	0	0	0	0	0
	4:15 PM	53	259	0	0	150	165	0	0	0	54	124	46	851	0	0	0	0	0
	4:30 PM	82	224	0	0	125	185	0	0	0	33	110	60	819	0	0	0	0	0
	4:45 PM	69	261	0	1	137	177	0	0	0	46	124	40	855	0	1	0	0	1
	5:00 PM	82	223	0	0	176	169	0	0	0	40	193	58	941	0	0	0	0	0
	5:15 PM	94	282	0	0	182	143	0	0	0	51	125	57	934	0	0	0	0	0
	5:30 PM	82	313	0	0	164	142	0	0	0	50	179	41	971	0	0	0	0	0
	5:45 PM	94	285	0	0	159	132	0	0	0	44	172	51	937	0	0	0	0	0
	VOLUMES	609	2,085	0	1	1,259	1,292	0	0	0	351	1,196	388	7,181	0	1	0	0	1
	APPROACH %	23%	77%	0%	0%	49%	51%	0%	0%	0%	18%	62%	20%						
	APP/DEPART	2,694	/	2,474	2,552	/	1,610	0	/	0	1,935	/	3,097	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	352	1,103	0	0	681	586	0	0	0	185	669	207	3,783					
	APPROACH %	24%	76%	0%	0%	54%	46%	0%	0%	0%	17%	63%	20%						
	PEAK HR FACTOR		0.921			0.918			0.000			0.912		0.974					
	APP/DEPART	1,455	/	1,310	1,267	/	866	0	/	0	1,061	/	1,607	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	Old El Camino Real	LOCATION #:	10
	EAST & WEST:	Carmel Valley	CONTROL:	SIGNAL

NOTES:

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☑ Add U-Turns to Left Turns

		NORTHBOUND Old El Camino Real			SOUTHBOUND Old El Camino Real			EASTBOUND Carmel Valley			WESTBOUND Carmel Valley				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	0	X	0	1	3	X	X	3	0		0	0	0	0	
AM	7:00 AM	0	0	0	4	0	5	8	248	0	0	364	3	632	0	0	1	0	1
	7:15 AM	0	0	0	4	0	2	5	368	0	0	362	2	743	0	0	0	0	0
	7:30 AM	0	0	0	4	0	2	6	453	0	0	415	4	884	0	0	0	0	0
	7:45 AM	0	0	0	0	0	3	4	410	0	0	383	3	803	0	0	1	0	1
	8:00 AM	0	0	0	2	0	3	7	374	0	0	394	2	782	0	0	0	0	0
	8:15 AM	0	0	0	4	0	3	4	379	0	0	385	16	791	0	0	0	0	0
	8:30 AM	0	0	0	2	0	4	4	381	0	0	393	6	790	0	0	2	0	2
	8:45 AM	0	0	0	2	0	1	5	372	0	0	372	5	757	0	0	0	0	0
	VOLUMES	0	0	0	22	0	23	43	2,985	0	0	3,068	41	6,182	0	0	4	0	4
	APPROACH %	0%	0%	0%	49%	0%	51%	1%	99%	0%	0%	99%	1%						
	APP/DEPART	0	/	80	45	/	0	3,028	/	3,007	3,109	/	3,095	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	10	0	11	21	1,616	0	0	1,577	25	3,260					
	APPROACH %	0%	0%	0%	48%	0%	52%	1%	99%	0%	0%	98%	2%						
	PEAK HR FACTOR		0.000			0.750			0.892			0.956		0.922					
	APP/DEPART	0	/	45	21	/	0	1,637	/	1,626	1,602	/	1,589	0					
PM	4:00 PM	0	0	0	7	0	2	7	324	0	0	381	5	726	0	0	2	0	2
	4:15 PM	0	0	0	5	0	6	10	364	0	0	328	8	721	0	0	1	0	1
	4:30 PM	0	0	0	5	0	3	12	328	0	0	371	2	721	0	0	7	0	7
	4:45 PM	0	0	0	9	0	1	9	297	0	0	328	5	649	0	0	0	0	0
	5:00 PM	0	0	0	6	0	3	7	330	0	0	433	6	785	0	0	0	0	0
	5:15 PM	0	0	0	4	0	8	8	400	0	0	363	6	789	0	0	1	0	1
	5:30 PM	0	0	0	4	0	3	9	316	0	0	406	6	744	0	0	1	0	1
	5:45 PM	0	0	0	4	0	7	6	297	0	0	365	10	689	0	0	2	0	2
	VOLUMES	0	0	0	44	0	33	68	2,656	0	0	2,975	48	5,824	0	0	14	0	14
	APPROACH %	0%	0%	0%	57%	0%	43%	2%	98%	0%	0%	98%	2%						
	APP/DEPART	0	/	102	77	/	0	2,724	/	2,700	3,023	/	3,022	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	0	0	18	0	21	30	1,343	0	0	1,567	28	3,007					
	APPROACH %	0%	0%	0%	46%	0%	54%	2%	98%	0%	0%	98%	2%						
	PEAK HR FACTOR		0.000			0.813			0.841			0.908		0.953					
	APP/DEPART	0	/	54	39	/	0	1,373	/	1,361	1,595	/	1,592	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	I-5 NB Ramps	LOCATION #:	9
	EAST & WEST:	Carmel Valley	CONTROL:	SIGNAL

NOTES:

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☑ Add U-Turns to Left Turns

		NORTHBOUND I-5 NB Ramps			SOUTHBOUND I-5 NB Ramps			EASTBOUND Carmel Valley			WESTBOUND Carmel Valley				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1.3	0.3	1.3	X	X	X	2	2	X	X	2	1		0	0	0	0	
AM	7:00 AM	18	1	86	0	0	0	12	173	0	0	137	240	667	0	0	0	0	0
	7:15 AM	35	0	96	0	0	0	16	261	0	0	143	221	772	0	0	0	0	0
	7:30 AM	18	0	136	0	0	0	19	329	0	0	196	217	915	0	0	0	0	0
	7:45 AM	25	0	149	0	0	0	15	256	0	0	214	182	841	0	0	0	0	0
	8:00 AM	22	0	141	0	0	0	14	246	0	0	208	177	808	0	0	0	0	0
	8:15 AM	30	0	155	0	0	0	17	229	0	0	237	171	839	0	0	0	0	0
	8:30 AM	25	0	156	0	0	0	24	217	0	0	248	167	837	0	0	0	0	0
	8:45 AM	40	1	157	0	0	0	8	246	0	0	209	153	814	0	0	0	0	0
	VOLUMES	213	2	1,076	0	0	0	125	1,957	0	0	1,592	1,528	6,493	0	0	0	0	0
	APPROACH %	16%	0%	83%	0%	0%	0%	6%	94%	0%	0%	51%	49%						
	APP/DEPART	1,291	/	1,655	0	/	0	2,082	/	3,033	3,120	/	1,805	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	95	0	581	0	0	0	65	1,060	0	0	855	747	3,403					
	APPROACH %	14%	0%	86%	0%	0%	0%	6%	94%	0%	0%	53%	47%						
	PEAK HR FACTOR		0.914			0.000			0.808			0.970		0.930					
	APP/DEPART	676	/	812	0	/	0	1,125	/	1,641	1,602	/	950	0					
PM	4:00 PM	39	0	70	0	0	0	24	256	0	0	195	158	742	0	0	0	0	0
	4:15 PM	68	11	133	0	0	0	3	229	0	0	198	171	813	0	0	0	0	0
	4:30 PM	55	5	100	0	0	0	12	238	0	0	204	147	761	0	0	0	0	0
	4:45 PM	61	0	93	0	0	0	13	237	0	0	202	157	763	0	0	0	0	0
	5:00 PM	45	0	80	0	0	0	12	263	0	0	260	159	819	0	0	0	0	0
	5:15 PM	69	3	123	0	0	0	12	281	0	0	222	150	860	0	0	0	0	0
	5:30 PM	67	3	95	0	0	0	9	220	0	0	256	178	828	0	0	0	0	0
	5:45 PM	58	1	89	0	0	0	5	225	0	0	219	168	765	0	0	0	0	0
	VOLUMES	462	23	783	0	0	0	90	1,949	0	0	1,756	1,288	6,351	0	0	0	0	0
	APPROACH %	36%	2%	62%	0%	0%	0%	4%	96%	0%	0%	58%	42%						
	APP/DEPART	1,268	/	1,401	0	/	0	2,039	/	2,732	3,044	/	2,218	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	239	7	387	0	0	0	38	989	0	0	957	655	3,272					
	APPROACH %	38%	1%	61%	0%	0%	0%	4%	96%	0%	0%	59%	41%						
	PEAK HR FACTOR		0.812			0.000			0.876			0.929		0.951					
	APP/DEPART	633	/	700	0	/	0	1,027	/	1,376	1,612	/	1,196	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	I-5 SB Ramps	LOCATION #:	8
	EAST & WEST:	Carmel Valley	CONTROL:	SIGNAL

NOTES:

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☑ Add U-Turns to Left Turns

		NORTHBOUND I-5 SB Ramps			SOUTHBOUND I-5 SB Ramps			EASTBOUND Carmel Valley			WESTBOUND Carmel Valley				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	1.3	0.3	1.3	X	2	0	2	2	X		0	0	0	0	
AM	7:00 AM	0	0	0	149	0	16	0	36	32	60	95	0	388	0	0	0	0	0
	7:15 AM	0	0	0	211	3	16	0	66	38	63	115	0	512	0	0	0	0	0
	7:30 AM	0	0	0	293	0	20	0	54	39	95	119	0	620	0	0	0	0	0
	7:45 AM	0	0	0	193	0	36	0	78	35	77	164	0	583	0	0	0	0	0
	8:00 AM	0	0	0	205	1	25	0	55	44	77	153	0	560	0	0	0	0	0
	8:15 AM	0	0	0	182	2	32	0	63	44	128	140	0	591	0	0	0	0	0
	8:30 AM	0	0	0	180	0	28	0	60	64	129	144	0	605	0	0	0	0	0
	8:45 AM	0	0	0	193	0	21	0	61	55	101	148	0	579	0	0	0	0	0
	VOLUMES	0	0	0	1,606	6	194	0	473	351	730	1,078	0	4,438	0	0	0	0	0
	APPROACH %	0%	0%	0%	89%	0%	11%	0%	57%	43%	40%	60%	0%						
	APP/DEPART	0	/	0	1,806	/	1,087	824	/	2,079	1,808	/	1,272	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	873	3	113	0	250	162	377	576	0	2,354					
	APPROACH %	0%	0%	0%	88%	0%	11%	0%	61%	39%	40%	60%	0%						
	PEAK HR FACTOR		0.000			0.790			0.912			0.889		0.949					
	APP/DEPART	0	/	0	989	/	542	412	/	1,123	953	/	689	0					
PM	4:00 PM	0	0	0	158	0	18	0	130	24	135	101	0	566	0	0	0	0	0
	4:15 PM	0	0	0	123	0	19	0	109	26	120	146	0	543	0	0	0	0	0
	4:30 PM	0	0	0	125	1	25	0	125	25	124	135	0	560	0	0	0	0	0
	4:45 PM	0	0	0	135	0	20	0	115	16	136	127	0	549	0	0	0	0	0
	5:00 PM	0	0	0	148	0	21	0	127	27	156	149	0	628	0	0	0	0	0
	5:15 PM	0	0	0	182	1	22	0	111	28	147	144	0	635	0	0	0	0	0
	5:30 PM	0	0	0	139	0	19	0	90	34	150	173	0	605	0	0	0	0	0
	5:45 PM	0	0	0	146	0	27	0	84	19	108	169	0	553	0	0	0	0	0
	VOLUMES	0	0	0	1,156	2	171	0	891	199	1,076	1,144	0	4,639	0	0	0	0	0
	APPROACH %	0%	0%	0%	87%	0%	13%	0%	82%	18%	48%	52%	0%						
	APP/DEPART	0	/	0	1,329	/	1,277	1,090	/	2,047	2,220	/	1,315	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	0	0	615	1	89	0	412	108	561	635	0	2,421					
	APPROACH %	0%	0%	0%	87%	0%	13%	0%	79%	21%	47%	53%	0%						
	PEAK HR FACTOR		0.000			0.860			0.844			0.926		0.953					
	APP/DEPART	0	/	0	705	/	670	520	/	1,027	1,196	/	724	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	Carmel View	LOCATION #:	7
	EAST & WEST:	Valley Centre	CONTROL:	SIGNAL

NOTES:

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☑ Add U-Turns to Left Turns

		NORTHBOUND Carmel View			SOUTHBOUND Carmel View			EASTBOUND Valley Centre			WESTBOUND Valley Centre				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	1	X	1	1	2	X	X	2	0		0	0	0	0	
AM	7:00 AM	0	0	0	12	0	12	3	36	0	1	62	2	128	0	0	0	1	1
	7:15 AM	0	0	0	25	0	11	4	40	0	1	63	8	152	0	0	1	1	2
	7:30 AM	0	0	0	28	0	19	4	47	0	2	85	5	190	0	0	0	2	2
	7:45 AM	0	0	0	29	0	32	2	50	0	2	92	7	214	0	0	0	2	2
	8:00 AM	0	0	0	21	0	29	4	46	0	0	130	5	235	0	0	0	0	0
	8:15 AM	0	0	0	14	0	27	3	49	0	0	104	5	202	0	0	0	0	0
	8:30 AM	0	0	0	22	0	24	3	50	0	0	96	7	202	0	0	1	0	1
	8:45 AM	0	0	0	17	0	27	4	61	0	1	88	3	201	0	0	1	1	2
	VOLUMES	0	0	0	168	0	181	27	379	0	7	720	42	1,524	0	0	3	7	10
	APPROACH %	0%	0%	0%	48%	0%	52%	7%	93%	0%	1%	94%	5%						
	APP/DEPART	0	/	66	349	/	0	406	/	554	769	/	904	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	0	0	86	0	112	12	195	0	2	422	24	853					
	APPROACH %	0%	0%	0%	43%	0%	57%	6%	94%	0%	0%	94%	5%						
	PEAK HR FACTOR		0.000			0.811			0.976			0.830		0.907					
	APP/DEPART	0	/	35	198	/	0	207	/	283	448	/	535	0					
PM	4:00 PM	0	0	0	7	0	10	14	98	0	2	68	21	220	0	0	0	2	2
	4:15 PM	0	0	0	6	0	10	13	97	0	3	78	22	229	0	0	0	3	3
	4:30 PM	0	0	0	5	0	9	14	105	0	3	70	11	217	0	0	0	3	3
	4:45 PM	0	0	0	6	0	8	11	120	0	4	74	26	249	0	0	0	4	4
	5:00 PM	0	0	0	5	0	8	14	140	0	1	86	21	275	0	0	0	1	1
	5:15 PM	0	0	0	6	0	10	26	130	0	5	65	18	260	0	0	1	5	6
	5:30 PM	0	0	0	12	0	12	26	111	0	6	93	18	278	0	0	0	6	6
	5:45 PM	0	0	0	9	0	5	21	106	0	3	75	25	244	0	0	0	3	3
	VOLUMES	0	0	0	56	0	72	139	907	0	27	609	162	1,972	0	0	1	27	28
	APPROACH %	0%	0%	0%	44%	0%	56%	13%	87%	0%	3%	76%	20%						
	APP/DEPART	0	/	300	128	/	0	1,046	/	990	798	/	682	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	0	0	29	0	38	77	501	0	16	318	83	1,062					
	APPROACH %	0%	0%	0%	43%	0%	57%	13%	87%	0%	4%	76%	20%						
	PEAK HR FACTOR		0.000			0.698			0.926			0.891		0.955					
	APP/DEPART	0	/	159	67	/	0	578	/	546	417	/	357	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	Carmel Vista	LOCATION #:	6
	EAST & WEST:	Valley Centre	CONTROL:	SIGNAL

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☑ Add U-Turns to Left Turns

		NORTHBOUND Carmel Vista			SOUTHBOUND Carmel Vista			EASTBOUND Valley Centre			WESTBOUND Valley Centre				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1.5	0.5	1	1	0.5	0.5	1	2	0	1	2	1		0	0	0	0	
AM	7:00 AM	6	0	7	6	0	8	4	26	7	10	51	7	132	0	0	2	0	2
	7:15 AM	6	1	6	15	2	18	6	27	14	10	47	14	166	0	0	1	0	1
	7:30 AM	17	0	3	15	6	15	5	32	15	14	65	19	206	0	0	1	0	1
	7:45 AM	6	1	4	12	5	22	5	36	18	20	87	16	232	0	0	1	0	1
	8:00 AM	12	3	5	7	3	16	5	39	19	14	130	20	273	0	0	0	0	0
	8:15 AM	7	3	4	11	6	19	6	35	22	10	101	17	241	0	0	2	0	2
	8:30 AM	18	2	1	11	4	26	6	34	20	10	105	13	250	0	0	0	0	0
	8:45 AM	12	1	2	15	4	13	7	50	24	17	82	13	240	0	0	2	0	2
	VOLUMES	84	11	32	92	30	137	44	279	139	105	668	119	1,740	0	0	9	0	9
	APPROACH %	66%	9%	25%	36%	12%	53%	10%	60%	30%	12%	75%	13%						
	APP/DEPART	127	/	165	259	/	274	462	/	403	892	/	898	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	49	9	12	44	17	74	24	158	85	51	418	63	1,004					
	APPROACH %	70%	13%	17%	33%	13%	55%	9%	59%	32%	10%	79%	12%						
	PEAK HR FACTOR		0.833			0.823			0.824			0.811		0.919					
	APP/DEPART	70	/	92	135	/	153	267	/	214	532	/	545	0					
PM	4:00 PM	30	9	27	23	1	4	7	80	8	1	68	15	273	0	0	1	1	2
	4:15 PM	23	5	18	20	0	5	8	70	7	2	70	13	241	0	0	0	0	0
	4:30 PM	26	9	21	16	2	8	11	78	3	1	72	13	260	0	0	0	0	0
	4:45 PM	32	10	30	18	0	7	11	83	3	1	73	13	281	0	0	0	0	0
	5:00 PM	44	10	38	26	1	7	11	95	2	1	67	12	314	0	0	2	0	2
	5:15 PM	37	18	24	18	2	7	21	111	0	2	65	13	318	0	0	1	0	1
	5:30 PM	36	12	21	19	0	2	15	91	3	1	87	19	306	0	0	1	0	1
	5:45 PM	29	9	20	31	1	6	18	72	4	4	65	11	270	0	0	0	0	0
	VOLUMES	257	82	199	171	7	46	102	680	30	13	567	109	2,263	0	0	5	1	6
	APPROACH %	48%	15%	37%	76%	3%	21%	13%	84%	4%	2%	82%	16%						
	APP/DEPART	538	/	288	224	/	49	812	/	1,051	689	/	875	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	149	50	113	81	3	23	58	380	8	5	292	57	1,219					
	APPROACH %	48%	16%	36%	76%	3%	21%	13%	85%	2%	1%	82%	16%						
	PEAK HR FACTOR		0.848			0.787			0.845			0.827		0.958					
	APP/DEPART	312	/	161	107	/	16	446	/	574	354	/	468	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	El Camino Real	LOCATION #:	5
	EAST & WEST:	Valley Centre	CONTROL:	SIGNAL

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☑ Add U-Turns to Left Turns

		NORTHBOUND El Camino Real			SOUTHBOUND El Camino Real			EASTBOUND Valley Centre			WESTBOUND Valley Centre				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	3	1	1	3	0	1	1	1	1.3	0.3	1.3		0	0	0	0	
AM	7:00 AM	8	135	23	13	68	2	5	2	7	44	6	12	325	0	0	0	0	0
	7:15 AM	12	168	21	19	89	5	8	3	12	56	2	19	414	3	0	0	0	3
	7:30 AM	12	167	27	23	179	5	5	5	11	65	1	18	518	2	2	0	0	4
	7:45 AM	10	184	36	22	141	4	4	2	14	89	6	22	534	0	0	0	0	0
	8:00 AM	8	178	31	29	170	10	6	2	13	117	3	29	596	0	0	0	0	0
	8:15 AM	12	165	27	34	177	4	6	2	10	101	2	27	567	1	3	0	0	4
	8:30 AM	15	169	40	28	178	6	9	2	5	98	1	35	586	3	4	0	0	7
	8:45 AM	13	172	42	36	186	2	6	0	7	72	3	28	567	1	0	0	0	1
	VOLUMES	90	1,338	247	204	1,188	38	49	18	79	642	24	190	4,107	10	9	0	0	19
	APPROACH %	5%	80%	15%	14%	83%	3%	34%	12%	54%	75%	3%	22%						
	APP/DEPART	1,675	/	1,586	1,430	/	1,919	146	/	460	856	/	142	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	48	684	140	127	711	22	27	6	35	388	9	119	2,316					
	APPROACH %	6%	78%	16%	15%	83%	3%	40%	9%	51%	75%	2%	23%						
	PEAK HR FACTOR		0.960			0.960			0.810			0.866		0.971					
	APP/DEPART	872	/	837	860	/	1,139	68	/	266	516	/	74	0					
PM	4:00 PM	11	172	57	33	248	8	8	7	9	83	2	34	672	2	11	0	0	13
	4:15 PM	10	257	52	41	223	5	4	3	9	65	3	30	702	5	8	0	0	13
	4:30 PM	19	226	52	40	216	3	13	5	8	76	3	45	706	2	8	0	0	10
	4:45 PM	8	205	69	33	183	3	10	6	11	79	1	33	641	2	7	0	0	9
	5:00 PM	9	182	67	49	284	3	7	6	6	97	2	46	758	2	9	0	0	11
	5:15 PM	24	226	76	53	220	5	9	7	7	97	4	32	760	7	7	0	0	14
	5:30 PM	15	238	79	34	231	10	10	4	10	85	1	53	770	4	8	0	0	12
	5:45 PM	19	206	70	29	206	5	9	8	8	72	2	26	660	8	7	0	0	15
	VOLUMES	115	1,712	522	312	1,811	42	70	46	68	654	18	299	5,669	32	65	0	0	97
	APPROACH %	5%	73%	22%	14%	84%	2%	38%	25%	37%	67%	2%	31%						
	APP/DEPART	2,349	/	2,146	2,165	/	2,565	184	/	815	971	/	143	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	67	852	292	165	941	23	35	25	31	351	9	157	2,948					
	APPROACH %	6%	70%	24%	15%	83%	2%	38%	27%	34%	68%	2%	30%						
	PEAK HR FACTOR		0.912			0.840			0.910			0.891		0.957					
	APP/DEPART	1,211	/	1,075	1,129	/	1,344	91	/	451	517	/	78	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	El Camino Real	LOCATION #:	4
	EAST & WEST:	Del Mar Corporate	CONTROL:	SIGNAL

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☑ Add U-Turns to Left Turns

		NORTHBOUND El Camino Real			SOUTHBOUND El Camino Real			EASTBOUND Del Mar Corporate			WESTBOUND Del Mar Corporate				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	3	0	1	3	0	1	1	0	1	1	0		0	0	0	0	
AM	7:00 AM	15	92	4	2	90	12	2	0	2	0	0	1	220	1	0	0	0	1
	7:15 AM	9	139	4	4	141	9	2	0	0	1	0	0	309	0	0	0	0	0
	7:30 AM	13	110	2	9	199	10	1	0	0	0	0	1	345	1	1	0	0	2
	7:45 AM	11	126	7	4	205	5	2	0	1	1	0	0	362	0	0	0	0	0
	8:00 AM	19	97	6	12	241	7	1	0	2	5	0	1	391	0	2	0	0	2
	8:15 AM	10	96	14	13	242	10	1	0	1	0	1	0	388	1	2	0	0	3
	8:30 AM	15	104	9	21	242	14	6	0	3	0	0	1	415	0	1	0	0	1
	8:45 AM	11	103	12	11	238	13	7	0	11	1	0	3	410	1	3	0	0	4
	VOLUMES	103	867	58	76	1,598	80	22	0	20	8	1	7	2,840	4	9	0	0	13
	APPROACH %	10%	84%	6%	4%	91%	5%	52%	0%	48%	50%	6%	44%						
	APP/DEPART	1,028	/	905	1,754	/	1,630	42	/	125	16	/	180	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	55	400	41	57	963	44	15	0	17	6	1	5	1,604					
	APPROACH %	11%	81%	8%	5%	91%	4%	47%	0%	53%	50%	8%	42%						
	PEAK HR FACTOR		0.969			0.960			0.444			0.500		0.966					
	APP/DEPART	496	/	428	1,064	/	988	32	/	90	12	/	98	0					
PM	4:00 PM	5	219	1	4	214	3	10	0	7	10	0	8	481	2	0	0	0	2
	4:15 PM	4	292	4	4	191	1	3	0	9	4	0	7	519	3	1	0	0	4
	4:30 PM	4	291	4	3	188	3	4	0	8	6	0	9	520	2	0	0	0	2
	4:45 PM	4	257	2	2	136	1	6	0	8	9	0	11	436	1	1	0	0	2
	5:00 PM	2	248	0	2	242	1	8	0	26	16	0	13	558	0	1	0	0	1
	5:15 PM	1	296	2	1	180	1	8	0	23	11	1	13	537	0	1	0	0	1
	5:30 PM	0	320	2	1	191	1	9	0	9	13	1	10	557	0	1	0	0	1
	5:45 PM	0	239	1	0	152	0	4	0	6	9	0	7	418	0	0	0	0	0
	VOLUMES	20	2,162	16	17	1,494	11	52	0	96	78	2	78	4,026	8	5	0	0	13
	APPROACH %	1%	98%	1%	1%	98%	1%	35%	0%	65%	49%	1%	49%						
	APP/DEPART	2,198	/	2,297	1,522	/	1,676	148	/	28	158	/	25	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	7	1,121	6	6	749	4	31	0	66	49	2	47	2,088					
	APPROACH %	1%	99%	1%	1%	99%	1%	32%	0%	68%	50%	2%	48%						
	PEAK HR FACTOR		0.880			0.774			0.713			0.845		0.935					
	APP/DEPART	1,134	/	1,203	759	/	865	97	/	8	98	/	12	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	El Camino Real	LOCATION #:	3
	EAST & WEST:	High Bluff	CONTROL:	SIGNAL

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☑ Add U-Turns to Left Turns

		NORTHBOUND El Camino Real			SOUTHBOUND El Camino Real			EASTBOUND High Bluff			WESTBOUND High Bluff				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	3	0	1	3	0	1	1	1	1	2	0		0	0	0	0	
AM	7:00 AM	36	49	5	6	63	9	3	10	26	12	34	3	256	0	0	0	0	0
	7:15 AM	42	86	2	8	105	14	3	23	46	9	37	27	402	0	0	0	0	0
	7:30 AM	48	58	4	14	153	14	2	27	40	16	57	9	442	0	0	0	0	0
	7:45 AM	49	51	8	17	170	22	2	12	52	13	47	14	457	0	0	0	0	0
	8:00 AM	47	43	6	13	185	19	5	32	56	14	62	14	496	0	0	0	0	0
	8:15 AM	36	47	5	22	186	21	7	11	56	17	45	17	470	0	1	1	0	2
	8:30 AM	46	53	6	15	178	21	7	22	60	23	44	10	485	0	0	0	0	0
	8:45 AM	47	54	6	21	190	26	3	15	55	15	40	12	484	0	0	1	0	1
	VOLUMES	351	441	42	116	1,230	146	32	152	391	119	366	106	3,492	0	1	2	0	3
	APPROACH %	42%	53%	5%	8%	82%	10%	6%	26%	68%	20%	62%	18%						
	APP/DEPART	834	/	578	1,492	/	1,740	575	/	309	591	/	865	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	176	197	23	71	739	87	22	80	227	69	191	53	1,935					
	APPROACH %	44%	50%	6%	8%	82%	10%	7%	24%	69%	22%	61%	17%						
	PEAK HR FACTOR		0.925			0.946			0.884			0.869		0.975					
	APP/DEPART	396	/	271	897	/	1,035	329	/	173	313	/	456	0					
PM	4:00 PM	52	167	5	17	99	5	14	37	116	9	28	24	573	0	1	0	0	1
	4:15 PM	50	250	15	15	106	7	10	29	78	16	26	22	624	0	1	0	0	1
	4:30 PM	50	218	9	14	97	6	14	39	102	18	24	29	620	0	0	0	0	0
	4:45 PM	40	238	13	16	82	7	11	33	59	7	19	24	549	2	0	0	1	3
	5:00 PM	39	209	10	16	110	10	16	49	105	20	28	46	658	0	1	0	0	1
	5:15 PM	37	281	13	10	82	4	12	44	88	23	17	33	644	0	0	0	0	0
	5:30 PM	48	254	10	22	96	4	19	41	85	4	35	25	643	1	1	0	0	2
	5:45 PM	20	136	8	15	65	5	11	28	41	4	22	22	377	0	0	1	0	1
	VOLUMES	336	1,753	83	125	737	48	107	300	674	101	199	225	4,688	3	4	1	1	9
	APPROACH %	15%	81%	4%	14%	81%	5%	10%	28%	62%	19%	38%	43%						
	APP/DEPART	2,172	/	2,088	910	/	1,514	1,081	/	505	525	/	581	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	164	982	46	64	370	25	58	167	337	54	99	128	2,494					
	APPROACH %	14%	82%	4%	14%	81%	5%	10%	30%	60%	19%	35%	46%						
	PEAK HR FACTOR		0.900			0.844			0.826			0.747		0.948					
	APP/DEPART	1,192	/	1,170	459	/	763	562	/	276	281	/	285	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	El Camino Real	LOCATION #:	2
	EAST & WEST:	Elijah	CONTROL:	SIGNAL

NOTES:

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☑ Add U-Turns to Left Turns

		NORTHBOUND El Camino Real			SOUTHBOUND El Camino Real			EASTBOUND Elijah			WESTBOUND Elijah				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	3	0	1	3	0	1	0.5	0.5	1	0.5	0.5		0	0	0	0	
AM	7:00 AM	3	48	6	3	49	0	0	0	2	23	0	19	153	2	1	0	0	3
	7:15 AM	2	117	5	12	101	0	0	0	0	27	1	28	293	1	4	0	0	5
	7:30 AM	5	76	4	12	147	3	2	0	2	28	0	39	318	4	4	0	0	8
	7:45 AM	4	51	7	23	164	1	2	0	0	31	0	19	302	2	5	0	0	7
	8:00 AM	7	69	3	15	183	0	0	0	1	24	0	15	317	6	1	0	0	7
	8:15 AM	6	60	3	16	198	0	1	0	0	34	0	14	332	4	5	0	0	9
	8:30 AM	5	62	4	10	201	1	0	0	2	25	0	14	324	4	3	0	1	8
	8:45 AM	5	55	2	5	196	2	1	0	2	26	1	6	301	3	1	0	0	4
	VOLUMES	37	538	34	96	1,239	7	6	0	9	218	2	154	2,340	26	24	0	1	51
	APPROACH %	6%	88%	6%	7%	92%	1%	40%	0%	60%	58%	1%	41%						
	APP/DEPART	609	/	722	1,342	/	1,491	15	/	107	374	/	20	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	22	242	17	64	746	2	3	0	3	114	0	62	1,275					
	APPROACH %	8%	86%	6%	8%	92%	0%	50%	0%	50%	65%	0%	35%						
	PEAK HR FACTOR		0.889			0.949			0.750			0.880		0.960					
	APP/DEPART	281	/	321	812	/	878	6	/	68	176	/	8	0					
PM	4:00 PM	5	181	11	15	111	4	3	0	2	7	1	6	346	2	4	0	0	6
	4:15 PM	10	234	11	12	108	0	4	0	3	12	0	10	404	1	1	0	0	2
	4:30 PM	2	269	15	17	96	0	2	0	3	5	0	10	419	0	4	0	0	4
	4:45 PM	3	255	16	26	88	0	1	0	0	8	0	11	408	2	3	0	0	5
	5:00 PM	4	239	11	20	130	2	4	0	2	7	0	13	432	3	2	0	0	5
	5:15 PM	4	278	26	28	80	2	4	0	1	12	1	19	455	2	5	0	0	7
	5:30 PM	2	270	25	23	116	0	1	0	1	6	0	9	453	0	3	0	0	3
	5:45 PM	1	201	26	23	104	2	2	0	3	9	0	10	381	1	0	0	0	1
	VOLUMES	31	1,927	141	164	833	10	21	0	15	66	2	88	3,298	11	22	0	0	33
	APPROACH %	1%	92%	7%	16%	83%	1%	58%	0%	42%	42%	1%	56%						
	APP/DEPART	2,099	/	2,058	1,007	/	925	36	/	283	156	/	32	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	13	1,042	78	97	414	4	10	0	4	33	1	52	1,748					
	APPROACH %	1%	92%	7%	19%	80%	1%	71%	0%	29%	38%	1%	60%						
	PEAK HR FACTOR		0.920			0.847			0.583			0.672		0.960					
	APP/DEPART	1,133	/	1,117	515	/	458	14	/	162	86	/	11	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, May 9, 17	LOCATION:	San Diego	PROJECT #:	SC1324
	NORTH & SOUTH:	El Camino Real	LOCATION #:	1
	EAST & WEST:	Townsgate	CONTROL:	SIGNAL

NOTES:

AM
PM
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OTHER
OTHER

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☑ Add U-Turns to Left Turns

		NORTHBOUND El Camino Real			SOUTHBOUND El Camino Real			EASTBOUND Townsgate			WESTBOUND Townsgate				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	3	0	1	3	0	1	0.5	0.5	1	1	1		0	0	0	0	
AM	7:00 AM	8	50	18	3	38	15	2	1	0	16	6	18	175	1	0	0	0	1
	7:15 AM	14	94	46	6	64	21	1	0	1	39	7	15	308	4	0	0	0	4
	7:30 AM	8	88	29	8	121	21	2	0	2	42	7	15	343	0	0	0	0	0
	7:45 AM	5	58	15	18	148	28	1	0	1	42	4	16	336	2	2	0	0	4
	8:00 AM	8	53	25	32	150	32	0	2	0	42	8	26	378	1	0	0	0	1
	8:15 AM	6	50	23	54	157	25	0	0	1	53	6	40	415	1	0	0	2	3
	8:30 AM	15	42	26	51	138	18	1	2	2	67	8	24	394	4	2	0	0	6
	8:45 AM	8	37	19	15	156	32	1	1	1	48	3	14	335	2	0	0	0	2
	VOLUMES	72	472	201	187	972	192	8	6	8	349	49	168	2,684	15	4	0	2	21
	APPROACH %	10%	63%	27%	14%	72%	14%	36%	27%	36%	62%	9%	30%						
	APP/DEPART	745	/	652	1,351	/	1,342	22	/	392	566	/	298	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	34	203	89	155	593	103	2	4	4	204	26	106	1,523					
	APPROACH %	10%	62%	27%	18%	70%	12%	20%	40%	40%	61%	8%	32%						
	PEAK HR FACTOR		0.948			0.901			0.500			0.848		0.917					
	APP/DEPART	326	/	315	851	/	807	10	/	246	336	/	155	0					
PM	4:00 PM	1	156	38	18	88	1	10	7	4	30	2	20	375	0	0	0	1	1
	4:15 PM	4	205	35	17	77	2	9	3	6	35	0	10	403	0	0	0	0	0
	4:30 PM	4	219	48	18	69	1	13	4	12	29	0	19	436	1	1	0	0	2
	4:45 PM	2	228	51	16	71	3	16	4	8	29	0	21	449	1	0	1	1	3
	5:00 PM	3	193	53	31	85	0	22	6	7	45	2	25	472	3	1	0	0	4
	5:15 PM	2	249	57	17	61	1	21	8	7	33	0	12	468	2	2	0	0	4
	5:30 PM	1	210	56	22	82	0	14	5	7	43	0	17	457	1	0	0	1	2
	5:45 PM	5	164	57	31	73	2	13	9	12	35	0	20	421	2	0	0	0	2
	VOLUMES	22	1,624	395	170	606	10	118	46	63	279	4	144	3,481	10	4	1	3	18
	APPROACH %	1%	80%	19%	22%	77%	1%	52%	20%	28%	65%	1%	34%						
	APP/DEPART	2,041	/	1,889	786	/	955	227	/	610	427	/	27	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	8	880	217	86	299	4	73	23	29	150	2	75	1,846					
	APPROACH %	1%	80%	20%	22%	77%	1%	58%	18%	23%	66%	1%	33%						
	PEAK HR FACTOR		0.897			0.838			0.868			0.788		0.978					
	APP/DEPART	1,105	/	1,030	389	/	483	125	/	325	227	/	8	0					

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT11 Carmel Valley EB between Old El Camino Real and El Camino Real. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	0		0		46		0			12:00	0		0		283		4		
0:15	0		0		38		0			12:15	0		0		339		8		
0:30	0		0		39		0			12:30	0		0		362		8		
0:45	0	0	0	0	39	162	1	1	163	12:45	0	0	0	0	314	1298	3	23	1321
1:00	0		0		29		0			13:00	0		0		307		9		
1:15	0		0		21		0			13:15	0		0		294		8		
1:30	0		0		22		0			13:30	0		0		303		6		
1:45	0	0	0	0	17	89	0	0	89	13:45	0	0	0	0	317	1221	6	29	1250
2:00	0		0		20		0			14:00	0		0		346		5		
2:15	0		0		17		0			14:15	0		0		362		6		
2:30	0		0		18		1			14:30	0		0		331		9		
2:45	0	0	0	0	10	65	0	1	66	14:45	0	0	0	0	261	1300	9	29	1329
3:00	0		0		11		0			15:00	0		0		329		9		
3:15	0		0		21		0			15:15	0		0		356		6		
3:30	0		0		9		0			15:30	0		0		380		4		
3:45	0	0	0	0	14	55	0	0	55	15:45	0	0	0	0	422	1487	7	26	1513
4:00	0		0		17		2			16:00	0		0		346		2		
4:15	0		0		16		0			16:15	0		0		410		5		
4:30	0		0		24		0			16:30	0		0		410		5		
4:45	0	0	0	0	34	91	0	2	93	16:45	0	0	0	0	414	1580	6	18	1598
5:00	0		0		25		1			17:00	0		0		358		5		
5:15	0		0		52		1			17:15	0		0		384		4		
5:30	0		0		64		0			17:30	0		0		420		4		
5:45	0	0	0	0	107	248	1	3	251	17:45	0	0	0	0	391	1553	1	14	1567
6:00	0		0		124		3			18:00	0		0		516		5		
6:15	0		0		112		1			18:15	0		0		428		4		
6:30	0		0		201		3			18:30	0		0		458		5		
6:45	0	0	0	0	268	705	5	12	717	18:45	0	0	0	0	410	1812	3	17	1829
7:00	0		0		311		4			19:00	0		0		239		4		
7:15	0		0		333		5			19:15	0		0		337		4		
7:30	0		0		382		1			19:30	0		0		279		3		
7:45	0	0	0	0	387	1413	8	18	1431	19:45	0	0	0	0	293	1148	3	14	1162
8:00	0		0		366		4			20:00	0		0		275		1		
8:15	0		0		401		4			20:15	0		0		259		2		
8:30	0		0		415		4			20:30	0		0		276		3		
8:45	0	0	0	0	407	1589	2	14	1603	20:45	0	0	0	0	233	1043	4	10	1053
9:00	0		0		338		3			21:00	0		0		243		2		
9:15	0		0		325		2			21:15	0		0		193		4		
9:30	0		0		257		3			21:30	0		0		186		0		
9:45	0	0	0	0	321	1241	4	12	1253	21:45	0	0	0	0	149	771	0	6	777
10:00	0		0		288		6			22:00	0		0		149		0		
10:15	0		0		245		6			22:15	0		0		108		3		
10:30	0		0		243		4			22:30	0		0		121		1		
10:45	0	0	0	0	293	1069	5	21	1090	22:45	0	0	0	0	95	473	0	4	477
11:00	0		0		313		5			23:00	0		0		70		0		
11:15	0		0		293		6			23:15	0		0		66		1		
11:30	0		0		326		2			23:30	0		0		77		0		
11:45	0	0	0	0	291	1223	4	17	1240	23:45	0	0	0	0	64	277	0	1	278
Total Vol.						7950		101	**8051**							13963		191	**14154**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
			21913		292	**22205**

			AM					**PM**		
Split %			98.7%	1.3%	**36.3%**			98.7%	1.3%	**63.7%**
Peak Hour	0:30	0:30	8:00	11:45	**8:00**			18:00	14:15	**18:00**
Volume			1589	24	**1603**			1812	33	**1829**
P.H.F.			0.96	0.75	**0.96**			0.88	0.92	**0.88**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT10 Carmel Valley WB between Old El Camino Real and El Camino Real. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	0		0		0		26			12:00	0		0		0		459		
0:15	0		0		0		24			12:15	0		0		0		461		
0:30	0		0		0		23			12:30	0		0		0		424		
0:45	0	0	0	0	0	0	21	94	94	12:45	0	0	0	0	0	0	427	1771	1771
1:00	0		0		0		17			13:00	0		0		0		370		
1:15	0		0		0		18			13:15	0		0		0		358		
1:30	0		0		0		10			13:30	0		0		1		400		
1:45	0	0	0	0	0	0	17	62	62	13:45	0	0	0	0	0	1	384	1512	1513
2:00	0		0		0		8			14:00	0		0		0		387		
2:15	0		0		0		11			14:15	0		0		0		366		
2:30	0		0		0		19			14:30	0		0		0		351		
2:45	0	0	0	0	0	0	13	51	51	14:45	0	0	0	0	0	0	342	1446	1446
3:00	0		0		0		9			15:00	0		0		0		378		
3:15	0		0		0		10			15:15	0		0		0		405		
3:30	0		0		0		8			15:30	0		0		0		403		
3:45	0	0	0	0	0	0	14	41	41	15:45	0	0	0	0	0	0	324	1510	1510
4:00	0		0		0		10			16:00	0		0		0		359		
4:15	0		0		0		28			16:15	0		0		0		347		
4:30	0		0		0		27			16:30	0		0		0		432		
4:45	0	0	0	0	0	0	45	110	110	16:45	0	0	0	0	0	0	352	1490	1490
5:00	0		0		0		51			17:00	0		0		0		437		
5:15	0		0		0		74			17:15	0		0		0		393		
5:30	0		0		0		87			17:30	0		0		0		383		
5:45	0	0	0	0	0	0	131	343	343	17:45	0	0	0	0	0	0	367	1580	1580
6:00	0		0		0		133			18:00	0		0		0		333		
6:15	0		0		0		219			18:15	0		0		0		345		
6:30	0		0		0		273			18:30	0		0		0		350		
6:45	0	0	0	0	0	0	355	980	980	18:45	0	0	0	0	0	0	334	1362	1362
7:00	0		0		0		398			19:00	0		0		0		286		
7:15	0		0		0		386			19:15	0		0		0		273		
7:30	0		0		0		406			19:30	0		0		0		239		
7:45	0	0	0	0	0	0	451	1641	1641	19:45	0	0	0	0	0	0	233	1031	1031
8:00	0		0		0		422			20:00	0		0		0		170		
8:15	0		0		0		409			20:15	0		0		0		186		
8:30	0		0		0		496			20:30	0		0		0		175		
8:45	0	0	0	0	0	0	447	1774	1774	20:45	0	0	0	0	0	0	170	701	701
9:00	0		0		0		421			21:00	0		0		0		153		
9:15	0		0		0		435			21:15	0		0		0		144		
9:30	0		0		0		398			21:30	0		0		0		112		
9:45	0	0	0	0	0	0	399	1653	1653	21:45	0	0	0	0	0	0	102	511	511
10:00	0		0		0		370			22:00	0		0		0		116		
10:15	0		0		0		399			22:15	0		0		0		81		
10:30	0		0		0		355			22:30	0		0		0		82		
10:45	0	0	0	0	0	0	384	1508	1508	22:45	0	0	0	0	0	0	53	332	332
11:00	0		0		0		344			23:00	0		0		0		65		
11:15	0		0		0		379			23:15	0		0		0		44		
11:30	0		0		0		400			23:30	0		0		0		34		
11:45	0	0	0	0	0	0	496	1619	1619	23:45	0	0	0	0	0	0	26	169	169
Total Vol.								9876	**9876**							1		13415	**13416**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
					23291	**23292**

	AM					**PM**		
Split %				100.0%	**42.4%**	0.0%	100.0%	**57.6%**
Peak Hour	0:30	0:30	0:30	11:45	**11:45**	12:45	12:00	**12:00**
Volume				1840	**1840**	1	1771	**1771**
P.H.F.				0.93	**0.93**	0.25	0.96	**0.96**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT9 Carmel Valley between I-5 NB Ramps and Old El Camino Real. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	0		0		44		31			12:00	0		0		280		491		
0:15	0		0		40		27			12:15	0		0		334		453		
0:30	0		0		41		20			12:30	0		0		312		427		
0:45	0	0	0	0	38	163	20	98	261	12:45	0	0	0	0	310	1236	413	1784	3020
1:00	0		0		30		22			13:00	0		0		299		398		
1:15	0		0		19		13			13:15	0		0		292		376		
1:30	0		0		21		13			13:30	0		0		297		380		
1:45	0	0	0	0	20	90	15	63	153	13:45	0	0	0	0	309	1197	417	1571	2768
2:00	0		0		24		15			14:00	0		0		320		393		
2:15	0		0		17		14			14:15	0		0		359		396		
2:30	0		0		19		19			14:30	0		0		287		363		
2:45	0	0	0	0	13	73	13	61	134	14:45	0	0	0	0	324	1290	343	1495	2785
3:00	0		0		9		9			15:00	0		0		350		421		
3:15	0		0		15		13			15:15	0		0		358		390		
3:30	0		0		7		9			15:30	0		0		367		415		
3:45	0	0	0	0	14	45	15	46	91	15:45	0	0	0	0	403	1478	362	1588	3066
4:00	0		0		23		11			16:00	0		0		351		379		
4:15	0		0		16		27			16:15	0		0		417		359		
4:30	0		0		28		24			16:30	0		0		412		446		
4:45	0	0	0	0	36	103	50	112	215	16:45	0	0	0	0	433	1613	348	1532	3145
5:00	0		0		28		50			17:00	0		0		361		436		
5:15	0		0		55		77			17:15	0		0		392		420		
5:30	0		0		80		82			17:30	0		0		423		393		
5:45	0	0	0	0	113	276	135	344	620	17:45	0	0	0	0	401	1577	370	1619	3196
6:00	0		0		127		125			18:00	0		0		435		343		
6:15	0		0		190		208			18:15	0		0		391		340		
6:30	0		0		197		263			18:30	0		0		423		385		
6:45	0	0	0	0	296	810	343	939	1749	18:45	0	0	0	0	355	1604	347	1415	3019
7:00	0		0		309		352			19:00	0		0		282		288		
7:15	0		0		335		406			19:15	0		0		268		280		
7:30	0		0		392		404			19:30	0		0		261		238		
7:45	0	0	0	0	387	1423	439	1601	3024	19:45	0	0	0	0	239	1050	242	1048	2098
8:00	0		0		367		418			20:00	0		0		260		161		
8:15	0		0		404		421			20:15	0		0		241		180		
8:30	0		0		415		497			20:30	0		0		261		176		
8:45	0	0	0	0	411	1597	452	1788	3385	20:45	0	0	0	0	235	997	155	672	1669
9:00	0		0		330		456			21:00	0		0		225		158		
9:15	0		0		352		457			21:15	0		0		207		139		
9:30	0		0		300		404			21:30	0		0		184		113		
9:45	0	0	0	0	340	1322	425	1742	3064	21:45	0	0	0	0	153	769	102	512	1281
10:00	0		0		287		376			22:00	0		0		164		121		
10:15	0		0		232		399			22:15	0		0		115		86		
10:30	0		0		258		368			22:30	0		0		125		83		
10:45	0	0	0	0	271	1048	363	1506	2554	22:45	0	0	0	0	93	497	51	341	838
11:00	0		0		282		326			23:00	0		0		82		69		
11:15	0		0		284		401			23:15	0		0		64		54		
11:30	0		0		289		385			23:30	0		0		84		44		
11:45	0	0	0	0	286	1141	480	1592	2733	23:45	0	0	0	0	74	304	33	200	504
Total Vol.						8091		9892	**17983**							13612		13777	**27389**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
			21703		23669	**45372**

			AM					**PM**		
Split %			45.0%	55.0%	**39.6%**			49.7%	50.3%	**60.4%**
Peak Hour	0:30	0:30	8:00	8:30	**8:15**			17:15	12:00	**16:30**
Volume			1597	1862	**3386**			1651	1784	**3248**
P.H.F.			0.96	0.94	**0.93**			0.95	0.91	**0.95**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT8 Carmel Valley between I-5 SB and I-5 NB Ramps. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	0		0		39		26			12:00	0		0		238		271		
0:15	0		0		32		8			12:15	0		0		275		243		
0:30	0		0		29		11			12:30	0		0		252		234		
0:45	0	0	0	0	33	133	12	57	190	12:45	0	0	0	0	242	1007	213	961	1968
1:00	0		0		25		16			13:00	0		0		242		226		
1:15	0		0		16		10			13:15	0		0		229		212		
1:30	0		0		16		6			13:30	0		0		237		213		
1:45	0	0	0	0	18	75	8	40	115	13:45	0	0	0	0	252	960	282	933	1893
2:00	0		0		21		11			14:00	0		0		283		220		
2:15	0		0		14		5			14:15	0		0		314		235		
2:30	0		0		18		17			14:30	0		0		248		246		
2:45	0	0	0	0	10	63	6	39	102	14:45	0	0	0	0	264	1109	217	918	2027
3:00	0		0		7		3			15:00	0		0		320		266		
3:15	0		0		12		9			15:15	0		0		304		219		
3:30	0		0		9		4			15:30	0		0		310		238		
3:45	0	0	0	0	13	41	7	23	64	15:45	0	0	0	0	343	1277	240	963	2240
4:00	0		0		10		4			16:00	0		0		294		290		
4:15	0		0		14		10			16:15	0		0		305		294		
4:30	0		0		22		11			16:30	0		0		286		358		
4:45	0	0	0	0	20	66	27	52	118	16:45	0	0	0	0	320	1205	266	1208	2413
5:00	0		0		23		17			17:00	0		0		235		374		
5:15	0		0		40		38			17:15	0		0		280		355		
5:30	0		0		51		29			17:30	0		0		301		331		
5:45	0	0	0	0	62	176	71	155	331	17:45	0	0	0	0	269	1085	339	1399	2484
6:00	0		0		83		48			18:00	0		0		290		303		
6:15	0		0		141		92			18:15	0		0		284		260		
6:30	0		0		153		111			18:30	0		0		299		298		
6:45	0	0	0	0	197	574	160	411	985	18:45	0	0	0	0	276	1149	252	1113	2262
7:00	0		0		182		184			19:00	0		0		243		192		
7:15	0		0		221		184			19:15	0		0		238		187		
7:30	0		0		252		219			19:30	0		0		229		155		
7:45	0	0	0	0	245	900	265	852	1752	19:45	0	0	0	0	204	914	146	680	1594
8:00	0		0		232		271			20:00	0		0		228		97		
8:15	0		0		273		287			20:15	0		0		209		115		
8:30	0		0		270		326			20:30	0		0		232		90		
8:45	0	0	0	0	286	1061	321	1205	2266	20:45	0	0	0	0	210	879	86	388	1267
9:00	0		0		220		288			21:00	0		0		198		86		
9:15	0		0		250		266			21:15	0		0		176		75		
9:30	0		0		204		238			21:30	0		0		157		70		
9:45	0	0	0	0	264	938	224	1016	1954	21:45	0	0	0	0	122	653	54	285	938
10:00	0		0		210		213			22:00	0		0		138		79		
10:15	0		0		185		211			22:15	0		0		92		58		
10:30	0		0		205		195			22:30	0		0		109		43		
10:45	0	0	0	0	209	809	200	819	1628	22:45	0	0	0	0	81	420	26	206	626
11:00	0		0		226		200			23:00	0		0		68		37		
11:15	0		0		227		215			23:15	0		0		55		23		
11:30	0		0		229		209			23:30	0		0		68		28		
11:45	0	0	0	0	240	922	261	885	1807	23:45	0	0	0	0	61	252	16	104	356
Total Vol.						5758		5554	**11312**							10910		9158	**20068**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
			16668		14712	**31380**

	AM			PM		
Split %	50.9%	49.1%	**36.0%**	54.4%	45.6%	**64.0%**
Peak Hour	0:30	0:30	8:00	8:15	**8:15**	15:00	17:00	**17:00**
Volume	1061	1222	**2271**	1277	1399	**2484**
P.H.F.	0.93	0.94	**0.94**	0.93	0.94	**0.98**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT7 Valley Centre between El Camino Real and Carmel View . **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	0		0		2		2			12:00	0		0		118		112		
0:15	0		0		0		3			12:15	0		0		103		125		
0:30	0		0		0		0			12:30	0		0		118		108		
0:45	0	0	0	0	1	3	2	7	10	12:45	0	0	0	0	99	438	143	488	926
1:00	0		0		0		1			13:00	0		0		115		132		
1:15	0		0		3		1			13:15	0		0		91		118		
1:30	0		0		2		2			13:30	0		0		82		128		
1:45	0	0	0	0	0	5	1	5	10	13:45	0	0	0	0	69	357	112	490	847
2:00	0		0		2		0			14:00	0		0		77		89		
2:15	0		0		0		1			14:15	0		0		85		86		
2:30	0		0		2		0			14:30	0		0		73		93		
2:45	0	0	0	0	3	7	1	2	9	14:45	0	0	0	0	85	320	86	354	674
3:00	0		0		0		2			15:00	0		0		102		110		
3:15	0		0		2		2			15:15	0		0		75		97		
3:30	0		0		0		0			15:30	0		0		90		77		
3:45	0	0	0	0	1	3	0	4	7	15:45	0	0	0	0	100	367	89	373	740
4:00	0		0		2		0			16:00	0		0		123		80		
4:15	0		0		0		0			16:15	0		0		97		72		
4:30	0		0		1		4			16:30	0		0		139		82		
4:45	0	0	0	0	5	8	6	10	18	16:45	0	0	0	0	119	478	79	313	791
5:00	0		0		4		5			17:00	0		0		171		87		
5:15	0		0		5		5			17:15	0		0		137		103		
5:30	0		0		5		15			17:30	0		0		157		95		
5:45	0	0	0	0	14	28	23	48	76	17:45	0	0	0	0	159	624	78	363	987
6:00	0		0		10		16			18:00	0		0		133		85		
6:15	0		0		14		19			18:15	0		0		97		87		
6:30	0		0		18		38			18:30	0		0		126		69		
6:45	0	0	0	0	36	78	50	123	201	18:45	0	0	0	0	78	434	66	307	741
7:00	0		0		33		59			19:00	0		0		80		71		
7:15	0		0		38		71			19:15	0		0		57		57		
7:30	0		0		53		99			19:30	0		0		63		54		
7:45	0	0	0	0	68	192	127	356	548	19:45	0	0	0	0	44	244	57	239	483
8:00	0		0		45		100			20:00	0		0		41		52		
8:15	0		0		57		118			20:15	0		0		25		50		
8:30	0		0		67		137			20:30	0		0		26		39		
8:45	0	0	0	0	73	242	129	484	726	20:45	0	0	0	0	37	129	41	182	311
9:00	0		0		63		181			21:00	0		0		17		33		
9:15	0		0		64		103			21:15	0		0		10		28		
9:30	0		0		68		94			21:30	0		0		25		30		
9:45	0	0	0	0	66	261	90	468	729	21:45	0	0	0	0	18	70	26	117	187
10:00	0		0		66		79			22:00	0		0		15		23		
10:15	0		0		60		93			22:15	0		0		9		9		
10:30	0		0		64		66			22:30	0		0		11		6		
10:45	0	0	0	0	68	258	88	326	584	22:45	0	0	0	0	5	40	10	48	88
11:00	0		0		90		76			23:00	0		0		5		9		
11:15	0		0		102		88			23:15	0		0		5		7		
11:30	0		0		119		101			23:30	0		0		4		3		
11:45	0	0	0	0	112	423	111	376	799	23:45	0	0	0	0	7	21	7	26	47
Total Vol.						1508		2209	**3717**							3522		3300	**6822**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
			5030		5509	**10539**

	AM				**PM**		
Split %	40.6%	59.4%	**35.3%**	51.6%	48.4%	**64.7%**
Peak Hour	0:30	0:30	11:30	8:15	**11:45**	17:00	12:45	**17:00**
Volume	452	565	**907**	624	521	**987**
P.H.F.	0.95	0.78	**0.99**	0.91	0.91	**0.96**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT6 El Camino Real between SR56 WB and SR56 EB. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	11		6		0		0			12:00	252		155		0		0		
0:15	12		9		0		0			12:15	239		158		0		0		
0:30	15		3		0		0			12:30	255		145		0		0		
0:45	8	46	5	23	0	0	0	0	69	12:45	237	983	197	655	0	0	0	0	1638
1:00	6		4		0		0			13:00	210		160		0		0		
1:15	9		6		0		0			13:15	240		142		0		0		
1:30	9		4		0		0			13:30	204		138		0		0		
1:45	4	28	1	15	0	0	0	0	43	13:45	197	851	132	572	0	0	0	0	1423
2:00	5		1		0		0			14:00	200		144		0		0		
2:15	3		0		0		0			14:15	207		132		0		0		
2:30	7		2		0		0			14:30	173		142		0		0		
2:45	5	20	3	6	0	0	0	0	26	14:45	200	780	148	566	0	0	0	0	1346
3:00	1		2		0		0			15:00	162		171		0		0		
3:15	3		0		0		0			15:15	190		171		0		0		
3:30	2		2		0		0			15:30	221		175		0		0		
3:45	4	10	6	10	0	0	0	0	20	15:45	216	789	152	669	0	0	0	0	1458
4:00	12		5		0		0			16:00	254		181		0		0		
4:15	10		4		0		0			16:15	331		164		0		0		
4:30	14		5		0		0			16:30	397		164		0		0		
4:45	25	61	8	22	0	0	0	0	83	16:45	391	1373	172	681	0	0	0	0	2054
5:00	10		4		0		0			17:00	433		189		0		0		
5:15	33		9		0		0			17:15	421		207		0		0		
5:30	36		26		0		0			17:30	463		197		0		0		
5:45	77	156	24	63	0	0	0	0	219	17:45	501	1818	188	781	0	0	0	0	2599
6:00	63		24		0		0			18:00	461		152		0		0		
6:15	85		50		0		0			18:15	379		140		0		0		
6:30	101		59		0		0			18:30	335		143		0		0		
6:45	173	422	89	222	0	0	0	0	644	18:45	255	1430	130	565	0	0	0	0	1995
7:00	202		84		0		0			19:00	169		101		0		0		
7:15	216		118		0		0			19:15	168		102		0		0		
7:30	236		119		0		0			19:30	122		98		0		0		
7:45	284	938	153	474	0	0	0	0	1412	19:45	134	593	104	405	0	0	0	0	998
8:00	250		165		0		0			20:00	134		84		0		0		
8:15	244		196		0		0			20:15	116		80		0		0		
8:30	261		183		0		0			20:30	106		86		0		0		
8:45	304	1059	213	757	0	0	0	0	1816	20:45	95	451	77	327	0	0	0	0	778
9:00	271		206		0		0			21:00	95		63		0		0		
9:15	239		173		0		0			21:15	113		53		0		0		
9:30	237		114		0		0			21:30	97		70		0		0		
9:45	223	970	125	618	0	0	0	0	1588	21:45	57	362	57	243	0	0	0	0	605
10:00	198		117		0		0			22:00	64		43		0		0		
10:15	170		106		0		0			22:15	57		36		0		0		
10:30	163		95		0		0			22:30	38		34		0		0		
10:45	176	707	99	417	0	0	0	0	1124	22:45	34	193	30	143	0	0	0	0	336
11:00	176		95		0		0			23:00	26		25		0		0		
11:15	194		111		0		0			23:15	24		24		0		0		
11:30	243		133		0		0			23:30	24		19		0		0		
11:45	231	844	133	472	0	0	0	0	1316	23:45	19	93	15	83	0	0	0	0	176
Total Vol.	5261		3099						**8360**		9716		5690						**15406**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
14977		8789				**23766**

	AM					**PM**				
Split %	62.9%	37.1%			**35.2%**	63.1%	36.9%			**64.8%**
Peak Hour	8:15	8:15	0:30	0:30	**8:15**	17:15	17:00			**17:00**
Volume	1080	798			**1878**	1846	781			**2599**
P.H.F.	0.89	0.94			**0.91**	0.94	0.94			**0.94**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT5 El Camino Real between Valley Center and Carmel Valley. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	9		12		0		0			12:00	218		290		0		0		
0:15	7		12		0		0			12:15	198		271		0		0		
0:30	11		10		0		0			12:30	249		263		0		0		
0:45	3	30	10	44	0	0	0	0	74	12:45	242	907	277	1101	0	0	0	0	2008
1:00	6		11		0		0			13:00	199		266		0		0		
1:15	5		10		0		0			13:15	230		240		0		0		
1:30	9		6		0		0			13:30	187		259		0		0		
1:45	5	25	6	33	0	0	0	0	58	13:45	191	807	233	998	0	0	0	0	1805
2:00	4		4		0		0			14:00	192		257		0		0		
2:15	4		1		0		0			14:15	192		237		0		0		
2:30	4		13		0		0			14:30	165		261		0		0		
2:45	5	17	7	25	0	0	0	0	42	14:45	179	728	254	1009	0	0	0	0	1737
3:00	1		6		0		0			15:00	149		316		0		0		
3:15	2		5		0		0			15:15	148		293		0		0		
3:30	2		2		0		0			15:30	198		291		0		0		
3:45	3	8	7	20	0	0	0	0	28	15:45	198	693	261	1161	0	0	0	0	1854
4:00	15		6		0		0			16:00	225		316		0		0		
4:15	6		8		0		0			16:15	305		272		0		0		
4:30	15		8		0		0			16:30	347		317		0		0		
4:45	26	62	13	35	0	0	0	0	97	16:45	356	1233	261	1166	0	0	0	0	2399
5:00	16		14		0		0			17:00	402		368		0		0		
5:15	37		22		0		0			17:15	384		320		0		0		
5:30	40		26		0		0			17:30	417		289		0		0		
5:45	100	193	44	106	0	0	0	0	299	17:45	445	1648	291	1268	0	0	0	0	2916
6:00	95		33		0		0			18:00	441		277		0		0		
6:15	107		71		0		0			18:15	361		245		0		0		
6:30	111		74		0		0			18:30	327		269		0		0		
6:45	201	514	118	296	0	0	0	0	810	18:45	232	1361	218	1009	0	0	0	0	2370
7:00	202		122		0		0			19:00	154		184		0		0		
7:15	216		143		0		0			19:15	159		188		0		0		
7:30	236		178		0		0			19:30	114		166		0		0		
7:45	284	938	233	676	0	0	0	0	1614	19:45	121	548	186	724	0	0	0	0	1272
8:00	250		224		0		0			20:00	118		133		0		0		
8:15	244		244		0		0			20:15	95		137		0		0		
8:30	261		296		0		0			20:30	93		135		0		0		
8:45	304	1059	308	1072	0	0	0	0	2131	20:45	84	390	145	550	0	0	0	0	940
9:00	293		292		0		0			21:00	84		105		0		0		
9:15	258		255		0		0			21:15	91		96		0		0		
9:30	244		197		0		0			21:30	83		90		0		0		
9:45	252	1047	181	925	0	0	0	0	1972	21:45	53	311	88	379	0	0	0	0	690
10:00	221		202		0		0			22:00	57		87		0		0		
10:15	160		207		0		0			22:15	49		49		0		0		
10:30	170		170		0		0			22:30	38		56		0		0		
10:45	183	734	197	776	0	0	0	0	1510	22:45	31	175	49	241	0	0	0	0	416
11:00	172		186		0		0			23:00	18		47		0		0		
11:15	196		201		0		0			23:15	22		36		0		0		
11:30	223		250		0		0			23:30	18		34		0		0		
11:45	208	799	266	903	0	0	0	0	1702	23:45	18	76	21	138	0	0	0	0	214
Total Vol.	5426		4911						**10337**		8877		9744						**18621**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
14303		14655				**28958**

	AM					**PM**				
Split %	52.5%	47.5%			**35.7%**	47.7%	52.3%			**64.3%**
Peak Hour	8:30	8:30	0:30	0:30	**8:30**	17:15	17:00			**17:00**
Volume	1116	1151			**2267**	1687	1268			**2916**
P.H.F.	0.92	0.93			**0.93**	0.95	0.86			**0.95**

Wednesday, July 22, 2015 | CITY: San Diego | PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT4 El Camino Real between Del Mar Corporate and Valley Center.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	6		7		0		0			12:00	195		188		0		0		
0:15	7		7		0		0			12:15	158		163		0		0		
0:30	5		8		0		0			12:30	197		213		0		0		
0:45	5	23	6	28	0	0	0	0	51	12:45	172	722	229	793	0	0	0	0	1515
1:00	6		11		0		0			13:00	167		211		0		0		
1:15	2		7		0		0			13:15	167		193		0		0		
1:30	5		6		0		0			13:30	154		195		0		0		
1:45	5	18	2	26	0	0	0	0	44	13:45	167	655	186	785	0	0	0	0	1440
2:00	1		0		0		0			14:00	145		191		0		0		
2:15	6		3		0		0			14:15	159		178		0		0		
2:30	1		5		0		0			14:30	136		185		0		0		
2:45	1	9	4	12	0	0	0	0	21	14:45	144	584	184	738	0	0	0	0	1322
3:00	0		3		0		0			15:00	128		214		0		0		
3:15	3		4		0		0			15:15	149		201		0		0		
3:30	1		3		0		0			15:30	154		182		0		0		
3:45	1	5	3	13	0	0	0	0	18	15:45	167	598	186	783	0	0	0	0	1381
4:00	4		4		0		0			16:00	198		196		0		0		
4:15	5		5		0		0			16:15	228		185		0		0		
4:30	2		5		0		0			16:30	289		197		0		0		
4:45	8	19	8	22	0	0	0	0	41	16:45	318	1033	173	751	0	0	0	0	1784
5:00	9		10		0		0			17:00	370		244		0		0		
5:15	14		24		0		0			17:15	355		228		0		0		
5:30	15		15		0		0			17:30	353		181		0		0		
5:45	39	77	30	79	0	0	0	0	156	17:45	373	1451	192	845	0	0	0	0	2296
6:00	50		31		0		0			18:00	376		160		0		0		
6:15	54		52		0		0			18:15	307		131		0		0		
6:30	44		49		0		0			18:30	270		172		0		0		
6:45	80	228	88	220	0	0	0	0	448	18:45	232	1185	136	599	0	0	0	0	1784
7:00	89		100		0		0			19:00	129		127		0		0		
7:15	113		108		0		0			19:15	128		131		0		0		
7:30	117		151		0		0			19:30	92		108		0		0		
7:45	167	486	184	543	0	0	0	0	1029	19:45	89	438	117	483	0	0	0	0	921
8:00	132		195		0		0			20:00	85		92		0		0		
8:15	145		218		0		0			20:15	69		98		0		0		
8:30	122		248		0		0			20:30	67		101		0		0		
8:45	166	565	266	927	0	0	0	0	1492	20:45	56	277	88	379	0	0	0	0	656
9:00	181		233		0		0			21:00	57		75		0		0		
9:15	147		210		0		0			21:15	57		61		0		0		
9:30	163		172		0		0			21:30	42		73		0		0		
9:45	166	657	150	765	0	0	0	0	1422	21:45	35	191	67	276	0	0	0	0	467
10:00	148		158		0		0			22:00	44		54		0		0		
10:15	138		135		0		0			22:15	30		41		0		0		
10:30	121		125		0		0			22:30	21		40		0		0		
10:45	129	536	118	536	0	0	0	0	1072	22:45	17	112	37	172	0	0	0	0	284
11:00	132		143		0		0			23:00	18		28		0		0		
11:15	156		158		0		0			23:15	19		17		0		0		
11:30	164		160		0		0			23:30	7		19		0		0		
11:45	173	625	189	650	0	0	0	0	1275	23:45	9	53	16	80	0	0	0	0	133
Total Vol.		3248		3821					**7069**			7299		6684					**13983**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
10547		10505				**21052**

	AM					**PM**				
Split %	45.9%	54.1%			**33.6%**	52.2%	47.8%			**66.4%**
Peak Hour	11:45	8:15	0:30	0:30	**8:15**	17:15	12:30			**17:00**
Volume	723	965			**1579**	1457	846			**2296**
P.H.F.	0.92	0.91			**0.91**	0.97	0.92			**0.93**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT3 El Camino Real between High Bluff and Del Mar Corporate. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	7		6		0		0			12:00	197		177		0		0		
0:15	7		7		0		0			12:15	161		155		0		0		
0:30	4		8		0		0			12:30	198		200		0		0		
0:45	6	24	6	27	0	0	0	0	51	12:45	171	727	237	769	0	0	0	0	1496
1:00	6		11		0		0			13:00	171		209		0		0		
1:15	2		5		0		0			13:15	171		189		0		0		
1:30	5		5		0		0			13:30	154		197		0		0		
1:45	5	18	2	23	0	0	0	0	41	13:45	165	661	185	780	0	0	0	0	1441
2:00	1		0		0		0			14:00	143		187		0		0		
2:15	5		1		0		0			14:15	158		175		0		0		
2:30	1		5		0		0			14:30	135		187		0		0		
2:45	1	8	5	11	0	0	0	0	19	14:45	145	581	184	733	0	0	0	0	1314
3:00	0		4		0		0			15:00	131		201		0		0		
3:15	3		4		0		0			15:15	149		198		0		0		
3:30	1		3		0		0			15:30	154		172		0		0		
3:45	0	4	3	14	0	0	0	0	18	15:45	171	605	176	747	0	0	0	0	1352
4:00	3		4		0		0			16:00	202		182		0		0		
4:15	5		5		0		0			16:15	227		169		0		0		
4:30	1		5		0		0			16:30	297		188		0		0		
4:45	8	17	8	22	0	0	0	0	39	16:45	330	1056	161	700	0	0	0	0	1756
5:00	9		10		0		0			17:00	390		215		0		0		
5:15	14		24		0		0			17:15	373		216		0		0		
5:30	14		15		0		0			17:30	374		159		0		0		
5:45	36	73	32	81	0	0	0	0	154	17:45	379	1516	175	765	0	0	0	0	2281
6:00	46		28		0		0			18:00	384		147		0		0		
6:15	49		54		0		0			18:15	314		121		0		0		
6:30	44		51		0		0			18:30	274		158		0		0		
6:45	69	208	95	228	0	0	0	0	436	18:45	237	1209	123	549	0	0	0	0	1758
7:00	74		109		0		0			19:00	134		114		0		0		
7:15	102		115		0		0			19:15	125		120		0		0		
7:30	109		158		0		0			19:30	96		102		0		0		
7:45	162	447	193	575	0	0	0	0	1022	19:45	95	450	115	451	0	0	0	0	901
8:00	112		209		0		0			20:00	86		89		0		0		
8:15	116		239		0		0			20:15	72		98		0		0		
8:30	104		262		0		0			20:30	67		100		0		0		
8:45	149	481	285	995	0	0	0	0	1476	20:45	56	281	89	376	0	0	0	0	657
9:00	167		234		0		0			21:00	57		73		0		0		
9:15	140		198		0		0			21:15	56		59		0		0		
9:30	150		167		0		0			21:30	42		71		0		0		
9:45	150	607	153	752	0	0	0	0	1359	21:45	34	189	66	269	0	0	0	0	458
10:00	131		162		0		0			22:00	44		51		0		0		
10:15	131		131		0		0			22:15	31		39		0		0		
10:30	117		123		0		0			22:30	21		41		0		0		
10:45	126	505	117	533	0	0	0	0	1038	22:45	17	113	36	167	0	0	0	0	280
11:00	127		135		0		0			23:00	19		28		0		0		
11:15	149		149		0		0			23:15	18		16		0		0		
11:30	169		144		0		0			23:30	8		17		0		0		
11:45	176	621	183	611	0	0	0	0	1232	23:45	10	55	16	77	0	0	0	0	132
Total Vol.	3013		3872						**6885**		7443		6383						**13826**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
10456		10255				**20711**

	AM					**PM**				
Split %	43.8%	56.2%			**33.2%**	53.8%	46.2%			**66.8%**
Peak Hour	11:45	8:15	0:30	0:30	**8:15**	17:00	12:30			**17:00**
Volume	732	1020			**1556**	1516	835			**2281**
P.H.F.	0.92	0.89			**0.90**	0.97	0.88			**0.94**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT2 El Camino Real between Elijah and High Bluff. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	4		6		0		0			12:00	189		140		0		0		
0:15	8		6		0		0			12:15	154		130		0		0		
0:30	1		3		0		0			12:30	185		158		0		0		
0:45	4	17	4	19	0	0	0	0	36	12:45	143	671	191	619	0	0	0	0	1290
1:00	6		7		0		0			13:00	138		170		0		0		
1:15	2		3		0		0			13:15	142		160		0		0		
1:30	2		3		0		0			13:30	114		167		0		0		
1:45	6	16	0	13	0	0	0	0	29	13:45	126	520	163	660	0	0	0	0	1180
2:00	0		0		0		0			14:00	134		140		0		0		
2:15	4		1		0		0			14:15	100		138		0		0		
2:30	0		2		0		0			14:30	121		122		0		0		
2:45	1	5	1	4	0	0	0	0	9	14:45	122	477	144	544	0	0	0	0	1021
3:00	0		1		0		0			15:00	105		137		0		0		
3:15	3		1		0		0			15:15	117		139		0		0		
3:30	1		1		0		0			15:30	145		102		0		0		
3:45	0	4	3	6	0	0	0	0	10	15:45	150	517	116	494	0	0	0	0	1011
4:00	1		2		0		0			16:00	195		114		0		0		
4:15	3		5		0		0			16:15	210		111		0		0		
4:30	2		4		0		0			16:30	265		105		0		0		
4:45	5	11	6	17	0	0	0	0	28	16:45	315	985	111	441	0	0	0	0	1426
5:00	5		8		0		0			17:00	339		90		0		0		
5:15	11		17		0		0			17:15	369		118		0		0		
5:30	11		13		0		0			17:30	291		102		0		0		
5:45	26	53	16	54	0	0	0	0	107	17:45	390	1389	111	421	0	0	0	0	1810
6:00	26		24		0		0			18:00	354		106		0		0		
6:15	35		41		0		0			18:15	314		95		0		0		
6:30	30		41		0		0			18:30	249		115		0		0		
6:45	42	133	65	171	0	0	0	0	304	18:45	224	1141	96	412	0	0	0	0	1553
7:00	29		70		0		0			19:00	125		87		0		0		
7:15	46		81		0		0			19:15	124		100		0		0		
7:30	59		121		0		0			19:30	79		86		0		0		
7:45	56	190	180	452	0	0	0	0	642	19:45	92	420	108	381	0	0	0	0	801
8:00	74		175		0		0			20:00	82		80		0		0		
8:15	72		193		0		0			20:15	58		101		0		0		
8:30	63		218		0		0			20:30	75		94		0		0		
8:45	116	325	234	820	0	0	0	0	1145	20:45	50	265	76	351	0	0	0	0	616
9:00	103		203		0		0			21:00	44		61		0		0		
9:15	95		174		0		0			21:15	47		62		0		0		
9:30	87		121		0		0			21:30	44		65		0		0		
9:45	109	394	118	616	0	0	0	0	1010	21:45	26	161	59	247	0	0	0	0	408
10:00	115		116		0		0			22:00	39		49		0		0		
10:15	100		89		0		0			22:15	28		36		0		0		
10:30	96		92		0		0			22:30	17		39		0		0		
10:45	101	412	105	402	0	0	0	0	814	22:45	19	103	39	163	0	0	0	0	266
11:00	123		93		0		0			23:00	16		26		0		0		
11:15	135		106		0		0			23:15	13		19		0		0		
11:30	153		119		0		0			23:30	8		20		0		0		
11:45	174	585	126	444	0	0	0	0	1029	23:45	7	44	12	77	0	0	0	0	121
Total Vol.		2145		3018					**5163**			6693		4810					**11503**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
8838		7828				**16666**

	AM					**PM**				
Split %	41.5%	58.5%			**31.0%**	58.2%	41.8%			**69.0%**
Peak Hour	11:45	8:15	0:30	0:30	**11:45**	17:15	12:45			**17:15**
Volume	702	848			**1256**	1404	688			**1841**
P.H.F.	0.93	0.91			**0.92**	0.92	0.90			**0.92**

Wednesday, July 22, 2015 CITY: San Diego PROJECT: SC0674

Prepared by: Field Data Services of Arizona

ADT1 El Camino Real between Townsgate and Elijah. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:30	4		6		0		0			12:00	181		142		0		0		
0:15	10		9		0		0			12:15	155		133		0		0		
0:30	1		3		0		0			12:30	177		150		0		0		
0:45	5	20	6	24	0	0	0	0	44	12:45	149	662	181	606	0	0	0	0	1268
1:00	6		7		0		0			13:00	145		162		0		0		
1:15	1		6		0		0			13:15	149		164		0		0		
1:30	2		3		0		0			13:30	118		173		0		0		
1:45	5	14	0	16	0	0	0	0	30	13:45	135	547	159	658	0	0	0	0	1205
2:00	0		2		0		0			14:00	133		136		0		0		
2:15	4		1		0		0			14:15	108		137		0		0		
2:30	1		2		0		0			14:30	126		118		0		0		
2:45	0	5	0	5	0	0	0	0	10	14:45	130	497	143	534	0	0	0	0	1031
3:00	0		1		0		0			15:00	111		138		0		0		
3:15	3		1		0		0			15:15	122		140		0		0		
3:30	2		1		0		0			15:30	139		109		0		0		
3:45	0	5	3	6	0	0	0	0	11	15:45	156	528	116	503	0	0	0	0	1031
4:00	2		3		0		0			16:00	193		121		0		0		
4:15	5		6		0		0			16:15	210		118		0		0		
4:30	4		3		0		0			16:30	247		103		0		0		
4:45	4	15	3	15	0	0	0	0	30	16:45	316	966	120	462	0	0	0	0	1428
5:00	6		5		0		0			17:00	338		93		0		0		
5:15	10		11		0		0			17:15	361		120		0		0		
5:30	11		10		0		0			17:30	283		108		0		0		
5:45	22	49	8	34	0	0	0	0	83	17:45	382	1364	118	439	0	0	0	0	1803
6:00	25		18		0		0			18:00	339		119		0		0		
6:15	36		27		0		0			18:15	304		100		0		0		
6:30	31		31		0		0			18:30	237		128		0		0		
6:45	48	140	49	125	0	0	0	0	265	18:45	225	1105	96	443	0	0	0	0	1548
7:00	38		50		0		0			19:00	138		98		0		0		
7:15	64		71		0		0			19:15	117		108		0		0		
7:30	69		103		0		0			19:30	80		93		0		0		
7:45	74	245	151	375	0	0	0	0	620	19:45	84	419	113	412	0	0	0	0	831
8:00	85		145		0		0			20:00	82		93		0		0		
8:15	83		169		0		0			20:15	59		113		0		0		
8:30	77		200		0		0			20:30	58		100		0		0		
8:45	129	374	211	725	0	0	0	0	1099	20:45	46	245	88	394	0	0	0	0	639
9:00	109		184		0		0			21:00	43		77		0		0		
9:15	100		165		0		0			21:15	44		66		0		0		
9:30	92		103		0		0			21:30	39		73		0		0		
9:45	111	412	108	560	0	0	0	0	972	21:45	29	155	61	277	0	0	0	0	432
10:00	121		100		0		0			22:00	33		52		0		0		
10:15	93		82		0		0			22:15	29		46		0		0		
10:30	103		96		0		0			22:30	11		38		0		0		
10:45	98	415	106	384	0	0	0	0	799	22:45	15	88	45	181	0	0	0	0	269
11:00	126		97		0		0			23:00	15		29		0		0		
11:15	133		111		0		0			23:15	12		22		0		0		
11:30	153		111		0		0			23:30	9		28		0		0		
11:45	178	590	134	453	0	0	0	0	1043	23:45	6	42	13	92	0	0	0	0	134
Total Vol.		2284		2722					**5006**			6618		5001					**11619**

Daily Totals

NB	Front	SB	EB	Side	WB	**Combined**
8902		7723				**16625**

	AM					**PM**				
Split %	45.6%	54.4%			**30.1%**	57.0%	43.0%			**69.9%**
Peak Hour	11:45	8:15	0:30	0:30	**11:45**	17:15	12:45			**17:15**
Volume	691	764			**1250**	1365	680			**1830**
P.H.F.	0.95	0.91			**0.96**	0.92	0.94			**0.92**

pacific@aimtd.com Tell. 714 253 7888

Location (I.D.)	Route	Dir	Period	Cars per green	Sec./ Cycle	(per lane) Veh./hr	Total # lanes	HOV
Carmel Valley Rd (12212)	5	NB	1500 - 1900	2	7.2 - 10.6	996 - 677	2	Lt
Carmel Valley Rd (12211)	5	SB	0530 - 1100	2	7.2 - 10.1	996 - 710	2	No
El Camino Real (14501)	56	EB	1530 - 1845	2	7.3 - 14.1	990 - 510	2	No

The meters normally operate in a traffic responsive mode.

There are 15 separate rates or steps between the slowest and the fastest discharge rate that depend on mainlane volumes.

Meter Ramp Observation

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

DATE:
Wed, Jul 22, 15

LOCATION: San Diego

EAST Carmel Valley-SR56 EB

PROJECT #: SC0674
LOCATION #: 1
CONTROL: meter
# of lanes 2
Meter rate 3 sec
# of Cars per green 2

		Maximum Queue		
AM	Count	Line 1	Line 2	Max Queue Time
7:00 AM	191	free flow	free flow	meter off
7:15 AM	235	free flow	free flow	meter off
7:30 AM	238	free flow	free flow	meter off
7:45 AM	240	free flow	free flow	meter off
8:00 AM	211	free flow	free flow	meter off
8:15 AM	304	free flow	free flow	meter off
8:30 AM	297	free flow	free flow	meter off
8:45 AM	349	free flow	free flow	meter off
PM				
4:00 PM	359	12	12	16.01
4:15 PM	372	11	11	16.21
4:30 PM	377	6	11	16.41
4:45 PM	370	9	12	16.56
5:00 PM	368	12	12	17.05
5:15 PM	373	11	12	17.22
5:30 PM	413	9	11	17.36
5:45 PM	378	10	11	17.45

Meter Ramp Observation

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

DATE:
Wed, Jul 22, 15

LOCATION: San Diego

EAST Carmel Valley-I5SB

PROJECT #: SC0674
LOCATION #: 3
CONTROL: meter
# of lanes 2
Meter rate 3 sec
# of Cars per green 2

		Maximum Queue		
AM	Count	Line 1	Line 2	Max Queue Time
7:00 AM	96	5	5	7.11
7:15 AM	90	5	4	7.28
7:30 AM	117	6	6	7.38
7:45 AM	147	6	6	7.46
8:00 AM	161	6	7	8.03
8:15 AM	161	7	7	8.22
8:30 AM	196	9	9	8.43
8:45 AM	189	8	8	8.45
PM				
4:00 PM	359	free flow	free flow	meter off
4:15 PM	372	free flow	free flow	meter off
4:30 PM	377	free flow	free flow	meter off
4:45 PM	370	free flow	free flow	meter off
5:00 PM	368	free flow	free flow	meter off
5:15 PM	373	free flow	free flow	meter off
5:30 PM	413	free flow	free flow	meter off
5:45 PM	378	free flow	free flow	meter off

Meter Ramp Observation

PREPARED BY: TJW Engineering

DATE:
Wed, Jul 22, 15

LOCATION: San Diego

EAST Carmel Valley-I5 NB

PROJECT #:	CVC15001
LOCATION #:	2
CONTROL:	meter
# of lanes	2
Meter rate	3 sec
# of Cars per green	2

		Maximum Queue		
AM	Count		General	Max Queue Time
		HOV	Purpose	HOV / General P
7:00 AM	96	free flow	free flow	meter off
7:15 AM	90	free flow	free flow	meter off
7:30 AM	117	free flow	free flow	meter off
7:45 AM	147	free flow	free flow	meter off
8:00 AM	161	free flow	free flow	meter off
8:15 AM	161	free flow	free flow	meter off
8:30 AM	196	free flow	free flow	meter off
8:45 AM	189	free flow	free flow	meter off
PM				
4:00 PM	359	3	5	<1 min / 1min
4:15 PM	372	3	4	<1 min / 1min
4:30 PM	377	3	11	<1 min / 2min
4:45 PM	370	3	9	<1 min / 1.5min
5:00 PM	368	3	11	<1 min / 2min
5:15 PM	373	2	10	<1 min / 2min
5:30 PM	413	3	8	<1 min / 1.5min
5:45 PM	378	2	10	<1 min / 2min

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Apps | Beyond 20/20 Pers... | toler | drag | Seven Useful Micro... | 30 Cleaning Hacks t... | Inbox - jeffweckstei... | Charge!!!: Current L... | Top 10 Ways to Boo... | California Tenants - ... | Garlicky Mushroom...

2017 Traffic Volumes (for ALL vehicles on CA State Highways)

Return to Census Program or Jump to 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017

2017 Volumes Home View

Dist	Rte	CO	Post Mile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	005	SD	R 31.805	SAN DIEGO, CARMEL MOUNTAIN ROAD	16000	231000	217000	16000	231000	217000
11	005	SD	R 32.841	JCT RTE 56	16000	231000	217000	15700	232000	217000
11	005	SD	R 32.901	SAN DIEGO, CARMEL VALLEY ROAD	15700	232000	217000	17400	266000	263000
11	005	SD	R 34.134	SAN DIEGO, DEL MAR HEIGHTS ROAD	17400	266000	263000	16700	250000	239000
11	005	SD	R 36.266	VIA DE LA VALLE	16700	250000	239000	17400	252000	239000
11	005	SD	R 37.384	SOLANA BEACH, LOMAS SANTA FE DRIVE	17400	252000	239000	16800	253000	240000
11	005	SD	R 38.624	MANCHESTER AVENUE	16800	253000	240000	14700	225000	212000
11	005	SD	R 39.830	BIRMINGHAM DRIVE	14700	225000	212000	15300	225000	218000
11	005	SD	R 40.597	ENCINITAS, SANTA FE DRIVE	15300	225000	218000	14800	224000	217000
11	005	SD	R 41.509	ENCINITAS BOULEVARD	14800	224000	217000	16000	230000	218000
11	005	SD	R 42.712	LEUCADIA BOULEVARD	16000	230000	218000	15900	230000	215000
11	005	SD	R 44.071	LEUCADIA, LA COSTA AVENUE	15900	230000	215000	15600	225000	211000
11	005	SD	R 45.571	CARLSBAD, POINSETTIA LANE	15600	225000	211000	15500	223000	208000
11	005	SD	R 47.032	CARLSBAD, PALOMAR AIRPORT ROAD	15500	223000	208000	18900	220000	211000
11	005	SD	R 47.975	CARLSBAD, CANNON ROAD	18900	220000	211000	14800	227000	211000

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Apps | Beyond 20/20 Pers... | toler | drag | Seven Useful Micro... | 30 Cleaning Hacks t... | Inbox - jeffweckstei... | Charge!!!: Current L... | Top 10 Ways to Boo... | California Tenants - ... | Garlicky Mushroom...

2017 Traffic Volumes (for ALL vehicles on CA State Highways)

Return to Census Program or Jump to 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017

2017 Volumes Home ▾ View

Dist	Rte	CO	Post Mile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	056	SD	0.309	EL CAMINO REAL	4500	59000	57000	6300	77000	74000
11	056	SD	0.820	CARMEL CREEK ROAD	6300	77000	74000	7500	84000	81000
11	056	SD	1.808	CARMEL COUNTRY ROAD	7500	85000	81000	7000	77000	74000
11	056	SD	3.103	CARMEL VALLEY ROAD	7000	77000	74000	5700	70000	66000
11	056	SD	6.338	CAMINO DEL SUR	5700	70000	66000	6300	75000	72000
11	056	SD	7.202	BLACK MOUNTAIN ROAD	6300	75000	72000	6600	76000	74000
11	056	SD	8.540	RANCHO PENASQUITOS BLVD	6600	76000	74000	5800	68000	66000
11	056	SD	9.712	JCT. RTE. 15	5800	68000	66000	2900	32500	32000
11	056	SD	9.837	END OF ROUTE	2900	32500	32000			
12	057	ORA	10.830 R	ORANGE, JCT. RTES. 5 AND 22, BEGIN RIGHT ALIGN				10200	121000	119100
12	057	ORA	11.022 R	END RIGHT ALIGN	10200	121000	119100			
12	057	ORA	10.649 L	BEGIN LEFT ALIGN				10200	121000	119100
12	057	ORA	11.022 L	END LEFT ALIGN	10200	121000	119100			
12	057	ORA	11.238	ORANGE, CHAPMAN AVENUE UC	21000	249000	244300	19800	249000	244300
12	057	ORA	11.798	ORANGEWOOD AVENUE	20600	258000	253100	20200	256000	250100

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									AM PEAK								PM PEAK						
DI	RTE	CO	PRE	PM	CS	LEG	YR	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH
10	004	SJ	T	14.05	54	A	16	W	832	7.53	75.29	5.67	6	MON	APR	E	1340	12.21	74.82	9.14	17	FRI	OCT
10	004	SJ		15.91	113	B	15	W	907	7.09	69.4	4.92	6	TUE	OCT	E	1398	10.43	72.7	7.59	16	FRI	JUL
10	004	SJ	R	16.06	59	A	16	E	3306	8.01	52.59	4.21	7	WED	SEP	E	3182	7.75	52.3	4.05	14	FRI	APR
10	004	SJ		24.87	313	A	16	E	425	9.88	75.49	7.46	11	SAT	FEB	W	481	11.69	72.22	8.44	13	MON	FEB
10	004	SJ		24.87	336	B	16	W	375	10.56	60.98	6.44	11	SUN	JUL	W	438	10.75	69.97	7.52	16	SUN	AUG
11	005	SD	R	.878	501	A	17	S	1680	5.84	64.87	3.79	12	SAT	MAY	S	2686	8.42	71.9	6.05	15	FRI	JUN
11	005	SD	R	11.13	952	A	17	N	8583	6.01	69.66	4.19	6	TUE	AUG	S	9186	7.58	59.14	4.48	14	WED	MAY
11	005	SD	R	12.65	903	A	17	N	8615	6.46	79.92	5.16	6	THU	MAY	S	7950	7.82	60.9	4.76	14	THU	JUN
11	005	SD	R	20.06	800	B	17	S	8018	7.24	53.21	3.85	8	THU	OCT	S	8017	7.46	51.6	3.85	15	SAT	JUL
11	005	SD	R	20.06	931	A	17	S	7442	7	54.84	3.84	8	THU	FEB	S	8602	7.58	58.56	4.44	15	WED	DEC
11	005	SD	R	22.26	801	B	17	N	8741	7.15	54.69	3.91	7	WED	JUN	S	9288	7.81	53.19	4.15	15	FRI	DEC
11	005	SD	R	25.95	802	B	17	N	9558	7.67	58.88	4.51	7	THU	JUL	S	11195	8.43	62.74	5.29	15	WED	MAY
11	005	SD	R	30.68	502	A	17	S	8328	7.45	51.59	3.85	8	THU	MAY	N	8985	7.29	56.89	4.15	15	TUE	FEB
11	005	SD	R	30.68	803	B	17	S	5908	7.55	56.23	4.25	8	MON	JUN	N	6059	8	54.44	4.35	15	THU	OCT
11	005	SD	R	36.27	898	A	17	S	9158	6.99	54.86	3.83	8	TUE	APR	N	8565	6.81	52.68	3.59	14	WED	NOV
11	005	SD	R	49.28	904	B	17	N	12034	7.75	73.48	5.69	5	WED	AUG	N	9922	7.05	66.59	4.69	19	FRI	SEP
11	005	SD	R	51.20	905	A	17	N	7603	6.98	51.76	3.61	10	SAT	JUN	N	7411	6.52	53.96	3.52	17	THU	JUN
11	005	SD	R	52.83	907	O	17	S	7454	6.97	53	3.69	10	SUN	AUG	S	6936	6.19	55.53	3.43	18	SUN	MAY
11	005	SD	R	53.93	906	B	17	N	6602	6.82	55.78	3.8	10	MON	SEP	S	6379	6.63	55.43	3.68	16	FRI	MAY
11	005	SD	R	54.39	954	A	17	N	6030	7.65	54.53	4.17	11	SUN	AUG	N	5496	7.37	51.59	3.8	13	SUN	JUN
12	005	ORA		.483	401	O	16	S	5886	7.63	54.8	4.18	12	SAT	FEB	N	5619	6.68	59.8	3.99	21	SUN	OCT
12	005	ORA	R	25.00	900	O	17	S	10653	6.99	53.85	3.77	8	WED	JAN	S	10887	6.85	56.17	3.85	17	TUE	OCT
12	005	ORA		30.26	904	B	16	N	11223	6.93	57.74	4	7	WED	OCT	S	9871	5.7	61.78	3.52	17	THU	APR
12	005	ORA		30.26	905	A	16	N	12681	6.72	55.61	3.74	7	TUE	MAY	S	11391	6.07	55.32	3.36	16	MON	MAY
12	005	ORA		33.09	906	A	16	N	12558	5.81	58	3.37	7	THU	OCT	N	12093	6.05	53.64	3.25	16	MON	JAN
07	005	LA		.7	475	A	15	S	5444	5.92	53.78	3.18	6	WED	NOV	S	5304	5.61	55.31	3.1	17	MON	OCT
07	005	LA		15.33	27	O	16	N	7932	5.57	57.01	3.18	4	WED	MAR	S	7937	5.84	54.46	3.18	15	SUN	MAR
07	005	LA		17.8	28	O	15	N	7789	6.12	53.1	3.25	7	TUE	OCT	N	7807	5.98	54.46	3.26	14	FRI	OCT
07	005	LA		33.98	754	O	16	S	7826	6.25	63.82	3.99	6	WED	MAR	N	7161	6.52	55.99	3.65	16	MON	FEB
07	005	LA		41	34	B	17	S	6920	5.67	69.34	3.93	5	WED	FEB	N	7654	6.4	67.93	4.34	16	THU	APR
07	005	LA	R	56.60	906	B	17	S	5581	8.14	55.48	4.51	8	SAT	SEP	S	5900	7.66	62.29	4.77	16	MON	FEB
06	005	KER		13.52	631	A	17	S	4620	9.56	54.83	5.24	10	SAT	MAY	S	5172	11.24	52.21	5.87	15	MON	SEP
06	005	KER		19.61	172	B	15	N	2030	10.13	59.15	5.99	10	SAT	SEP	S	2764	13.97	58.44	8.16	13	MON	SEP

									AM PEAK								PM PEAK						
DI	RTE	CO	PRE	PM	CS	LEG	YR	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH
11	054	SD		4.207	816	A	17	W	5865	8.04	59.84	4.81	7	WED	AUG	E	5071	7.9	52.67	4.16	16	TUE	AUG
11	054	SD		4.994	743	A	17	W	5534	8.49	57.46	4.88	7	THU	JAN	E	4730	7.85	53.12	4.17	15	WED	MAY
11	054	SD	T	12.26	890	B	17	W	985	7.04	55.93	3.94	11	SAT	JUN	W	1764	11.47	61.49	7.05	15	FRI	NOV
12	055	ORA	R	2.772	909	B	17	N	3975	9.55	58.41	5.58	7	TUE	MAR	N	3518	5.05	97.83	4.94	15	THU	AUG
12	055	ORA	R	3.776	910	B	16	N	12735	10.5	77.34	8.12	7	FRI	OCT	N	10557	9.83	68.43	6.73	15	FRI	OCT
12	055	ORA		14.37	94	A	16	N	8378	6.87	52.65	3.62	11	FRI	MAR	N	9544	7.53	54.76	4.12	16	MON	OCT
11	056	SD		.309	751	A	17	W	5498	9.35	65.7	6.15	7	THU	SEP	E	4807	8.41	63.91	5.37	14	FRI	SEP
11	056	SD		.82	752	A	17	W	5124	9.23	67.34	6.22	7	THU	SEP	E	4426	8.5	63.17	5.37	15	WED	MAY
11	056	SD		3.103	750	B	17	W	4349	7.94	73.45	5.83	7	THU	JUL	E	4191	8.08	69.56	5.62	17	MON	MAY
11	056	SD		3.103	755	A	17	E	3852	10.68	54.41	5.81	12	MON	OCT	E	4020	8.43	71.98	6.06	17	TUE	FEB
11	056	SD		7.562	757	B	17	W	4476	8.59	70.64	6.07	7	THU	DEC	E	4110	8.98	62.1	5.57	17	THU	MAR
11	056	SD		8.54	758	B	17	W	3721	8.06	61.4	4.95	7	MON	MAY	E	3964	8.67	60.8	5.27	16	THU	MAY
11	056	SD		8.54	759	A	17	W	3409	8.72	57.89	5.05	7	THU	AUG	E	3250	8.53	56.43	4.81	14	FRI	MAY
12	057	ORA		15.6	927	A	16	N	9792	6.33	53.34	3.37	7	MON	FEB	N	9986	6.51	52.85	3.44	18	WED	APR
07	057	LA	R	3.167	77	B	17	S	7705	5.31	71.01	3.77	5	WED	MAR	S	7115	6.25	55.73	3.48	17	FRI	MAY
05	058	SLO		1.87	235	A	16	W	177	8.12	81.57	6.62	7	THU	SEP	E	303	14.96	75.75	11.34	15	SUN	SEP
06	058	KER		15.41	71	B	15	W	18	18.12	66.67	12.08	10	THU	MAY	W	17	18.79	60.71	11.41	15	FRI	FEB
06	058	KER		15.42	72	A	15	W	397	23.64	94.98	22.46	5	MON	NOV	E	343	21.49	90.26	19.4	16	WED	NOV
06	058	KER		28.12	73	A	15	W	749	15.26	89.7	13.69	5	THU	NOV	E	693	15.33	82.6	12.66	16	MON	NOV
06	058	KER		39.96	9	B	17	W	361	8.33	80.58	6.71	5	TUE	AUG	E	428	10.6	75.09	7.96	16	THU	NOV
06	058	KER		39.97	10	A	15	W	575	10.27	91.85	9.44	5	MON	NOV	E	449	10.98	67.12	7.37	16	THU	NOV
06	058	KER		51.63	163	B	15	W	2290	8.46	52.39	4.43	12	MON	FEB	W	2339	8.67	52.25	4.53	15	FRI	FEB
06	058	KER	R	57.41	332	A	15	W	2248	6.6	64.38	4.25	7	WED	MAY	W	2472	7.42	63	4.67	15	TUE	MAY
06	058	KER	R	65.68	972	B	16	E	1127	8.35	58.52	4.89	11	FRI	FEB	E	1273	9.4	58.72	5.52	14	FRI	MAR
06	058	KER		69.75	77	B	15	E	955	7.44	56.05	4.17	12	FRI	AUG	E	1183	8.23	62.76	5.16	17	FRI	NOV
09	058	KER	R	107.5	969	B	17	E	1135	9.22	51.97	4.79	12	FRI	DEC	W	1276	8.9	60.53	5.39	15	WED	JUL
09	058	KER	M	111.1	910	A	17	E	645	8.47	54.38	4.6	11	FRI	JUN	W	770	8.39	65.48	5.5	16	MON	MAR
09	058	KER	R	142.9	953	A	17	E	797	8.45	61.12	5.17	11	FRI	MAR	E	850	8.43	65.39	5.51	13	FRI	FEB
08	058	SBD	R	20.64	607	B	16	E	666	8.72	65.04	5.67	10	FRI	JUN	W	694	8.41	70.31	5.91	14	MON	FEB
10	059	MER		33.71	257	B	16	S	136	10.23	63.85	6.53	12	SUN	NOV	S	159	12.2	62.6	7.64	15	SUN	AUG
07	060	LA	R	2.22	98	O	17	E	7758	6.53	54.77	3.57	12	FRI	SEP	E	8386	5.93	65.18	3.86	18	MON	OCT
07	060	LA	R	7.774	499	A	16	W	8141	6.45	56.9	3.67	7	WED	JUL	W	7719	6.59	52.76	3.48	14	SUN	JUL
07	060	LA		10.6	100	B	16	W	8955	5.9	62.69	3.7	6	THU	JUL	W	8674	6.58	54.47	3.58	14	SUN	MAR

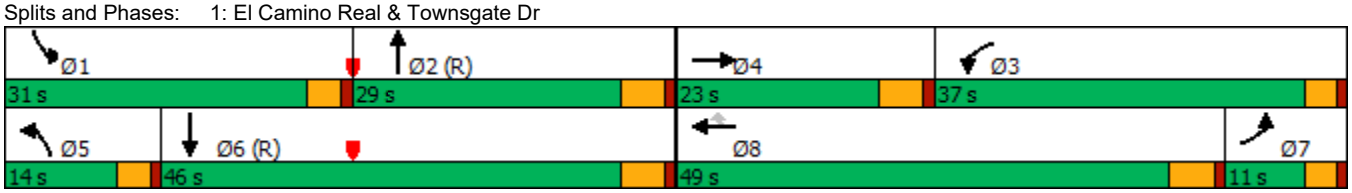
APPENDIX C

EXISTING CONDITIONS HCM ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	4	204	26	106	34	203	155	593
Future Volume (vph)	2	4	204	26	106	34	203	155	593
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	11.0	23.0	37.0	49.0	49.0	14.0	29.0	31.0	46.0
Total Split (%)	9.2%	19.2%	30.8%	40.8%	40.8%	11.7%	24.2%	25.8%	38.3%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	7.0	18.0	33.0	44.0	44.0	10.0	24.0	27.0	41.0
Actuated g/C Ratio	0.06	0.15	0.28	0.37	0.37	0.08	0.20	0.22	0.34
v/c Ratio	0.02	0.03	0.46	0.04	0.17	0.25	0.31	0.42	0.44
Control Delay	54.0	34.0	39.7	24.8	4.1	73.4	9.5	43.7	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	34.0	39.7	24.8	4.1	73.4	9.5	43.7	30.2
LOS	D	C	D	C	A	E	A	D	C
Approach Delay		38.0		27.4			16.1		32.7
Approach LOS		D		C			B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 14 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 47.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	4	4	204	26	106	34	203	89	155	593	103
Future Volume (veh/h)	2	4	4	204	26	106	34	203	89	155	593	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	4	4	222	28	115	37	221	97	168	645	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	129	129	490	686	581	148	715	288	401	1499	257
Arrive On Green	0.06	0.15	0.15	0.28	0.37	0.37	0.08	0.20	0.20	0.22	0.34	0.34
Sat Flow, veh/h	1781	858	858	1781	1870	1585	1781	3573	1442	1781	4387	752
Grp Volume(v), veh/h	2	0	8	222	28	115	37	210	108	168	499	258
Grp Sat Flow(s),veh/h/ln	1781	0	1716	1781	1870	1585	1781	1702	1611	1781	1702	1735
Q Serve(g_s), s	0.1	0.0	0.5	12.4	1.2	3.1	2.3	6.3	6.9	9.7	13.6	13.8
Cycle Q Clear(g_c), s	0.1	0.0	0.5	12.4	1.2	3.1	2.3	6.3	6.9	9.7	13.6	13.8
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.89	1.00		0.43
Lane Grp Cap(c), veh/h	104	0	257	490	686	581	148	681	322	401	1163	593
V/C Ratio(X)	0.02	0.00	0.03	0.45	0.04	0.20	0.25	0.31	0.34	0.42	0.43	0.44
Avail Cap(c_a), veh/h	104	0	257	490	686	581	148	681	322	401	1163	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	0.0	43.6	36.0	24.4	7.2	51.5	40.9	41.2	39.8	30.5	30.6
Incr Delay (d2), s/veh	0.3	0.0	0.2	3.0	0.1	0.8	4.0	1.2	2.8	3.2	1.2	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	0.1	0.0	0.2	5.8	0.5	2.3	1.2	2.7	2.9	4.5	5.6	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	0.0	43.8	39.0	24.5	8.0	55.5	42.1	44.0	43.0	31.6	32.9
LnGrp LOS	D	A	D	D	C	A	E	D	D	D	C	C
Approach Vol, veh/h		10			365			355			925	
Approach Delay, s/veh		45.7			28.1			44.1			34.0	
Approach LOS		D			C			D			C	

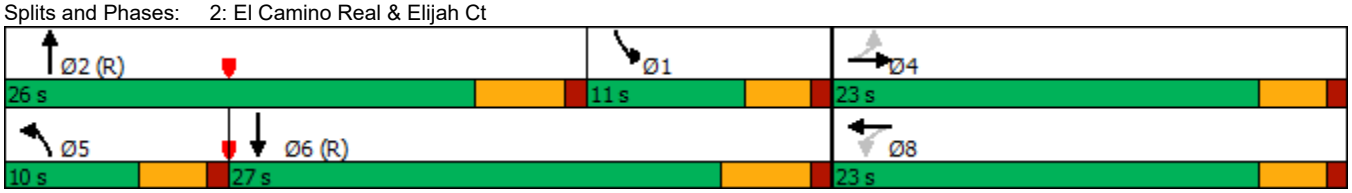
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	29.0	37.0	23.0	14.0	46.0	11.0	49.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	27.0	24.0	33.0	18.0	10.0	41.0	7.0	44.0
Max Q Clear Time (g_c+I1), s	11.7	8.9	14.4	2.5	4.3	15.8	2.1	5.1
Green Ext Time (p_c), s	0.4	1.5	0.6	0.0	0.0	4.7	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	35.0
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	0	114	0	22	242	64	746
Future Volume (vph)	3	0	114	0	22	242	64	746
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	10.0	26.0	11.0	27.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.7%	43.3%	18.3%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	19.0	19.0	19.0	6.0	21.0	7.0	22.0
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.10	0.35	0.12	0.37
v/c Ratio	0.01	0.00	0.28	0.07	0.14	0.16	0.34	0.44
Control Delay	14.3	0.0	17.5	0.2	20.5	13.3	19.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	0.0	17.5	0.2	20.5	13.3	19.4	6.7
LOS	B	A	B	A	C	B	B	A
Approach Delay		7.2		11.4		13.9		7.8
Approach LOS		A		B		B		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 12 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 9.6	Intersection LOS: A
Intersection Capacity Utilization 42.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	3	114	0	62	22	242	17	64	746	2
Future Volume (veh/h)	3	0	3	114	0	62	22	242	17	64	746	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	0	3	124	0	67	24	263	18	70	811	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	493	0	494	557	0	494	175	1682	113	204	1983	5
Arrive On Green	0.31	0.00	0.31	0.31	0.00	0.31	0.03	0.11	0.11	0.15	0.50	0.50
Sat Flow, veh/h	1334	0	1585	1414	0	1585	1781	4886	330	1781	5259	13
Grp Volume(v), veh/h	3	0	3	124	0	67	24	182	99	70	525	288
Grp Sat Flow(s),veh/h/ln	1334	0	1585	1414	0	1585	1781	1702	1811	1781	1702	1868
Q Serve(g_s), s	0.1	0.0	0.1	4.0	0.0	1.9	0.8	2.9	3.0	2.1	5.9	5.9
Cycle Q Clear(g_c), s	2.0	0.0	0.1	4.1	0.0	1.9	0.8	2.9	3.0	2.1	5.9	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		0.01
Lane Grp Cap(c), veh/h	493	0	494	557	0	494	175	1172	623	204	1283	704
V/C Ratio(X)	0.01	0.00	0.01	0.22	0.00	0.14	0.14	0.16	0.16	0.34	0.41	0.41
Avail Cap(c_a), veh/h	493	0	494	557	0	494	175	1172	623	204	1283	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	14.5	15.9	0.0	15.1	27.0	19.0	19.1	23.8	10.9	10.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	0.6	1.6	0.3	0.5	4.5	1.0	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	0.0	0.0	0.0	1.3	0.0	0.7	0.4	1.0	1.2	1.1	1.8	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	14.5	16.8	0.0	15.7	28.6	19.3	19.6	28.3	11.9	12.7
LnGrp LOS	B	A	B	B	A	B	C	B	B	C	B	B
Approach Vol, veh/h		6			191			305			883	
Approach Delay, s/veh		15.2			16.4			20.1			13.5	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	26.0		23.0	10.0	28.0		23.0
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	7.0	* 21		19.0	6.0	22.0		19.0
Max Q Clear Time (g_c+I1), s	4.1	5.0		4.0	2.8	7.9		6.1
Green Ext Time (p_c), s	0.0	1.3		0.0	0.0	4.1		0.5

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

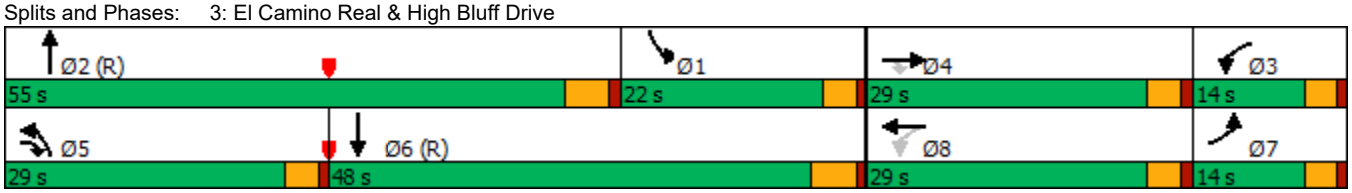
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	22	80	227	69	191	174	197	71	739
Future Volume (vph)	22	80	227	69	191	174	197	71	739
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	14.0	29.0	29.0	14.0	29.0	29.0	55.0	22.0	48.0
Total Split (%)	11.7%	24.2%	24.2%	11.7%	24.2%	24.2%	45.8%	18.3%	40.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	7.2	12.1	24.1	21.1	15.1	11.9	71.0	15.7	72.7
Actuated g/C Ratio	0.06	0.10	0.20	0.18	0.13	0.10	0.59	0.13	0.61
v/c Ratio	0.23	0.46	0.55	0.30	0.59	0.55	0.08	0.33	0.30
Control Delay	58.2	58.1	14.3	43.0	49.6	28.6	6.2	29.8	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	58.1	14.3	43.0	49.6	28.6	6.2	29.8	5.3
LOS	E	E	B	D	D	C	A	C	A
Approach Delay		27.9			48.2		16.1		7.2
Approach LOS		C			D		B		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 19.2	Intersection LOS: B
Intersection Capacity Utilization 47.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	80	227	69	191	53	174	197	23	71	739	87
Future Volume (veh/h)	22	80	227	69	191	53	174	197	23	71	739	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	87	247	75	208	58	189	214	25	77	803	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	271	345	198	299	81	257	1936	220	446	2783	327
Arrive On Green	0.07	0.14	0.14	0.04	0.11	0.11	0.07	0.42	0.42	0.50	1.00	1.00
Sat Flow, veh/h	1781	1870	1569	1781	2753	747	3456	4647	528	1781	4630	545
Grp Volume(v), veh/h	24	87	247	75	132	134	189	155	84	77	589	309
Grp Sat Flow(s),veh/h/ln	1781	1870	1569	1781	1777	1724	1728	1702	1772	1781	1702	1771
Q Serve(g_s), s	1.5	5.0	14.4	0.0	8.6	9.0	6.4	3.3	3.5	2.8	0.0	0.0
Cycle Q Clear(g_c), s	1.5	5.0	14.4	0.0	8.6	9.0	6.4	3.3	3.5	2.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.30	1.00		0.31
Lane Grp Cap(c), veh/h	132	271	345	198	193	187	257	1418	738	446	2046	1064
V/C Ratio(X)	0.18	0.32	0.72	0.38	0.68	0.71	0.74	0.11	0.11	0.17	0.29	0.29
Avail Cap(c_a), veh/h	148	390	445	278	370	359	720	1418	738	446	2046	1064
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	52.1	46.0	29.8	51.8	51.5	51.7	54.4	21.4	21.4	23.2	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.7	3.9	1.2	4.2	5.0	4.1	0.2	0.3	0.2	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.4	5.7	2.2	4.0	4.1	2.9	1.3	1.5	1.2	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	46.7	33.6	53.0	55.7	56.7	58.5	21.5	21.7	23.3	0.3	0.6
LnGrp LOS	D	D	C	D	E	E	E	C	C	C	A	A
Approach Vol, veh/h		358			341			428			975	
Approach Delay, s/veh		38.1			55.5			37.9			2.2	
Approach LOS		D			E			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	35.0	55.0	8.6	21.4	12.9	77.1	12.9	17.0
Change Period (Y+Rc), s	5.0	* 5	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	* 50	10.0	25.0	25.0	43.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	4.8	5.5	2.0	16.4	8.4	2.0	3.5	11.0
Green Ext Time (p_c), s	0.1	1.4	0.1	0.8	0.5	6.2	0.0	1.1

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

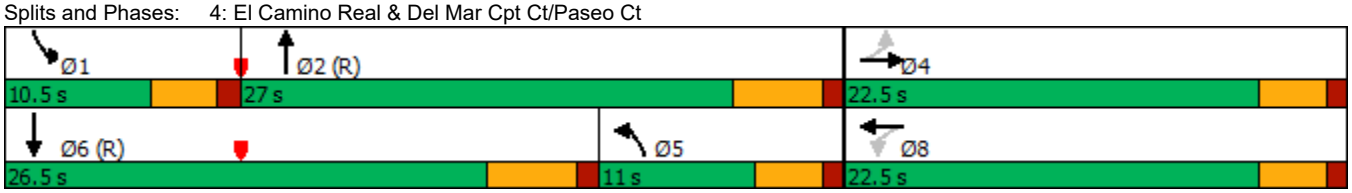
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	15	0	6	1	55	400	57	963
Future Volume (vph)	15	0	6	1	55	400	57	963
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	11.0	27.0	10.5	26.5
Total Split (%)	37.5%	37.5%	37.5%	37.5%	18.3%	45.0%	17.5%	44.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.4	8.4	8.4	8.4	6.6	41.4	7.0	41.8
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.11	0.69	0.12	0.70
v/c Ratio	0.08	0.04	0.04	0.03	0.31	0.14	0.30	0.31
Control Delay	20.3	0.2	19.3	12.8	31.1	6.9	32.3	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	0.2	19.3	12.8	31.1	6.9	32.3	2.9
LOS	C	A	B	B	C	A	C	A
Approach Delay		9.6		16.3		9.5		4.4
Approach LOS		A		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 13 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.31	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 43.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	17	6	1	5	55	400	41	57	963	44
Future Volume (veh/h)	15	0	17	6	1	5	55	400	41	57	963	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	0	18	7	1	5	60	435	45	62	1047	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	0	103	195	18	88	610	3123	318	96	1792	82
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.11	0.22	0.22	0.04	0.24	0.24
Sat Flow, veh/h	1379	0	1557	1366	267	1334	1781	4707	479	1781	5002	229
Grp Volume(v), veh/h	16	0	18	7	0	6	60	313	167	62	712	383
Grp Sat Flow(s),veh/h/ln	1379	0	1557	1366	0	1601	1781	1702	1782	1781	1702	1827
Q Serve(g_s), s	0.7	0.0	0.7	0.3	0.0	0.2	1.8	4.4	4.5	2.1	11.1	11.1
Cycle Q Clear(g_c), s	0.9	0.0	0.7	0.9	0.0	0.2	1.8	4.4	4.5	2.1	11.1	11.1
Prop In Lane	1.00		1.00	1.00		0.83	1.00		0.27	1.00		0.13
Lane Grp Cap(c), veh/h	206	0	103	195	0	106	610	2259	1183	96	1220	655
V/C Ratio(X)	0.08	0.00	0.18	0.04	0.00	0.06	0.10	0.14	0.14	0.65	0.58	0.58
Avail Cap(c_a), veh/h	540	0	480	526	0	494	610	2259	1183	193	1220	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	0.95	0.95	0.95
Uniform Delay (d), s/veh	26.7	0.0	26.5	26.9	0.0	26.3	18.3	9.6	9.7	28.4	18.8	18.9
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.1	0.0	0.2	0.1	0.1	0.2	6.8	1.9	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	0.2	0.0	0.3	0.1	0.0	0.1	0.6	1.0	1.1	1.0	4.3	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	0.0	27.3	27.0	0.0	26.5	18.4	9.7	9.9	35.2	20.8	22.5
LnGrp LOS	C	A	C	C	A	C	B	A	A	D	C	C
Approach Vol, veh/h		34			13			540			1157	
Approach Delay, s/veh		27.1			26.8			10.7			22.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	44.8		8.0	25.5	26.5		8.0
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0
Max Green Setting (Gmax), s	6.5	22.0		18.5	7.0	* 22		18.5
Max Q Clear Time (g_c+I1), s	4.1	6.5		2.9	3.8	13.1		2.9
Green Ext Time (p_c), s	0.0	2.4		0.1	0.0	4.1		0.0

Intersection Summary		
HCM 6th Ctrl Delay		18.7
HCM 6th LOS		B

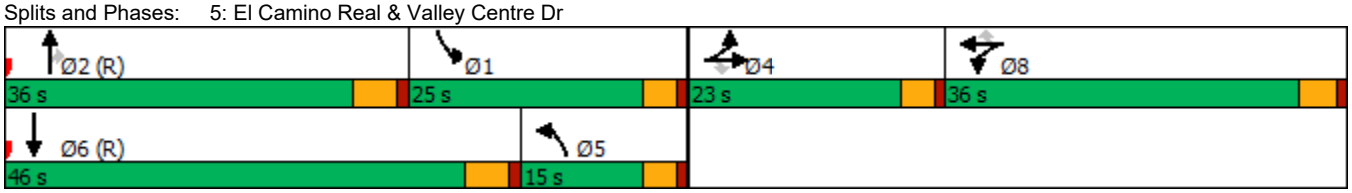
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	27	6	35	388	9	119	48	684	140	127	711
Future Volume (vph)	27	6	35	388	9	119	48	684	140	127	711
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	36.0	36.0	36.0	15.0	36.0	36.0	25.0	46.0
Total Split (%)	19.2%	19.2%	19.2%	30.0%	30.0%	30.0%	12.5%	30.0%	30.0%	20.8%	38.3%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.1	9.1	9.1	22.2	22.2	22.2	8.6	55.8	55.8	17.4	66.4
Actuated g/C Ratio	0.08	0.08	0.08	0.18	0.18	0.18	0.07	0.46	0.46	0.14	0.55
v/c Ratio	0.20	0.20	0.10	0.72	0.74	0.30	0.41	0.31	0.19	0.54	0.28
Control Delay	53.4	31.7	0.8	58.5	59.7	6.1	65.6	15.2	5.3	66.0	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	31.7	0.8	58.5	59.7	6.1	65.6	15.2	5.3	66.0	24.7
LOS	D	C	A	E	E	A	E	B	A	E	C
Approach Delay		29.7			48.1			16.4			30.8
Approach LOS		C			D			B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 29.2	Intersection LOS: C
Intersection Capacity Utilization 52.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	6	35	388	9	119	48	684	140	127	711	22
Future Volume (veh/h)	27	6	35	388	9	119	48	684	140	127	711	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	0	51	466	0	89	52	743	152	138	773	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	0	145	562	0	248	548	1319	407	696	1738	54
Arrive On Green	0.05	0.00	0.05	0.16	0.00	0.16	0.21	0.17	0.17	0.78	0.68	0.68
Sat Flow, veh/h	1781	0	3069	3563	0	1570	1781	5106	1576	1781	5087	158
Grp Volume(v), veh/h	22	0	51	466	0	89	52	743	152	138	517	280
Grp Sat Flow(s),veh/h/ln	1781	0	1535	1781	0	1570	1781	1702	1576	1781	1702	1841
Q Serve(g_s), s	1.4	0.0	1.9	15.2	0.0	6.1	2.8	16.0	10.2	2.4	8.3	8.3
Cycle Q Clear(g_c), s	1.4	0.0	1.9	15.2	0.0	6.1	2.8	16.0	10.2	2.4	8.3	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	84	0	145	562	0	248	548	1319	407	696	1163	629
V/C Ratio(X)	0.26	0.00	0.35	0.83	0.00	0.36	0.09	0.56	0.37	0.20	0.44	0.45
Avail Cap(c_a), veh/h	282	0	486	935	0	412	548	1319	407	696	1163	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.87	0.00	0.87	0.95	0.95	0.95	0.96	0.96	0.96
Uniform Delay (d), s/veh	55.2	0.0	55.4	49.0	0.0	45.1	34.1	43.4	41.0	8.2	13.8	13.8
Incr Delay (d2), s/veh	1.6	0.0	1.5	2.8	0.0	0.8	0.1	1.7	2.5	0.1	1.2	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	0.7	0.0	0.8	6.8	0.0	2.4	1.2	7.1	4.3	0.9	2.7	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	0.0	56.9	51.8	0.0	45.9	34.2	45.1	43.5	8.4	15.0	16.0
LnGrp LOS	E	A	E	D	A	D	C	D	D	A	B	B
Approach Vol, veh/h		73			555			947			935	
Approach Delay, s/veh		56.8			50.9			44.2			14.3	
Approach LOS		E			D			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	50.9	36.0		9.7	40.9	46.0		23.4
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	21.0	31.0		19.0	11.0	41.0		31.5
Max Q Clear Time (g_c+I1), s	4.4	18.0		3.9	4.8	10.3		17.2
Green Ext Time (p_c), s	0.3	4.3		0.2	0.0	5.1		1.7

Intersection Summary		
HCM 6th Ctrl Delay		34.9
HCM 6th LOS		C

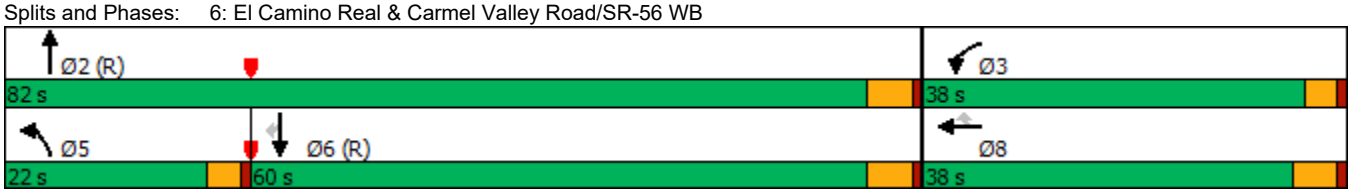
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	302	782	209	218	687	500	604
Future Volume (vph)	302	782	209	218	687	500	604
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	38.0	38.0	38.0	22.0	82.0	60.0	60.0
Total Split (%)	31.7%	31.7%	31.7%	18.3%	68.3%	50.0%	50.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	28.7	27.7	27.7	13.6	82.3	64.7	64.7
Actuated g/C Ratio	0.24	0.23	0.23	0.11	0.69	0.54	0.54
v/c Ratio	0.40	0.73	0.43	0.61	0.31	0.36	0.44
Control Delay	39.3	46.2	7.0	61.1	1.4	2.9	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	39.3	46.2	7.0	61.1	1.6	2.9	4.0
LOS	D	D	A	E	A	A	A
Approach Delay		38.2			15.9	3.2	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 7 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	302	782	209	218	687	0	0	500	604
Future Volume (veh/h)	0	0	0	302	782	209	218	687	0	0	500	604
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				328	850	227	237	747	0	0	543	657
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				767	1134	350	298	2498	0	0	2182	1845
Arrive On Green				0.22	0.22	0.22	0.17	1.00	0.00	0.00	0.97	0.97
Sat Flow, veh/h				3456	5106	1574	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				328	850	227	237	747	0	0	543	657
Grp Sat Flow(s),veh/h/ln				1728	1702	1574	1728	1777	0	0	1870	1581
Q Serve(g_s), s				9.8	18.6	15.7	7.9	0.0	0.0	0.0	0.6	1.0
Cycle Q Clear(g_c), s				9.8	18.6	15.7	7.9	0.0	0.0	0.0	0.6	1.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				767	1134	350	298	2498	0	0	2182	1845
V/C Ratio(X)				0.43	0.75	0.65	0.80	0.30	0.00	0.00	0.25	0.36
Avail Cap(c_a), veh/h				979	1447	446	518	2498	0	0	2182	1845
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	1.00	1.00	0.86	0.86	0.00	0.00	0.93	0.93
Uniform Delay (d), s/veh				40.1	43.6	42.4	48.6	0.0	0.0	0.0	0.7	0.7
Incr Delay (d2), s/veh				0.4	1.7	2.2	4.2	0.3	0.0	0.0	0.3	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	7.7	6.1	3.2	0.1	0.0	0.0	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.5	45.2	44.6	52.8	0.3	0.0	0.0	0.9	1.2
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1405			984			1200	
Approach Delay, s/veh					44.0			12.9			1.0	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	89.4		14.4	75.0		30.6
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	77.0		18.0	55.0		34.0
Max Q Clear Time (g_c+I1), s	2.0		9.9	3.0		20.6
Green Ext Time (p_c), s	5.5		0.5	7.3		6.0

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

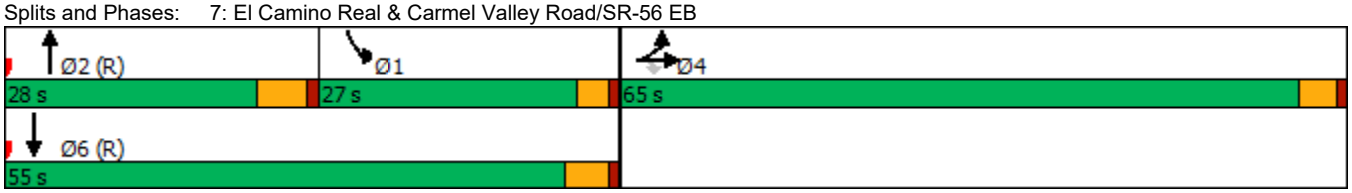
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	575	726	214	337	144	657
Future Volume (vph)	575	726	214	337	144	657
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	65.0	65.0	65.0	28.0	27.0	55.0
Total Split (%)	54.2%	54.2%	54.2%	23.3%	22.5%	45.8%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	50.6	50.6	50.6	32.4	23.0	59.9
Actuated g/C Ratio	0.42	0.42	0.42	0.27	0.19	0.50
v/c Ratio	0.69	0.73	0.32	0.35	0.46	0.28
Control Delay	33.3	31.6	10.7	30.2	32.5	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	33.3	31.6	10.7	30.2	32.5	9.6
LOS	C	C	B	C	C	A
Approach Delay		29.4		30.2		13.8
Approach LOS		C		C		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 25.2	Intersection LOS: C
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	726	214	0	0	0	0	337	210	144	657	0
Future Volume (veh/h)	575	726	214	0	0	0	0	337	210	144	657	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	417	1081	233				0	366	228	157	714	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	656	1378	581				0	905	295	569	2821	0
Arrive On Green	0.37	0.37	0.37				0.00	0.19	0.19	0.11	0.18	0.00
Sat Flow, veh/h	1781	3741	1579				0	5087	1572	1781	5274	0
Grp Volume(v), veh/h	417	1081	233				0	366	228	157	714	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1579				0	1609	1572	1781	1702	0
Q Serve(g_s), s	23.2	30.8	13.1				0.0	8.0	16.5	9.7	14.4	0.0
Cycle Q Clear(g_c), s	23.2	30.8	13.1				0.0	8.0	16.5	9.7	14.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	656	1378	581				0	905	295	569	2821	0
V/C Ratio(X)	0.64	0.78	0.40				0.00	0.40	0.77	0.28	0.25	0.00
Avail Cap(c_a), veh/h	898	1886	796				0	905	295	569	2821	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	31.3	33.7	28.1				0.0	42.9	46.3	40.9	27.8	0.0
Incr Delay (d2), s/veh	1.0	1.5	0.4				0.0	1.3	17.7	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	13.8	4.9				0.0	3.2	7.7	4.5	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	35.2	28.5				0.0	44.2	64.1	41.2	28.0	0.0
LnGrp LOS	C	D	C				A	D	E	D	C	A
Approach Vol, veh/h		1731						594			871	
Approach Delay, s/veh		33.6						51.8			30.4	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	43.3	28.0		48.7		71.3
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	23.0	* 23		60.5		50.0
Max Q Clear Time (g_c+I1), s	11.7	18.5		32.8		16.4
Green Ext Time (p_c), s	0.3	1.3		11.4		5.0

Intersection Summary		
HCM 6th Ctrl Delay		36.1
HCM 6th LOS		D

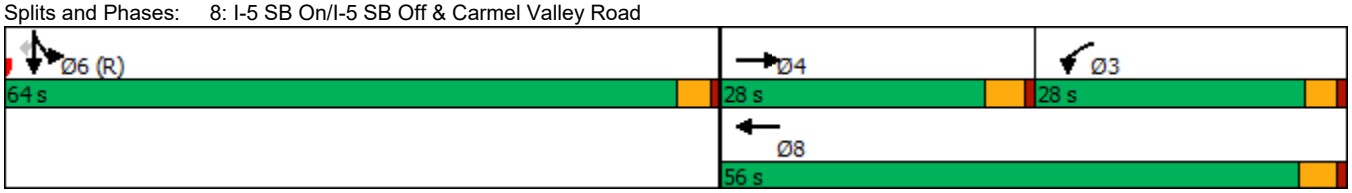
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	250	377	576	873	3	113
Future Volume (vph)	250	377	576	873	3	113
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	56.0	64.0	64.0	64.0
Total Split (%)	23.3%	23.3%	46.7%	53.3%	53.3%	53.3%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	18.0	19.4	41.4	70.1	70.1	70.1
Actuated g/C Ratio	0.15	0.16	0.34	0.58	0.58	0.58
v/c Ratio	0.76	0.74	0.51	0.49	0.51	0.12
Control Delay	45.4	32.4	10.3	18.3	18.7	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	32.4	10.3	18.3	18.7	3.1
LOS	D	C	B	B	B	A
Approach Delay	45.4		19.0		16.9	
Approach LOS	D		B		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 22.8	Intersection LOS: C
Intersection Capacity Utilization 76.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	250	162	377	576	0	0	0	0	873	3	113
Future Volume (veh/h)	0	250	162	377	576	0	0	0	0	873	3	113
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	272	176	410	626	0				988	0	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	330	207	485	1193	0				2114	0	938
Arrive On Green	0.00	0.16	0.16	0.14	0.34	0.00				0.59	0.00	0.59
Sat Flow, veh/h	0	2183	1307	3456	3647	0				3563	0	1581
Grp Volume(v), veh/h	0	230	218	410	626	0				988	0	83
Grp Sat Flow(s),veh/h/ln	0	1777	1620	1728	1777	0				1781	0	1581
Q Serve(g_s), s	0.0	15.0	15.7	13.9	17.0	0.0				18.7	0.0	2.7
Cycle Q Clear(g_c), s	0.0	15.0	15.7	13.9	17.0	0.0				18.7	0.0	2.7
Prop In Lane	0.00		0.81	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	281	256	485	1193	0				2114	0	938
V/C Ratio(X)	0.00	0.82	0.85	0.85	0.52	0.00				0.47	0.00	0.09
Avail Cap(c_a), veh/h	0	348	317	691	1525	0				2114	0	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.77	0.77	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	48.8	49.1	50.3	32.1	0.0				13.7	0.0	10.5
Incr Delay (d2), s/veh	0.0	11.8	16.5	5.3	0.3	0.0				0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.5	7.4	6.2	7.2	0.0				7.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	60.7	65.6	55.6	32.4	0.0				14.5	0.0	10.7
LnGrp LOS	A	E	E	E	C	A				B	A	B
Approach Vol, veh/h		448			1036						1071	
Approach Delay, s/veh		63.1			41.6						14.2	
Approach LOS		E			D						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		21.3	23.5		75.2		44.8					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		24.0	* 24		60.0		51.5					
Max Q Clear Time (g_c+I1), s		15.9	17.7		20.7		19.0					
Green Ext Time (p_c), s		0.9	1.3		4.7		4.4					

Intersection Summary	
HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

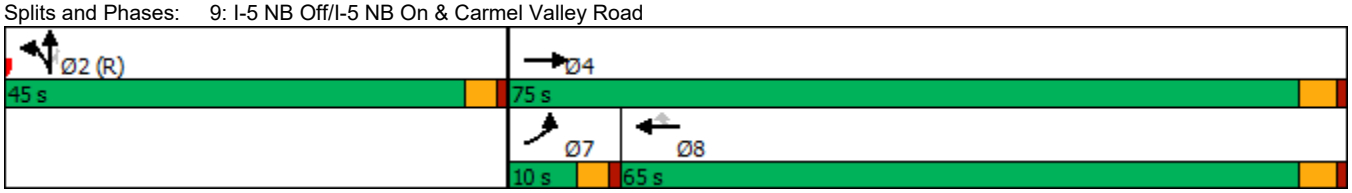
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	65	1060	855	747	95	0	581
Future Volume (vph)	65	1060	855	747	95	0	581
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	75.0	65.0	65.0	45.0	45.0	45.0
Total Split (%)	8.3%	62.5%	54.2%	54.2%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.0	56.7	48.7	48.7	54.8	54.8	54.8
Actuated g/C Ratio	0.05	0.47	0.41	0.41	0.46	0.46	0.46
v/c Ratio	0.42	0.69	0.65	0.73	0.12	0.46	0.45
Control Delay	56.2	21.5	18.3	18.4	22.5	21.5	21.1
Queue Delay	0.0	0.3	0.2	3.2	0.0	0.0	0.0
Total Delay	56.2	21.8	18.5	21.6	22.5	21.5	21.1
LOS	E	C	B	C	C	C	C
Approach Delay		23.8	20.0			21.4	
Approach LOS		C	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 76.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1060	0	0	855	747	95	0	581	0	0	0
Future Volume (veh/h)	65	1060	0	0	855	747	95	0	581	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	71	1152	0	0	929	812	69	0	669			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	130	2044	0	0	1792	797	630	0	1117			
Arrive On Green	0.04	0.58	0.00	0.00	0.50	0.50	0.35	0.00	0.35			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3157			
Grp Volume(v), veh/h	71	1152	0	0	929	812	69	0	669			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	2.4	24.4	0.0	0.0	21.1	60.5	3.1	0.0	20.9			
Cycle Q Clear(g_c), s	2.4	24.4	0.0	0.0	21.1	60.5	3.1	0.0	20.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	130	2044	0	0	1792	797	630	0	1117			
V/C Ratio(X)	0.54	0.56	0.00	0.00	0.52	1.02	0.11	0.00	0.60			
Avail Cap(c_a), veh/h	173	2088	0	0	1792	797	630	0	1117			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.74	0.74	0.00	0.00	0.66	0.66	1.00	0.00	1.00			
Uniform Delay (d), s/veh	56.7	16.0	0.0	0.0	20.0	29.8	26.1	0.0	31.8			
Incr Delay (d2), s/veh	2.6	0.2	0.0	0.0	0.2	30.8	0.4	0.0	2.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	9.3	0.0	0.0	8.3	28.0	1.4	0.0	8.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	16.3	0.0	0.0	20.1	60.6	26.4	0.0	34.2			
LnGrp LOS	E	B	A	A	C	F	C	A	C			
Approach Vol, veh/h		1223			1741			738				
Approach Delay, s/veh		18.8			39.0			33.4				
Approach LOS		B			D			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		46.5		73.5			8.5	65.0				
Change Period (Y+Rc), s		4.0		4.5			4.0	4.5				
Max Green Setting (Gmax), s		41.0		70.5			6.0	60.5				
Max Q Clear Time (g_c+I1), s		22.9		26.4			4.4	62.5				
Green Ext Time (p_c), s		3.0		10.3			0.0	0.0				

Intersection Summary			
HCM 6th Ctrl Delay			31.2
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	10	21	1616	1577
Future Volume (vph)	10	21	1616	1577
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	14.0	93.0	79.0
Total Split (%)	22.5%	11.7%	77.5%	65.8%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	44.7	7.1	66.8	59.6
Actuated g/C Ratio	0.37	0.06	0.56	0.50
v/c Ratio	0.04	0.22	0.62	0.69
Control Delay	20.9	63.6	12.2	18.3
Queue Delay	0.0	0.0	0.2	0.1
Total Delay	20.9	63.6	12.4	18.3
LOS	C	E	B	B
Approach Delay	20.9		13.1	18.3
Approach LOS	C		B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 15.7	Intersection LOS: B
Intersection Capacity Utilization 53.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	10	11	21	1616	1577	25
Future Volume (veh/h)	10	11	21	1616	1577	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	12	23	1757	1714	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	343	374	40	2504	2251	35
Arrive On Green	0.44	0.44	0.02	0.49	0.43	0.43
Sat Flow, veh/h	781	852	1781	5274	5346	82
Grp Volume(v), veh/h	24	0	23	1757	1127	614
Grp Sat Flow(s),veh/h/ln	1704	0	1781	1702	1702	1855
Q Serve(g_s), s	1.0	0.0	1.5	32.1	33.6	33.6
Cycle Q Clear(g_c), s	1.0	0.0	1.5	32.1	33.6	33.6
Prop In Lane	0.46	0.50	1.00			0.04
Lane Grp Cap(c), veh/h	748	0	40	2504	1480	806
V/C Ratio(X)	0.03	0.00	0.58	0.70	0.76	0.76
Avail Cap(c_a), veh/h	748	0	148	3766	2113	1152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.73	0.73	1.00	1.00
Uniform Delay (d), s/veh	19.2	0.0	58.1	23.8	28.7	28.7
Incr Delay (d2), s/veh	0.1	0.0	9.4	0.3	1.0	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	0.4	0.0	0.8	12.2	13.3	14.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.2	0.0	67.5	24.0	29.7	30.5
LnGrp LOS	B	A	E	C	C	C
Approach Vol, veh/h	24			1780	1741	
Approach Delay, s/veh	19.2			24.6	30.0	
Approach LOS	B			C	C	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		63.3		56.7	6.7	56.7
Change Period (Y+Rc), s		4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		88.5		23.0	10.0	74.5
Max Q Clear Time (g_c+I1), s		34.1		3.0	3.5	35.6
Green Ext Time (p_c), s		20.4		0.0	0.0	16.6

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

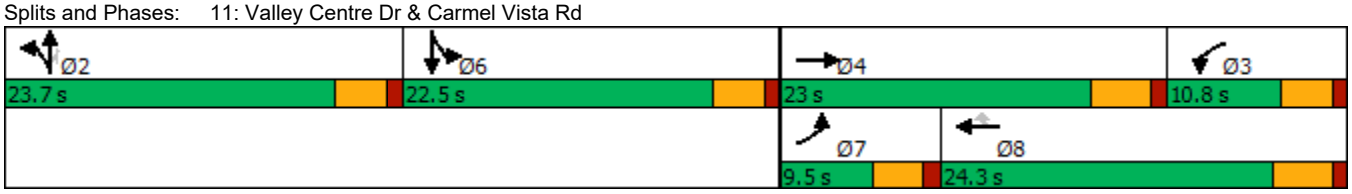
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	158	51	418	63	49	9	12	44	17
Future Volume (vph)	24	158	51	418	63	49	9	12	44	17
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	23.0	10.8	24.3	24.3	23.7	23.7	23.7	22.5	22.5
Total Split (%)	11.9%	28.8%	13.5%	30.4%	30.4%	29.6%	29.6%	29.6%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.9	11.0	7.6	14.4	14.4	21.2	21.2	21.2	8.6	8.6
Actuated g/C Ratio	0.10	0.19	0.13	0.25	0.25	0.37	0.37	0.37	0.15	0.15
v/c Ratio	0.14	0.37	0.24	0.51	0.14	0.05	0.05	0.02	0.18	0.31
Control Delay	32.7	17.1	30.5	22.5	1.7	19.1	19.1	0.1	26.2	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	17.1	30.5	22.5	1.7	19.1	19.1	0.1	26.2	12.2
LOS	C	B	C	C	A	B	B	A	C	B
Approach Delay		18.5		20.8			15.8			16.8
Approach LOS		B		C			B			B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 57.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 19.3	Intersection LOS: B
Intersection Capacity Utilization 35.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	158	85	51	418	63	49	9	12	44	17	74
Future Volume (veh/h)	24	158	85	51	418	63	49	9	12	44	17	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	172	92	55	454	68	60	0	13	48	18	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	301	154	154	705	314	1316	0	586	165	28	123
Arrive On Green	0.03	0.13	0.13	0.09	0.20	0.20	0.37	0.00	0.37	0.09	0.09	0.09
Sat Flow, veh/h	1781	2277	1161	1781	3554	1585	3563	0	1585	1781	300	1331
Grp Volume(v), veh/h	26	132	132	55	454	68	60	0	13	48	0	98
Grp Sat Flow(s),veh/h/ln	1781	1777	1661	1781	1777	1585	1781	0	1585	1781	0	1631
Q Serve(g_s), s	0.8	3.7	4.0	1.6	6.3	1.9	0.6	0.0	0.3	1.3	0.0	3.1
Cycle Q Clear(g_c), s	0.8	3.7	4.0	1.6	6.3	1.9	0.6	0.0	0.3	1.3	0.0	3.1
Prop In Lane	1.00		0.70	1.00		1.00	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	53	235	220	154	705	314	1316	0	586	165	0	151
V/C Ratio(X)	0.49	0.56	0.60	0.36	0.64	0.22	0.05	0.00	0.02	0.29	0.00	0.65
Avail Cap(c_a), veh/h	184	617	576	227	1320	589	1316	0	586	618	0	566
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	21.7	21.8	22.9	19.6	17.9	10.8	0.0	10.7	22.6	0.0	23.3
Incr Delay (d2), s/veh	6.7	2.1	2.6	1.4	1.0	0.3	0.1	0.0	0.1	1.0	0.0	4.6
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	0.4	1.5	1.5	0.6	2.3	0.6	0.2	0.0	0.1	0.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	23.8	24.4	24.3	20.6	18.2	10.8	0.0	10.8	23.5	0.0	27.9
LnGrp LOS	C	C	C	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h		290			577			73			146	
Approach Delay, s/veh		24.8			20.7			10.8			26.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.7	9.1	11.6		8.9	5.6	15.1				
Change Period (Y+Rc), s		4.0	4.5	* 4.5		4.0	4.0	4.5				
Max Green Setting (Gmax), s		19.7	6.8	* 19		18.5	5.5	19.8				
Max Q Clear Time (g_c+I1), s		2.6	3.6	6.0		5.1	2.8	8.3				
Green Ext Time (p_c), s		0.2	0.0	1.1		0.5	0.0	2.3				

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

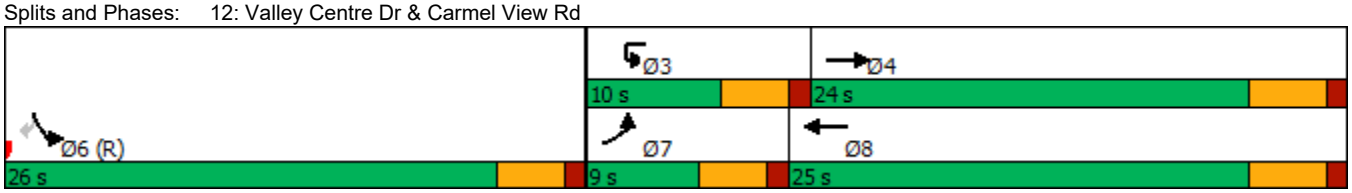
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	12	195	2	422	86	112
Future Volume (vph)	12	195	2	422	86	112
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	9.0	24.0	10.0	25.0	26.0	26.0
Total Split (%)	15.0%	40.0%	16.7%	41.7%	43.3%	43.3%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	5.0	13.7	5.6	13.9	35.8	35.8
Actuated g/C Ratio	0.08	0.23	0.09	0.23	0.60	0.60
v/c Ratio	0.09	0.26	0.01	0.59	0.09	0.12
Control Delay	26.9	18.9	24.5	22.6	7.9	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.9	18.9	24.5	22.6	7.9	2.8
LOS	C	B	C	C	A	A
Approach Delay		19.4		22.6	5.0	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 2 (3%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 34.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	12	195	2	422	24	86	112
Future Volume (veh/h)	12	195	2	422	24	86	112
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	13	212		459	26	93	122
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	29	1006		684	39	1025	912
Arrive On Green	0.02	0.28		0.20	0.20	0.58	0.58
Sat Flow, veh/h	1781	3647		3510	193	1781	1585
Grp Volume(v), veh/h	13	212		238	247	93	122
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1833	1781	1585
Q Serve(g_s), s	0.4	2.7		7.4	7.5	1.4	2.1
Cycle Q Clear(g_c), s	0.4	2.7		7.4	7.5	1.4	2.1
Prop In Lane	1.00				0.11	1.00	1.00
Lane Grp Cap(c), veh/h	29	1006		355	367	1025	912
V/C Ratio(X)	0.45	0.21		0.67	0.67	0.09	0.13
Avail Cap(c_a), veh/h	148	1155		607	626	1025	912
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	16.4		22.2	22.2	5.7	5.9
Incr Delay (d2), s/veh	10.0	0.1		2.2	2.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.0		3.0	3.1	0.5	3.0
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	39.3	16.5		24.4	24.3	5.9	6.2
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		225		485		215	
Approach Delay, s/veh		17.8		24.3		6.0	
Approach LOS		B		C		A	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			21.5		38.5	5.0	16.5
Change Period (Y+Rc), s			4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s			19.5		22.0	5.0	20.5
Max Q Clear Time (g_c+I1), s			4.7		4.1	2.4	9.5
Green Ext Time (p_c), s			1.0		0.6	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

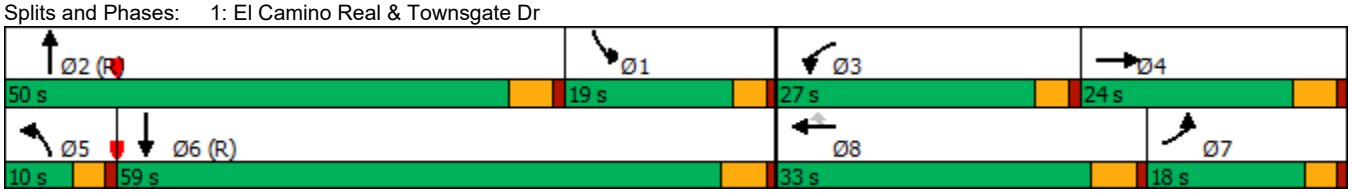
Notes

User approved ignoring U-Turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	73	23	150	2	75	8	880	86	299
Future Volume (vph)	73	23	150	2	75	8	880	86	299
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	18.0	24.0	27.0	33.0	33.0	10.0	50.0	19.0	59.0
Total Split (%)	15.0%	20.0%	22.5%	27.5%	27.5%	8.3%	41.7%	15.8%	49.2%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	14.0	19.0	23.0	28.0	28.0	6.0	45.0	15.0	54.0
Actuated g/C Ratio	0.12	0.16	0.19	0.23	0.23	0.05	0.38	0.12	0.45
v/c Ratio	0.38	0.19	0.48	0.00	0.17	0.10	0.63	0.42	0.14
Control Delay	55.0	25.1	48.7	35.5	0.9	53.9	21.6	55.0	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	25.1	48.7	35.5	0.9	53.9	21.6	55.0	19.5
LOS	D	C	D	D	A	D	C	D	B
Approach Delay		42.5		32.7			21.8		27.3
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 16 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 25.7	Intersection LOS: C
Intersection Capacity Utilization 53.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	23	29	150	2	75	8	880	217	86	299	4
Future Volume (veh/h)	73	23	29	150	2	75	8	880	217	86	299	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	25	32	163	2	82	9	957	236	93	325	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	122	156	336	429	364	88	1508	371	219	2344	29
Arrive On Green	0.11	0.16	0.16	0.19	0.23	0.23	0.10	0.74	0.74	0.12	0.45	0.45
Sat Flow, veh/h	1781	745	954	1781	1870	1585	1781	4088	1005	1781	5199	64
Grp Volume(v), veh/h	79	0	57	163	2	82	9	796	397	93	213	116
Grp Sat Flow(s),veh/h/ln	1781	0	1699	1781	1870	1585	1781	1702	1689	1781	1702	1859
Q Serve(g_s), s	5.0	0.0	3.5	10.0	0.1	5.1	0.6	14.1	14.2	5.9	4.5	4.5
Cycle Q Clear(g_c), s	5.0	0.0	3.5	10.0	0.1	5.1	0.6	14.1	14.2	5.9	4.5	4.5
Prop In Lane	1.00		0.56	1.00		1.00	1.00		0.60	1.00		0.03
Lane Grp Cap(c), veh/h	204	0	278	336	429	364	88	1256	623	219	1535	838
V/C Ratio(X)	0.39	0.00	0.20	0.49	0.00	0.23	0.10	0.63	0.64	0.42	0.14	0.14
Avail Cap(c_a), veh/h	204	0	278	336	429	364	88	1256	623	219	1535	838
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	44.1	44.2	36.3	38.2	52.5	11.9	12.0	49.5	19.6	19.6
Incr Delay (d2), s/veh	5.4	0.0	1.7	4.9	0.0	1.4	2.3	2.5	4.9	5.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.6	4.9	0.0	2.2	0.3	3.7	4.1	2.9	1.7	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	0.0	45.8	49.2	36.3	39.6	54.9	14.4	16.9	55.4	19.8	20.0
LnGrp LOS	E	A	D	D	D	D	D	B	B	E	B	B
Approach Vol, veh/h		136			247			1202			422	
Approach Delay, s/veh		51.4			45.9			15.5			27.7	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	50.0	27.0	25.0	10.0	60.0	19.0	33.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	15.0	* 45	23.0	19.0	6.0	54.0	14.0	* 28
Max Q Clear Time (g_c+I1), s	7.9	16.2	12.0	5.5	2.6	6.5	7.0	7.1
Green Ext Time (p_c), s	0.1	8.6	0.3	0.2	0.0	1.9	0.1	0.2

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

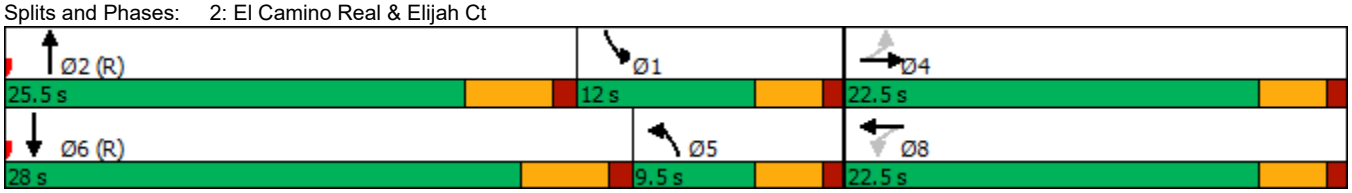
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	0	33	1	13	1042	97	414
Future Volume (vph)	10	0	33	1	13	1042	97	414
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	9.5	25.5	12.0	28.0
Total Split (%)	37.5%	37.5%	37.5%	37.5%	15.8%	42.5%	20.0%	46.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	18.5	18.5	18.5	18.5	5.5	20.5	8.0	23.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.09	0.34	0.13	0.38
v/c Ratio	0.03	0.01	0.08	0.11	0.09	0.70	0.44	0.23
Control Delay	14.8	0.0	15.5	5.8	30.3	19.3	22.3	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	0.0	15.5	5.8	30.3	19.3	22.3	7.7
LOS	B	A	B	A	C	B	C	A
Approach Delay		10.9		9.5		19.4		10.5
Approach LOS		B		A		B		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 46.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	4	33	1	52	13	1042	78	97	414	4
Future Volume (veh/h)	10	0	4	33	1	52	13	1042	78	97	414	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	0	4	36	1	57	14	1133	85	105	450	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	500	0	489	553	8	482	163	1656	124	238	2001	18
Arrive On Green	0.31	0.00	0.31	0.31	0.31	0.31	0.03	0.11	0.11	0.27	0.77	0.77
Sat Flow, veh/h	1345	0	1585	1412	27	1562	1781	4846	363	1781	5220	46
Grp Volume(v), veh/h	11	0	4	36	0	58	14	796	422	105	293	161
Grp Sat Flow(s),veh/h/ln	1345	0	1585	1412	0	1589	1781	1702	1805	1781	1702	1862
Q Serve(g_s), s	0.4	0.0	0.1	1.1	0.0	1.6	0.5	13.5	13.5	2.9	1.5	1.5
Cycle Q Clear(g_c), s	1.9	0.0	0.1	1.2	0.0	1.6	0.5	13.5	13.5	2.9	1.5	1.5
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.20	1.00		0.02
Lane Grp Cap(c), veh/h	500	0	489	553	0	490	163	1163	617	238	1305	714
V/C Ratio(X)	0.02	0.00	0.01	0.07	0.00	0.12	0.09	0.68	0.68	0.44	0.22	0.23
Avail Cap(c_a), veh/h	500	0	489	553	0	490	163	1163	617	238	1305	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	14.4	14.8	0.0	14.9	26.6	23.5	23.5	20.1	4.5	4.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.5	1.0	3.3	6.1	5.9	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.4	0.0	0.6	0.2	6.3	7.2	1.4	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	14.4	15.0	0.0	15.4	27.7	26.8	29.6	26.0	4.9	5.2
LnGrp LOS	B	A	B	B	A	B	C	C	C	C	A	A
Approach Vol, veh/h		15			94			1232			559	
Approach Delay, s/veh		15.3			15.3			27.8			9.0	
Approach LOS		B			B			C			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	25.5		22.5	9.5	28.0		22.5
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	8.0	20.5		18.5	5.5	23.0		18.5
Max Q Clear Time (g_c+I1), s	4.9	15.5		3.9	2.5	3.5		3.6
Green Ext Time (p_c), s	0.1	3.0		0.0	0.0	2.4		0.3

Intersection Summary			
HCM 6th Ctrl Delay			21.5
HCM 6th LOS			C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	58	167	337	54	99	164	982	64	370
Future Volume (vph)	58	167	337	54	99	164	982	64	370
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	18.0	33.0	35.0	13.0	28.0	35.0	55.0	19.0	39.0
Total Split (%)	15.0%	27.5%	29.2%	10.8%	23.3%	29.2%	45.8%	15.8%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.6	17.0	28.8	22.2	15.4	11.8	71.9	10.1	68.2
Actuated g/C Ratio	0.08	0.14	0.24	0.18	0.13	0.10	0.60	0.08	0.57
v/c Ratio	0.45	0.69	0.65	0.29	0.46	0.53	0.37	0.47	0.15
Control Delay	61.8	62.1	16.9	37.6	23.3	54.3	10.3	58.5	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	62.1	16.9	37.6	23.3	54.3	10.3	58.5	6.6
LOS	E	E	B	D	C	D	B	E	A
Approach Delay		35.0			26.0		16.4		13.9
Approach LOS		D			C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 24 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 21.2	Intersection LOS: C
Intersection Capacity Utilization 52.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	167	337	54	99	128	164	982	46	64	370	25
Future Volume (veh/h)	58	167	337	54	99	128	164	982	46	64	370	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	182	366	59	108	139	178	1067	50	70	402	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	433	476	252	395	350	243	2699	126	89	2543	169
Arrive On Green	0.05	0.23	0.23	0.04	0.22	0.22	0.14	1.00	1.00	0.10	1.00	1.00
Sat Flow, veh/h	1781	1870	1575	1781	1777	1574	3456	4997	234	1781	4890	325
Grp Volume(v), veh/h	63	182	366	59	108	139	178	727	390	70	278	151
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1777	1574	1728	1702	1827	1781	1702	1811
Q Serve(g_s), s	4.2	9.9	25.4	3.0	6.0	9.0	5.9	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	4.2	9.9	25.4	3.0	6.0	9.0	5.9	0.0	0.0	4.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.18
Lane Grp Cap(c), veh/h	82	433	476	252	395	350	243	1838	987	89	1770	942
V/C Ratio(X)	0.77	0.42	0.77	0.23	0.27	0.40	0.73	0.40	0.40	0.78	0.16	0.16
Avail Cap(c_a), veh/h	208	452	492	321	395	350	893	1838	987	223	1770	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.98	0.98	0.98
Uniform Delay (d), s/veh	56.6	39.2	38.1	34.4	38.6	39.8	50.5	0.0	0.0	53.3	0.0	0.0
Incr Delay (d2), s/veh	14.3	0.6	7.0	0.5	0.4	0.7	4.0	0.6	1.1	13.5	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.6	10.4	1.3	2.6	3.5	2.5	0.2	0.3	2.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	39.9	45.1	34.9	39.0	40.5	54.5	0.6	1.1	66.8	0.2	0.4
LnGrp LOS	E	D	D	C	D	D	D	A	A	E	A	A
Approach Vol, veh/h		611			306			1295			499	
Approach Delay, s/veh		46.2			38.9			8.2			9.6	
Approach LOS		D			D			A			A	

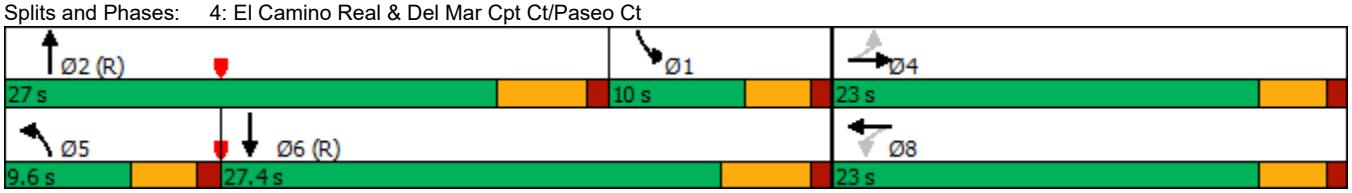
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	69.8	8.4	31.8	12.4	67.4	9.5	30.7
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	50.0	9.0	29.0	31.0	34.0	14.0	24.0
Max Q Clear Time (g_c+I1), s	6.6	2.0	5.0	27.4	7.9	2.0	6.2	11.0
Green Ext Time (p_c), s	0.1	8.4	0.0	0.4	0.5	2.5	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	31	0	49	2	7	1121	6	749
Future Volume (vph)	31	0	49	2	7	1121	6	749
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	9.6	27.0	10.0	27.4
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.0%	45.0%	16.7%	45.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.4	9.4	9.4	9.4	5.9	42.5	5.7	42.4
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.10	0.71	0.10	0.71
v/c Ratio	0.16	0.14	0.26	0.18	0.05	0.34	0.04	0.23
Control Delay	21.2	0.6	23.3	8.1	31.6	4.8	27.5	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	0.6	23.3	8.1	31.6	4.8	27.5	5.3
LOS	C	A	C	A	C	A	C	A
Approach Delay		7.2		15.7		5.0		5.5
Approach LOS		A		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 30 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.34	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 39.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	66	49	2	47	7	1121	6	6	749	4
Future Volume (veh/h)	31	0	66	49	2	47	7	1121	6	6	749	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	0	72	53	2	51	8	1218	7	7	814	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	0	204	236	8	197	19	1921	11	481	3372	17
Arrive On Green	0.13	0.00	0.13	0.13	0.13	0.13	0.02	0.73	0.73	0.54	1.00	1.00
Sat Flow, veh/h	1338	0	1567	1317	59	1517	1781	5239	30	1781	5244	26
Grp Volume(v), veh/h	34	0	72	53	0	53	8	791	434	7	528	290
Grp Sat Flow(s),veh/h/ln	1338	0	1567	1317	0	1576	1781	1702	1865	1781	1702	1866
Q Serve(g_s), s	1.4	0.0	2.5	2.3	0.0	1.8	0.3	7.0	7.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	2.5	4.8	0.0	1.8	0.3	7.0	7.0	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	253	0	204	236	0	205	19	1248	684	481	2189	1200
V/C Ratio(X)	0.13	0.00	0.35	0.22	0.00	0.26	0.43	0.63	0.63	0.01	0.24	0.24
Avail Cap(c_a), veh/h	503	0	496	482	0	499	166	1248	684	481	2189	1200
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.93	0.93	0.93	0.93	0.93	0.93
Uniform Delay (d), s/veh	25.0	0.0	23.8	26.0	0.0	23.5	29.2	6.0	6.0	10.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.0	0.5	0.0	0.7	14.1	2.3	4.1	0.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	0.7	0.0	0.7	0.2	1.7	2.2	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	0.0	24.8	26.5	0.0	24.2	43.3	8.3	10.1	10.1	0.2	0.4
LnGrp LOS	C	A	C	C	A	C	D	A	B	B	A	A
Approach Vol, veh/h		106			106			1233			825	
Approach Delay, s/veh		25.0			25.3			9.2			0.4	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.2	27.0		11.8	4.6	43.6		11.8
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	6.0	* 22		19.0	5.6	22.4		19.0
Max Q Clear Time (g_c+I1), s	2.1	9.0		5.2	2.3	2.0		6.8
Green Ext Time (p_c), s	0.0	6.1		0.4	0.0	4.8		0.3

Intersection Summary		
HCM 6th Ctrl Delay		7.5
HCM 6th LOS		A

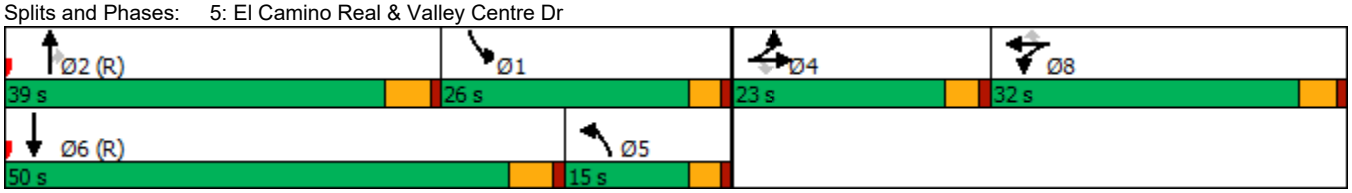
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	35	25	31	351	9	157	67	852	292	165	941
Future Volume (vph)	35	25	31	351	9	157	67	852	292	165	941
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	32.0	32.0	32.0	15.0	39.0	39.0	26.0	50.0
Total Split (%)	19.2%	19.2%	19.2%	26.7%	26.7%	26.7%	12.5%	32.5%	32.5%	21.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.4	9.4	9.4	20.7	20.7	20.7	9.4	55.1	55.1	19.2	66.9
Actuated g/C Ratio	0.08	0.08	0.08	0.17	0.17	0.17	0.08	0.46	0.46	0.16	0.56
v/c Ratio	0.25	0.27	0.13	0.71	0.73	0.40	0.53	0.40	0.37	0.63	0.37
Control Delay	54.5	51.4	1.1	59.6	60.3	9.2	61.1	12.9	3.1	53.2	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	51.4	1.1	59.6	60.3	9.2	61.1	12.9	3.1	53.2	19.7
LOS	D	D	A	E	E	A	E	B	A	D	B
Approach Delay		36.7			46.1			13.2			24.6
Approach LOS		D			D			B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 114 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 24.1	Intersection LOS: C
Intersection Capacity Utilization 55.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	25	31	351	9	157	67	852	292	165	941	23
Future Volume (veh/h)	35	25	31	351	9	157	67	852	292	165	941	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	35	32	439	0	117	73	926	317	179	1023	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	92	76	532	0	234	500	1447	447	663	1922	47
Arrive On Green	0.05	0.05	0.05	0.15	0.00	0.15	0.56	0.57	0.57	0.74	0.75	0.75
Sat Flow, veh/h	1781	1870	1537	3563	0	1569	1781	5106	1577	1781	5126	125
Grp Volume(v), veh/h	34	35	32	439	0	117	73	926	317	179	679	369
Grp Sat Flow(s),veh/h/ln	1781	1870	1537	1781	0	1569	1781	1702	1577	1781	1702	1847
Q Serve(g_s), s	2.2	2.2	2.4	14.3	0.0	8.2	2.3	14.8	17.5	3.9	10.0	10.0
Cycle Q Clear(g_c), s	2.2	2.2	2.4	14.3	0.0	8.2	2.3	14.8	17.5	3.9	10.0	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	88	92	76	532	0	234	500	1447	447	663	1277	693
V/C Ratio(X)	0.39	0.38	0.42	0.83	0.00	0.50	0.15	0.64	0.71	0.27	0.53	0.53
Avail Cap(c_a), veh/h	282	296	243	816	0	360	500	1447	447	663	1277	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.00	0.93	0.87	0.87	0.87	0.98	0.98	0.98
Uniform Delay (d), s/veh	55.3	55.3	55.4	49.5	0.0	46.9	19.4	21.8	22.4	10.1	10.6	10.6
Incr Delay (d2), s/veh	2.8	2.6	3.7	3.9	0.0	1.5	0.1	1.9	8.1	0.2	1.6	2.9
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	1.1	1.1	1.0	6.6	0.0	3.3	0.9	4.5	5.4	1.4	2.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	57.9	59.1	53.4	0.0	48.5	19.6	23.7	30.5	10.3	12.2	13.5
LnGrp LOS	E	E	E	D	A	D	B	C	C	B	B	B
Approach Vol, veh/h		101			556			1316			1227	
Approach Delay, s/veh		58.3			52.4			25.1			12.3	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.7	39.0		9.9	37.7	50.0		22.4
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	22.0	34.0		19.0	11.0	45.0		27.5
Max Q Clear Time (g_c+I1), s	5.9	19.5		4.4	4.3	12.0		16.3
Green Ext Time (p_c), s	0.4	6.1		0.3	0.1	7.3		1.6

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

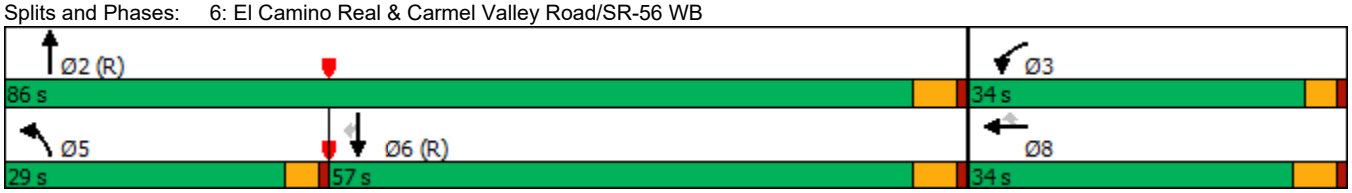
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	185	669	207	352	1103	681	586
Future Volume (vph)	185	669	207	352	1103	681	586
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	34.0	34.0	34.0	29.0	86.0	57.0	57.0
Total Split (%)	28.3%	28.3%	28.3%	24.2%	71.7%	47.5%	47.5%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	25.3	24.3	24.3	18.6	85.7	63.1	63.1
Actuated g/C Ratio	0.21	0.20	0.20	0.16	0.71	0.53	0.53
v/c Ratio	0.28	0.71	0.57	0.72	0.47	0.44	0.44
Control Delay	39.9	48.2	28.4	62.8	1.0	6.3	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	39.9	48.2	28.4	62.8	1.2	6.3	5.0
LOS	D	D	C	E	A	A	A
Approach Delay		42.9			16.1	6.0	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 67.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	185	669	207	352	1103	0	0	681	586
Future Volume (veh/h)	0	0	0	185	669	207	352	1103	0	0	681	586
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				201	727	225	383	1199	0	0	740	637
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				658	973	300	450	2610	0	0	2136	1806
Arrive On Green				0.19	0.19	0.19	0.26	1.00	0.00	0.00	1.00	1.00
Sat Flow, veh/h				3456	5106	1573	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				201	727	225	383	1199	0	0	740	637
Grp Sat Flow(s),veh/h/ln				1728	1702	1573	1728	1777	0	0	1870	1581
Q Serve(g_s), s				6.0	16.1	16.2	12.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				6.0	16.1	16.2	12.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				658	973	300	450	2610	0	0	2136	1806
V/C Ratio(X)				0.31	0.75	0.75	0.85	0.46	0.00	0.00	0.35	0.35
Avail Cap(c_a), veh/h				864	1277	393	720	2610	0	0	2136	1806
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.61	0.61	0.00	0.00	0.91	0.91
Uniform Delay (d), s/veh				41.7	45.8	45.9	43.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.3	1.8	5.7	3.5	0.4	0.0	0.0	0.4	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.5	6.7	6.6	4.8	0.1	0.0	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.0	47.6	51.6	46.8	0.4	0.0	0.0	0.4	0.5
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1153			1582			1377	
Approach Delay, s/veh					47.4			11.6			0.4	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	93.1		19.6	73.5		26.9
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	81.0		25.0	52.0		30.0
Max Q Clear Time (g_c+I1), s	2.0		14.6	2.0		18.2
Green Ext Time (p_c), s	11.0		1.0	9.3		4.6

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

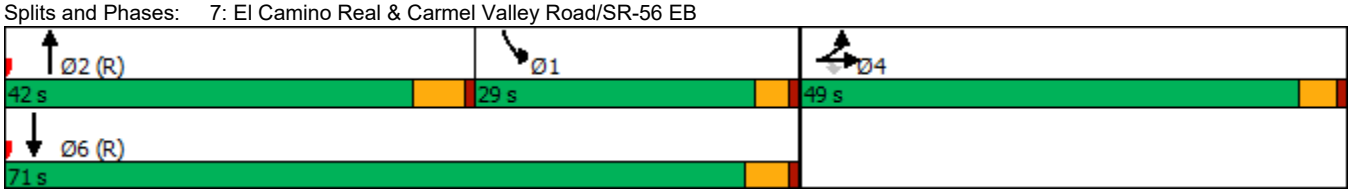
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	426	738	143	1032	211	611
Future Volume (vph)	426	738	143	1032	211	611
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	49.0	49.0	49.0	42.0	29.0	71.0
Total Split (%)	40.8%	40.8%	40.8%	35.0%	24.2%	59.2%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	40.8	40.8	40.8	40.2	25.0	69.7
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.21	0.58
v/c Ratio	0.76	0.80	0.25	0.72	0.62	0.23
Control Delay	44.7	41.6	7.1	36.1	36.2	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.9	0.0
Total Delay	44.7	41.6	7.1	36.1	37.0	3.4
LOS	D	D	A	D	D	A
Approach Delay		39.1		36.1		12.0
Approach LOS		D		D		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 31.6	Intersection LOS: C
Intersection Capacity Utilization 67.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	426	738	143	0	0	0	0	1032	355	211	611	0
Future Volume (veh/h)	426	738	143	0	0	0	0	1032	355	211	611	0
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	309	1018	155				0	1122	386	229	664	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	576	1210	510				0	1468	480	441	3051	0
Arrive On Green	0.32	0.32	0.32				0.00	0.30	0.30	0.08	0.20	0.00
Sat Flow, veh/h	1781	3741	1578				0	5087	1577	1781	5274	0
Grp Volume(v), veh/h	309	1018	155				0	1122	386	229	664	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1578				0	1609	1577	1781	1702	0
Q Serve(g_s), s	17.0	30.4	8.8				0.0	25.3	27.1	14.8	13.1	0.0
Cycle Q Clear(g_c), s	17.0	30.4	8.8				0.0	25.3	27.1	14.8	13.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	576	1210	510				0	1468	480	441	3051	0
V/C Ratio(X)	0.54	0.84	0.30				0.00	0.76	0.80	0.52	0.22	0.00
Avail Cap(c_a), veh/h	661	1387	585				0	1468	480	441	3051	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	33.2	37.7	30.5				0.0	37.9	38.5	48.3	24.6	0.0
Incr Delay (d2), s/veh	0.8	4.3	0.3				0.0	3.8	13.4	1.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	14.2	3.3				0.0	10.0	11.7	7.2	5.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	42.1	30.8				0.0	41.7	51.9	49.3	24.8	0.0
LnGrp LOS	C	D	C				A	D	D	D	C	A
Approach Vol, veh/h		1482						1508			893	
Approach Delay, s/veh		39.2						44.3			31.1	
Approach LOS		D						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.7	42.0		43.3		76.7
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	25.0	* 37		44.5		66.0
Max Q Clear Time (g_c+I1), s	16.8	29.1		32.4		15.1
Green Ext Time (p_c), s	0.4	4.9		6.4		4.7

Intersection Summary			
HCM 6th Ctrl Delay			39.3
HCM 6th LOS			D

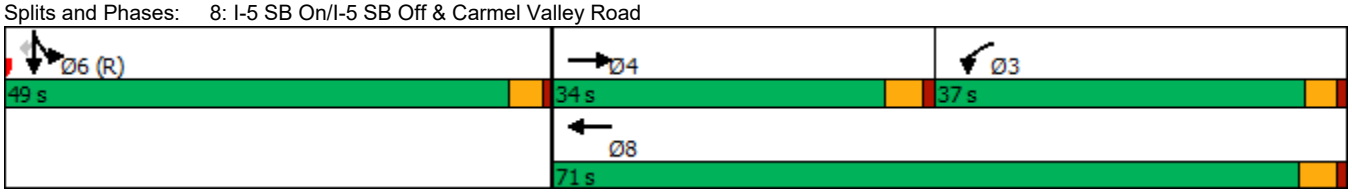
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	412	561	635	615	1	89
Future Volume (vph)	412	561	635	615	1	89
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	34.0	37.0	71.0	49.0	49.0	49.0
Total Split (%)	28.3%	30.8%	59.2%	40.8%	40.8%	40.8%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.5	26.6	55.1	56.4	56.4	56.4
Actuated g/C Ratio	0.20	0.22	0.46	0.47	0.47	0.47
v/c Ratio	0.79	0.80	0.42	0.43	0.45	0.12
Control Delay	51.3	39.5	9.1	25.4	25.8	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	39.5	9.1	25.4	25.8	5.2
LOS	D	D	A	C	C	A
Approach Delay	51.4		23.3		23.3	
Approach LOS	D		C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 70.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	412	108	561	635	0	0	0	0	615	1	89
Future Volume (veh/h)	0	412	108	561	635	0	0	0	0	615	1	89
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	448	117	610	690	0				699	0	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	532	138	698	1530	0				1777	0	788
Arrive On Green	0.00	0.19	0.19	0.20	0.43	0.00				0.50	0.00	0.50
Sat Flow, veh/h	0	2882	722	3456	3647	0				3563	0	1580
Grp Volume(v), veh/h	0	284	281	610	690	0				699	0	65
Grp Sat Flow(s),veh/h/ln	0	1777	1734	1728	1777	0				1781	0	1580
Q Serve(g_s), s	0.0	18.5	18.8	20.5	16.5	0.0				14.7	0.0	2.6
Cycle Q Clear(g_c), s	0.0	18.5	18.8	20.5	16.5	0.0				14.7	0.0	2.6
Prop In Lane	0.00		0.42	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	339	331	698	1530	0				1777	0	788
V/C Ratio(X)	0.00	0.84	0.85	0.87	0.45	0.00				0.39	0.00	0.08
Avail Cap(c_a), veh/h	0	437	426	950	1969	0				1777	0	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.75	0.75	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.8	46.9	46.4	24.2	0.0				18.8	0.0	15.7
Incr Delay (d2), s/veh	0.0	10.8	12.1	5.3	0.2	0.0				0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.0	9.0	9.1	6.7	0.0				6.2	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	57.6	59.0	51.7	24.3	0.0				19.4	0.0	15.9
LnGrp LOS	A	E	E	D	C	A				B	A	B
Approach Vol, veh/h		565			1300						764	
Approach Delay, s/veh		58.3			37.2						19.1	
Approach LOS		E			D						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		28.8	27.4		63.8		56.2					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		33.0	* 30		45.0		66.5					
Max Q Clear Time (g_c+I1), s		22.5	20.8		16.7		18.5					
Green Ext Time (p_c), s		1.7	2.1		3.0		5.1					

Intersection Summary	
HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D

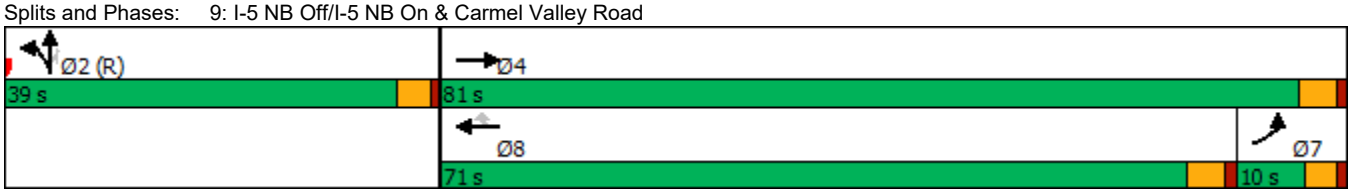
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	38	989	957	655	239	7	387
Future Volume (vph)	38	989	957	655	239	7	387
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	81.0	71.0	71.0	39.0	39.0	39.0
Total Split (%)	8.3%	67.5%	59.2%	59.2%	32.5%	32.5%	32.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.9	61.1	52.1	52.1	50.4	50.4	50.4
Actuated g/C Ratio	0.06	0.51	0.43	0.43	0.42	0.42	0.42
v/c Ratio	0.21	0.60	0.68	0.66	0.33	0.34	0.33
Control Delay	64.3	21.5	10.9	7.3	28.7	15.6	15.5
Queue Delay	0.0	0.5	0.1	2.1	0.0	0.0	0.0
Total Delay	64.3	21.9	11.0	9.5	28.7	15.6	15.5
LOS	E	C	B	A	C	B	B
Approach Delay		23.5	10.4			20.0	
Approach LOS		C	B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 70.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	989	0	0	957	655	239	7	387	0	0	0
Future Volume (veh/h)	38	989	0	0	957	655	239	7	387	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	41	1075	0	0	1040	712	176	0	516			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	107	2020	0	0	1777	790	642	0	1139			
Arrive On Green	0.03	0.57	0.00	0.00	0.50	0.50	0.36	0.00	0.36			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3157			
Grp Volume(v), veh/h	41	1075	0	0	1040	712	176	0	516			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	1.4	22.5	0.0	0.0	24.8	49.2	8.4	0.0	15.0			
Cycle Q Clear(g_c), s	1.4	22.5	0.0	0.0	24.8	49.2	8.4	0.0	15.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	107	2020	0	0	1777	790	642	0	1139			
V/C Ratio(X)	0.38	0.53	0.00	0.00	0.59	0.90	0.27	0.00	0.45			
Avail Cap(c_a), veh/h	173	2265	0	0	1969	876	642	0	1139			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.71	0.71	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	57.0	16.0	0.0	0.0	21.2	27.3	27.2	0.0	29.3			
Incr Delay (d2), s/veh	1.6	0.2	0.0	0.0	0.2	8.1	1.1	0.0	1.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.6	8.6	0.0	0.0	9.9	19.1	3.8	0.0	5.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	16.2	0.0	0.0	21.5	35.4	28.3	0.0	30.6			
LnGrp LOS	E	B	A	A	C	D	C	A	C			
Approach Vol, veh/h		1116			1752			692				
Approach Delay, s/veh		17.7			27.1			30.0				
Approach LOS		B			C			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		47.3		72.7			8.2	64.5				
Change Period (Y+Rc), s		4.0		4.5			4.5	* 4.5				
Max Green Setting (Gmax), s		35.0		76.5			6.0	* 67				
Max Q Clear Time (g_c+I1), s		17.0		24.5			3.4	51.2				
Green Ext Time (p_c), s		2.6		9.4			0.0	8.8				

Intersection Summary												
HCM 6th Ctrl Delay			24.7									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	18	30	1343	1567
Future Volume (vph)	18	30	1343	1567
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	15.0	93.0	78.0
Total Split (%)	22.5%	12.5%	77.5%	65.0%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	45.0	7.7	66.5	58.8
Actuated g/C Ratio	0.38	0.06	0.55	0.49
v/c Ratio	0.07	0.29	0.52	0.70
Control Delay	18.9	56.8	6.9	15.5
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	18.9	56.8	7.0	15.6
LOS	B	E	A	B
Approach Delay	18.9		8.1	15.6
Approach LOS	B		A	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 12.2	Intersection LOS: B
Intersection Capacity Utilization 53.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	18	21	30	1343	1567	28
Future Volume (veh/h)	18	21	30	1343	1567	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	23	33	1460	1703	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	333	383	50	2539	2232	39
Arrive On Green	0.43	0.43	0.03	0.50	0.43	0.43
Sat Flow, veh/h	772	888	1781	5274	5335	91
Grp Volume(v), veh/h	44	0	33	1460	1122	611
Grp Sat Flow(s),veh/h/ln	1698	0	1781	1702	1702	1853
Q Serve(g_s), s	1.8	0.0	2.2	24.2	33.5	33.5
Cycle Q Clear(g_c), s	1.8	0.0	2.2	24.2	33.5	33.5
Prop In Lane	0.45	0.52	1.00			0.05
Lane Grp Cap(c), veh/h	733	0	50	2539	1471	801
V/C Ratio(X)	0.06	0.00	0.67	0.57	0.76	0.76
Avail Cap(c_a), veh/h	733	0	163	3766	2085	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.82	0.82	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	57.8	21.2	28.9	28.9
Incr Delay (d2), s/veh	0.2	0.0	11.9	0.2	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.1	9.2	13.3	14.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.0	0.0	69.7	21.4	29.9	30.8
LnGrp LOS	C	A	E	C	C	C
Approach Vol, veh/h	44			1493	1733	
Approach Delay, s/veh	20.0			22.5	30.3	
Approach LOS	C			C	C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			64.2		55.8	7.8	56.3
Change Period (Y+Rc), s			4.5		4.0	4.5	* 4.5
Max Green Setting (Gmax), s			88.5		23.0	11.0	* 74
Max Q Clear Time (g_c+I1), s			26.2		3.8	4.2	35.5
Green Ext Time (p_c), s			15.1		0.1	0.0	16.3

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

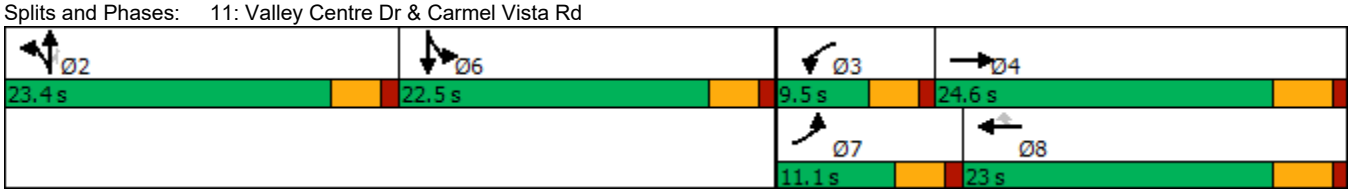
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	58	380	5	292	57	149	50	113	81	3
Future Volume (vph)	58	380	5	292	57	149	50	113	81	3
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.1	24.6	9.5	23.0	23.0	23.4	23.4	23.4	22.5	22.5
Total Split (%)	13.9%	30.8%	11.9%	28.8%	28.8%	29.3%	29.3%	29.3%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	7.0	16.0	5.9	11.7	11.7	20.9	20.9	20.9	9.5	9.5
Actuated g/C Ratio	0.12	0.28	0.10	0.20	0.20	0.36	0.36	0.36	0.16	0.16
v/c Ratio	0.30	0.43	0.03	0.44	0.15	0.18	0.18	0.19	0.30	0.10
Control Delay	33.0	19.9	31.6	24.9	1.3	19.8	19.8	5.3	27.3	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	19.9	31.6	24.9	1.3	19.8	19.8	5.3	27.3	12.5
LOS	C	B	C	C	A	B	B	A	C	B
Approach Delay		21.6		21.1			14.5			23.8
Approach LOS		C		C			B			C

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 58.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 19.9	Intersection LOS: B
Intersection Capacity Utilization 37.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	380	8	5	292	57	149	50	113	81	3	23
Future Volume (veh/h)	58	380	8	5	292	57	149	50	113	81	3	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	413	9	5	317	62	108	130	123	88	3	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	731	16	12	549	245	682	716	607	141	14	114
Arrive On Green	0.06	0.21	0.21	0.01	0.15	0.15	0.38	0.38	0.38	0.08	0.08	0.08
Sat Flow, veh/h	1781	3556	77	1781	3554	1585	1781	1870	1585	1781	173	1439
Grp Volume(v), veh/h	63	206	216	5	317	62	108	130	123	88	0	28
Grp Sat Flow(s),veh/h/ln	1781	1777	1856	1781	1777	1585	1781	1870	1585	1781	0	1611
Q Serve(g_s), s	1.8	5.3	5.3	0.1	4.2	1.7	2.0	2.3	2.6	2.4	0.0	0.8
Cycle Q Clear(g_c), s	1.8	5.3	5.3	0.1	4.2	1.7	2.0	2.3	2.6	2.4	0.0	0.8
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		0.89
Lane Grp Cap(c), veh/h	103	365	382	12	549	245	682	716	607	141	0	128
V/C Ratio(X)	0.61	0.56	0.57	0.42	0.58	0.25	0.16	0.18	0.20	0.62	0.00	0.22
Avail Cap(c_a), veh/h	250	705	736	193	1297	579	682	716	607	650	0	588
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	23.3	18.1	18.1	25.1	19.9	18.9	10.3	10.4	10.5	22.6	0.0	21.9
Incr Delay (d2), s/veh	5.7	1.4	1.3	21.6	1.0	0.5	0.5	0.6	0.8	4.4	0.0	0.9
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	0.8	2.0	2.1	0.1	1.6	0.6	0.8	0.9	0.8	1.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	19.5	19.4	46.7	20.9	19.4	10.8	10.9	11.2	27.0	0.0	22.7
LnGrp LOS	C	B	B	D	C	B	B	B	B	C	A	C
Approach Vol, veh/h		485			384			361			116	
Approach Delay, s/veh		20.7			21.0			11.0			26.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.4	4.3	14.9		8.0	6.9	12.3
Change Period (Y+Rc), s		4.0	4.0	4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		19.4	5.5	20.1		18.5	7.1	18.5
Max Q Clear Time (g_c+I1), s		4.6	2.1	7.3		4.4	3.8	6.2
Green Ext Time (p_c), s		1.2	0.0	1.8		0.3	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

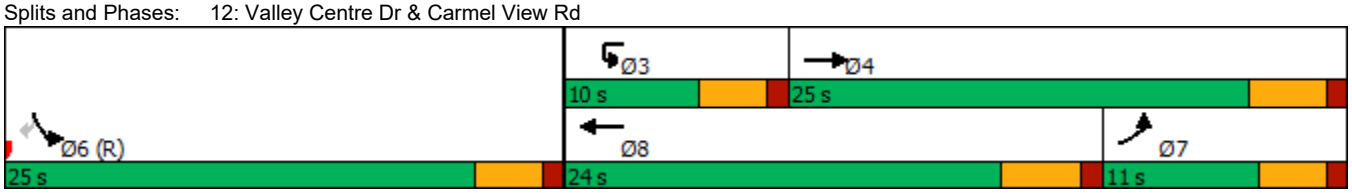
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	501	16	318	29	38
Future Volume (vph)	77	501	16	318	29	38
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	11.0	25.0	10.0	24.0	25.0	25.0
Total Split (%)	18.3%	41.7%	16.7%	40.0%	41.7%	41.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	7.7	20.7	5.8	12.9	28.8	28.8
Actuated g/C Ratio	0.13	0.34	0.10	0.22	0.48	0.48
v/c Ratio	0.37	0.45	0.10	0.56	0.04	0.05
Control Delay	28.4	16.0	26.1	20.5	11.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	16.0	26.1	20.5	11.6	5.1
LOS	C	B	C	C	B	A
Approach Delay		17.6		20.7	7.9	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 43.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	77	501	16	318	83	29	38
Future Volume (veh/h)	77	501	16	318	83	29	38
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	84	545		346	90	32	41
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	112	1162		528	135	947	842
Arrive On Green	0.06	0.33		0.19	0.19	0.53	0.53
Sat Flow, veh/h	1781	3647		2885	716	1781	1585
Grp Volume(v), veh/h	84	545		218	218	32	41
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1730	1781	1585
Q Serve(g_s), s	2.8	7.3		6.8	7.0	0.5	0.7
Cycle Q Clear(g_c), s	2.8	7.3		6.8	7.0	0.5	0.7
Prop In Lane	1.00				0.41	1.00	1.00
Lane Grp Cap(c), veh/h	112	1162		336	327	947	842
V/C Ratio(X)	0.75	0.47		0.65	0.67	0.03	0.05
Avail Cap(c_a), veh/h	208	1214		577	562	947	842
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	16.1		22.5	22.6	6.7	6.8
Incr Delay (d2), s/veh	9.1	0.3		2.1	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.6		2.7	2.7	0.2	1.0
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	36.8	16.3		24.6	24.9	6.8	6.9
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		629		436		73	
Approach Delay, s/veh		19.1		24.8		6.8	
Approach LOS		B		C		A	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			24.1		35.9	8.3	15.8
Change Period (Y+Rc), s			4.5		4.0	4.5	* 4.5
Max Green Setting (Gmax), s			20.5		21.0	7.0	* 20
Max Q Clear Time (g_c+I1), s			9.3		2.7	4.8	9.0
Green Ext Time (p_c), s			2.6		0.1	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

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

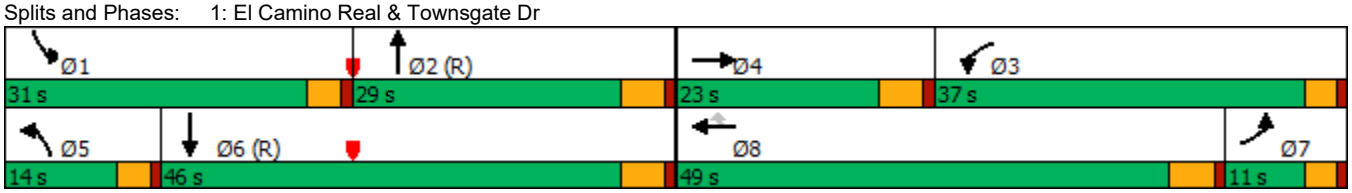
APPENDIX D

EXISTING PLUS PROJECT CONDITIONS HCM ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	4	211	26	106	35	210	155	613
Future Volume (vph)	2	4	211	26	106	35	210	155	613
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	11.0	23.0	37.0	49.0	49.0	14.0	29.0	31.0	46.0
Total Split (%)	9.2%	19.2%	30.8%	40.8%	40.8%	11.7%	24.2%	25.8%	38.3%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	7.0	18.0	33.0	44.0	44.0	10.0	24.0	27.0	41.0
Actuated g/C Ratio	0.06	0.15	0.28	0.37	0.37	0.08	0.20	0.22	0.34
v/c Ratio	0.02	0.04	0.47	0.04	0.17	0.26	0.32	0.42	0.45
Control Delay	54.0	29.8	40.1	24.8	4.1	74.3	9.3	43.7	30.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	29.8	40.1	24.8	4.1	74.3	9.3	43.7	30.5
LOS	D	C	D	C	A	E	A	D	C
Approach Delay		33.5		27.8			16.1		32.8
Approach LOS		C		C			B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 14 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 28.1	Intersection LOS: C
Intersection Capacity Utilization 48.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	4	6	211	26	106	35	210	91	155	613	103
Future Volume (veh/h)	2	4	6	211	26	106	35	210	91	155	613	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	4	7	229	28	115	38	228	99	168	666	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	92	160	490	686	581	148	717	287	401	1507	250
Arrive On Green	0.06	0.15	0.15	0.28	0.37	0.37	0.08	0.20	0.20	0.22	0.34	0.34
Sat Flow, veh/h	1781	610	1068	1781	1870	1585	1781	3583	1433	1781	4410	733
Grp Volume(v), veh/h	2	0	11	229	28	115	38	216	111	168	512	266
Grp Sat Flow(s),veh/h/ln	1781	0	1678	1781	1870	1585	1781	1702	1612	1781	1702	1738
Q Serve(g_s), s	0.1	0.0	0.7	12.8	1.2	3.1	2.4	6.5	7.1	9.7	14.0	14.3
Cycle Q Clear(g_c), s	0.1	0.0	0.7	12.8	1.2	3.1	2.4	6.5	7.1	9.7	14.0	14.3
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.89	1.00		0.42
Lane Grp Cap(c), veh/h	104	0	252	490	686	581	148	681	322	401	1163	594
V/C Ratio(X)	0.02	0.00	0.04	0.47	0.04	0.20	0.26	0.32	0.35	0.42	0.44	0.45
Avail Cap(c_a), veh/h	104	0	252	490	686	581	148	681	322	401	1163	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	0.0	43.6	36.2	24.4	7.2	51.5	41.0	41.2	39.8	30.6	30.7
Incr Delay (d2), s/veh	0.3	0.0	0.3	3.2	0.1	0.8	4.1	1.2	2.9	3.2	1.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	6.0	0.5	2.3	1.2	2.8	3.0	4.5	5.7	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	0.0	44.0	39.4	24.5	8.0	55.6	42.2	44.2	43.0	31.8	33.1
LnGrp LOS	D	A	D	D	C	A	E	D	D	D	C	C
Approach Vol, veh/h		13			372			365			946	
Approach Delay, s/veh		45.4			28.5			44.2			34.2	
Approach LOS		D			C			D			C	

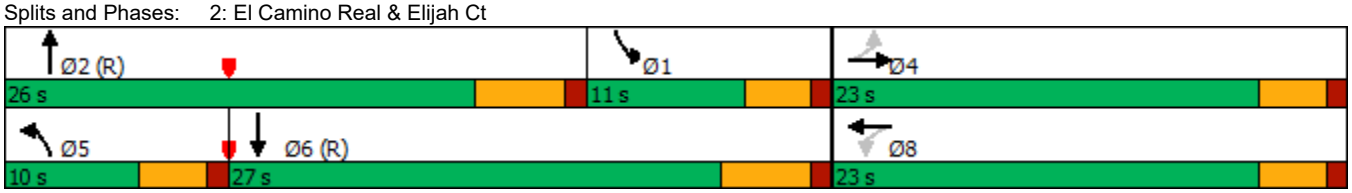
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	29.0	37.0	23.0	14.0	46.0	11.0	49.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	27.0	24.0	33.0	18.0	10.0	41.0	7.0	44.0
Max Q Clear Time (g_c+I1), s	11.7	9.1	14.8	2.7	4.4	16.3	2.1	5.1
Green Ext Time (p_c), s	0.4	1.6	0.6	0.0	0.0	4.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	0	114	0	22	252	64	774
Future Volume (vph)	3	0	114	0	22	252	64	774
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	10.0	26.0	11.0	27.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.7%	43.3%	18.3%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	19.0	19.0	19.0	6.0	21.0	7.0	22.0
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.10	0.35	0.12	0.37
v/c Ratio	0.01	0.00	0.28	0.07	0.14	0.16	0.34	0.45
Control Delay	14.3	0.0	17.5	0.2	18.6	12.8	19.4	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	0.0	17.5	0.2	18.6	12.8	19.4	6.9
LOS	B	A	B	A	B	B	B	A
Approach Delay		7.2		11.4		13.3		7.9
Approach LOS		A		B		B		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 12 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 43.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	3	114	0	62	22	252	17	64	774	2
Future Volume (veh/h)	3	0	3	114	0	62	22	252	17	64	774	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	0	3	124	0	67	24	274	18	70	841	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	493	0	494	557	0	494	175	1687	109	204	1983	5
Arrive On Green	0.31	0.00	0.31	0.31	0.00	0.31	0.03	0.11	0.11	0.15	0.50	0.50
Sat Flow, veh/h	1334	0	1585	1414	0	1585	1781	4900	318	1781	5260	13
Grp Volume(v), veh/h	3	0	3	124	0	67	24	189	103	70	544	299
Grp Sat Flow(s),veh/h/ln	1334	0	1585	1414	0	1585	1781	1702	1813	1781	1702	1868
Q Serve(g_s), s	0.1	0.0	0.1	4.0	0.0	1.9	0.8	3.1	3.1	2.1	6.2	6.2
Cycle Q Clear(g_c), s	2.0	0.0	0.1	4.1	0.0	1.9	0.8	3.1	3.1	2.1	6.2	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		0.01
Lane Grp Cap(c), veh/h	493	0	494	557	0	494	175	1172	624	204	1283	704
V/C Ratio(X)	0.01	0.00	0.01	0.22	0.00	0.14	0.14	0.16	0.16	0.34	0.42	0.42
Avail Cap(c_a), veh/h	493	0	494	557	0	494	175	1172	624	204	1283	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	14.5	15.9	0.0	15.1	27.0	19.1	19.1	23.8	11.0	11.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	0.6	1.6	0.3	0.6	4.5	1.0	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	0.0	0.0	0.0	1.3	0.0	0.7	0.4	1.1	1.2	1.1	1.9	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	14.5	16.8	0.0	15.7	28.6	19.4	19.7	28.3	12.0	12.9
LnGrp LOS	B	A	B	B	A	B	C	B	B	C	B	B
Approach Vol, veh/h		6			191			316			913	
Approach Delay, s/veh		15.2			16.4			20.2			13.6	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	26.0		23.0	10.0	28.0		23.0
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	7.0	* 21		19.0	6.0	22.0		19.0
Max Q Clear Time (g_c+I1), s	4.1	5.1		4.0	2.8	8.2		6.1
Green Ext Time (p_c), s	0.0	1.4		0.0	0.0	4.2		0.5

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

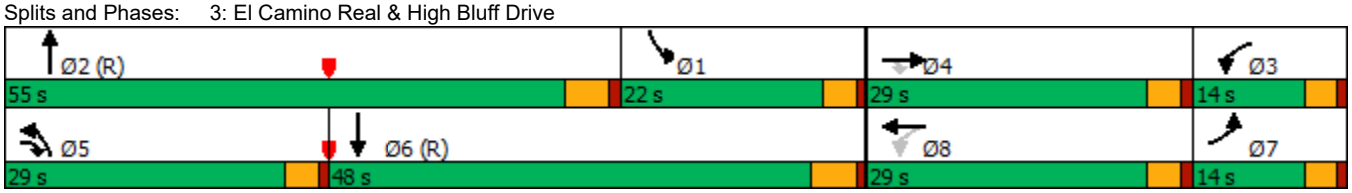
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	22	80	240	69	191	179	297	71	767
Future Volume (vph)	22	80	240	69	191	179	297	71	767
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	14.0	29.0	29.0	14.0	29.0	29.0	55.0	22.0	48.0
Total Split (%)	11.7%	24.2%	24.2%	11.7%	24.2%	24.2%	45.8%	18.3%	40.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	7.2	12.1	24.3	21.1	15.1	12.1	71.0	15.7	72.5
Actuated g/C Ratio	0.06	0.10	0.20	0.18	0.13	0.10	0.59	0.13	0.60
v/c Ratio	0.23	0.46	0.58	0.30	0.59	0.56	0.12	0.33	0.31
Control Delay	58.2	58.1	16.1	43.0	49.6	33.2	7.7	29.4	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	58.1	16.1	43.0	49.6	33.2	7.7	29.4	5.7
LOS	E	E	B	D	D	C	A	C	A
Approach Delay		28.7			48.2		16.9		7.5
Approach LOS		C			D		B		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 48.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	80	240	69	191	53	179	297	23	71	767	87
Future Volume (veh/h)	22	80	240	69	191	53	179	297	23	71	767	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	87	261	75	208	58	195	323	25	77	834	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	282	355	197	299	81	259	2015	154	436	2765	313
Arrive On Green	0.08	0.15	0.15	0.04	0.11	0.11	0.15	0.83	0.83	0.49	1.00	1.00
Sat Flow, veh/h	1781	1870	1569	1781	2753	747	3456	4837	369	1781	4651	527
Grp Volume(v), veh/h	24	87	261	75	132	134	195	226	122	77	609	320
Grp Sat Flow(s),veh/h/ln	1781	1870	1569	1781	1777	1724	1728	1702	1801	1781	1702	1774
Q Serve(g_s), s	1.5	5.0	15.2	0.0	8.6	9.0	6.5	1.5	1.6	2.9	0.0	0.0
Cycle Q Clear(g_c), s	1.5	5.0	15.2	0.0	8.6	9.0	6.5	1.5	1.6	2.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.20	1.00		0.30
Lane Grp Cap(c), veh/h	143	282	355	197	193	187	259	1418	751	436	2024	1055
V/C Ratio(X)	0.17	0.31	0.73	0.38	0.68	0.71	0.75	0.16	0.16	0.18	0.30	0.30
Avail Cap(c_a), veh/h	148	390	446	277	370	359	720	1418	751	436	2024	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	51.5	45.4	29.5	51.8	51.5	51.7	49.9	6.0	6.0	23.9	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.6	4.7	1.2	4.2	5.0	4.4	0.2	0.5	0.2	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.3	6.1	2.2	4.0	4.1	2.7	0.6	0.7	1.2	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	46.0	34.2	53.0	55.7	56.7	54.3	6.2	6.4	24.1	0.3	0.7
LnGrp LOS	D	D	C	D	E	E	D	A	A	C	A	A
Approach Vol, veh/h		372			341			543			1006	
Approach Delay, s/veh		38.1			55.5			23.5			2.3	
Approach LOS		D			E			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.3	55.0	8.6	22.1	13.0	76.3	13.6	17.0
Change Period (Y+Rc), s	5.0	* 5	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	* 50	10.0	25.0	25.0	43.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	4.9	3.6	2.0	17.2	8.5	2.0	3.5	11.0
Green Ext Time (p_c), s	0.1	2.1	0.1	0.8	0.5	6.5	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

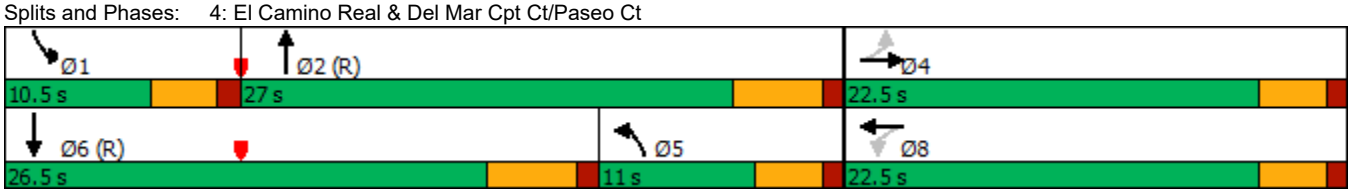
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	15	0	13	1	57	415	57	1004
Future Volume (vph)	15	0	13	1	57	415	57	1004
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	11.0	27.0	10.5	26.5
Total Split (%)	37.5%	37.5%	37.5%	37.5%	18.3%	45.0%	17.5%	44.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.4	8.4	8.4	8.4	6.6	41.4	7.0	41.8
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.11	0.69	0.12	0.70
v/c Ratio	0.08	0.06	0.07	0.03	0.32	0.14	0.30	0.32
Control Delay	20.3	0.2	20.1	12.8	30.8	5.7	32.7	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	0.2	20.1	12.8	30.8	5.7	32.7	2.9
LOS	C	A	C	B	C	A	C	A
Approach Delay		7.8		17.9		8.4		4.4
Approach LOS		A		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 13 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.32	
Intersection Signal Delay: 5.9	Intersection LOS: A
Intersection Capacity Utilization 44.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	24	13	1	5	57	415	43	57	1004	44
Future Volume (veh/h)	15	0	24	13	1	5	57	415	43	57	1004	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	0	26	14	1	5	62	451	47	62	1091	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	0	115	199	20	98	596	3084	317	96	1796	79
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.11	0.22	0.22	0.04	0.24	0.24
Sat Flow, veh/h	1382	0	1557	1360	267	1334	1781	4703	483	1781	5013	220
Grp Volume(v), veh/h	16	0	26	14	0	6	62	325	173	62	741	398
Grp Sat Flow(s),veh/h/ln	1382	0	1557	1360	0	1601	1781	1702	1781	1781	1702	1829
Q Serve(g_s), s	0.7	0.0	0.9	0.6	0.0	0.2	1.9	4.6	4.7	2.1	11.6	11.6
Cycle Q Clear(g_c), s	0.9	0.0	0.9	1.5	0.0	0.2	1.9	4.6	4.7	2.1	11.6	11.6
Prop In Lane	1.00		1.00	1.00		0.83	1.00		0.27	1.00		0.12
Lane Grp Cap(c), veh/h	217	0	115	199	0	118	596	2233	1168	96	1220	655
V/C Ratio(X)	0.07	0.00	0.23	0.07	0.00	0.05	0.10	0.15	0.15	0.65	0.61	0.61
Avail Cap(c_a), veh/h	541	0	480	518	0	494	596	2233	1168	193	1220	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	0.94	0.94	0.94
Uniform Delay (d), s/veh	26.2	0.0	26.2	26.9	0.0	25.8	18.6	9.9	9.9	28.4	19.0	19.0
Incr Delay (d2), s/veh	0.1	0.0	1.0	0.1	0.0	0.2	0.1	0.1	0.3	6.8	2.1	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	0.2	0.0	0.4	0.2	0.0	0.1	0.7	1.1	1.2	1.0	4.6	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	0.0	27.2	27.0	0.0	26.0	18.7	10.0	10.2	35.1	21.2	23.0
LnGrp LOS	C	A	C	C	A	C	B	B	B	D	C	C
Approach Vol, veh/h		42			20			560			1201	
Approach Delay, s/veh		26.9			26.7			11.0			22.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	44.4		8.4	25.1	26.5		8.4
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0
Max Green Setting (Gmax), s	6.5	22.0		18.5	7.0	* 22		18.5
Max Q Clear Time (g_c+I1), s	4.1	6.7		2.9	3.9	13.6		3.5
Green Ext Time (p_c), s	0.0	2.5		0.1	0.0	4.1		0.0

Intersection Summary		
HCM 6th Ctrl Delay		19.1
HCM 6th LOS		B

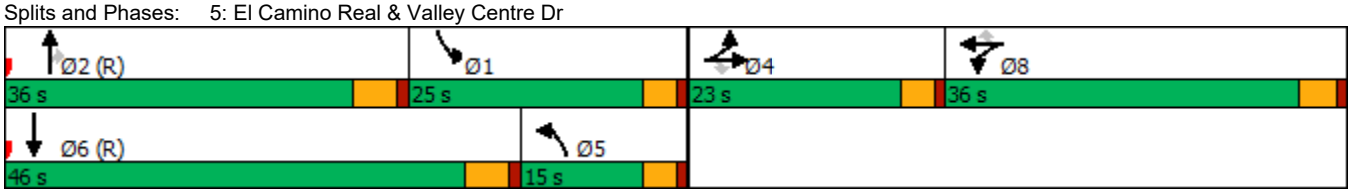
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	46	15	51	392	33	119	94	684	141	127	711
Future Volume (vph)	46	15	51	392	33	119	94	684	141	127	711
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	36.0	36.0	36.0	15.0	36.0	36.0	25.0	46.0
Total Split (%)	19.2%	19.2%	19.2%	30.0%	30.0%	30.0%	12.5%	30.0%	30.0%	20.8%	38.3%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.7	9.7	9.7	23.4	23.4	23.4	10.2	51.1	51.1	20.2	61.1
Actuated g/C Ratio	0.08	0.08	0.08	0.20	0.20	0.20	0.08	0.43	0.43	0.17	0.51
v/c Ratio	0.31	0.29	0.15	0.73	0.75	0.29	0.68	0.34	0.20	0.46	0.34
Control Delay	55.8	38.1	1.3	57.8	59.0	5.8	78.1	17.7	5.9	57.9	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	38.1	1.3	57.8	59.0	5.8	78.1	17.7	5.9	57.9	27.2
LOS	E	D	A	E	E	A	E	B	A	E	C
Approach Delay		32.7			48.1			22.1			31.5
Approach LOS		C			D			C			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 31.7	Intersection LOS: C
Intersection Capacity Utilization 52.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	15	51	392	33	119	94	684	141	127	711	77
Future Volume (veh/h)	46	15	51	392	33	119	94	684	141	127	711	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	45	41	481	0	98	102	743	153	138	773	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	100	82	578	0	255	529	1319	407	678	1597	172
Arrive On Green	0.05	0.05	0.05	0.16	0.00	0.16	0.20	0.17	0.17	0.76	0.68	0.68
Sat Flow, veh/h	1781	1870	1540	3563	0	1570	1781	5106	1576	1781	4674	505
Grp Volume(v), veh/h	39	45	41	481	0	98	102	743	153	138	562	295
Grp Sat Flow(s),veh/h/ln	1781	1870	1540	1781	0	1570	1781	1702	1576	1781	1702	1775
Q Serve(g_s), s	2.5	2.8	3.1	15.7	0.0	6.7	5.7	16.0	10.3	2.6	9.4	9.5
Cycle Q Clear(g_c), s	2.5	2.8	3.1	15.7	0.0	6.7	5.7	16.0	10.3	2.6	9.4	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	95	100	82	578	0	255	529	1319	407	678	1163	606
V/C Ratio(X)	0.41	0.45	0.50	0.83	0.00	0.38	0.19	0.56	0.38	0.20	0.48	0.49
Avail Cap(c_a), veh/h	282	296	244	935	0	412	529	1319	407	678	1163	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.00	0.86	0.94	0.94	0.94	0.96	0.96	0.96
Uniform Delay (d), s/veh	55.0	55.1	55.3	48.7	0.0	44.9	36.1	43.4	41.1	9.2	14.0	14.0
Incr Delay (d2), s/veh	2.8	3.2	4.6	3.0	0.0	0.8	0.2	1.6	2.5	0.1	1.4	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	1.2	1.4	1.3	7.1	0.0	2.6	2.5	7.1	4.3	1.0	2.9	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	58.3	59.9	51.7	0.0	45.7	36.2	45.1	43.5	9.4	15.4	16.7
LnGrp LOS	E	E	E	D	A	D	D	D	D	A	B	B
Approach Vol, veh/h		125			579			998			995	
Approach Delay, s/veh		58.7			50.7			43.9			14.9	
Approach LOS		E			D			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	49.6	36.0		10.4	39.6	46.0		24.0
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	21.0	31.0		19.0	11.0	41.0		31.5
Max Q Clear Time (g_c+I1), s	4.6	18.0		5.1	7.7	11.5		17.7
Green Ext Time (p_c), s	0.3	4.3		0.3	0.1	5.6		1.8

Intersection Summary			
HCM 6th Ctrl Delay			35.4
HCM 6th LOS			D

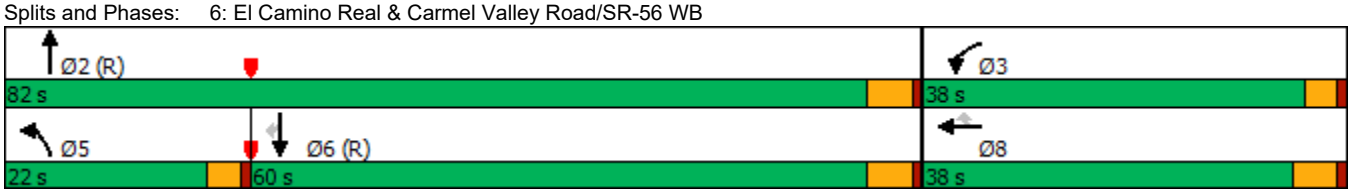
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	302	799	220	222	723	510	614
Future Volume (vph)	302	799	220	222	723	510	614
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	38.0	38.0	38.0	22.0	82.0	60.0	60.0
Total Split (%)	31.7%	31.7%	31.7%	18.3%	68.3%	50.0%	50.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	29.5	28.5	28.5	13.7	81.5	63.8	63.8
Actuated g/C Ratio	0.25	0.24	0.24	0.11	0.68	0.53	0.53
v/c Ratio	0.39	0.72	0.45	0.62	0.33	0.37	0.45
Control Delay	38.6	45.5	9.3	60.6	1.5	3.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	38.6	45.5	9.3	60.6	1.7	3.0	3.8
LOS	D	D	A	E	A	A	A
Approach Delay		37.9			15.5	3.2	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 7 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 84.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	302	799	220	222	723	0	0	510	614
Future Volume (veh/h)	0	0	0	302	799	220	222	723	0	0	510	614
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				328	868	239	241	786	0	0	554	667
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				779	1151	355	302	2486	0	0	2165	1830
Arrive On Green				0.23	0.23	0.23	0.17	1.00	0.00	0.00	0.97	0.97
Sat Flow, veh/h				3456	5106	1575	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				328	868	239	241	786	0	0	554	667
Grp Sat Flow(s),veh/h/ln				1728	1702	1575	1728	1777	0	0	1870	1581
Q Serve(g_s), s				9.7	19.0	16.6	8.0	0.0	0.0	0.0	0.8	1.3
Cycle Q Clear(g_c), s				9.7	19.0	16.6	8.0	0.0	0.0	0.0	0.8	1.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				779	1151	355	302	2486	0	0	2165	1830
V/C Ratio(X)				0.42	0.75	0.67	0.80	0.32	0.00	0.00	0.26	0.36
Avail Cap(c_a), veh/h				979	1447	446	518	2486	0	0	2165	1830
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	1.00	1.00	0.85	0.85	0.00	0.00	0.91	0.91
Uniform Delay (d), s/veh				39.8	43.4	42.4	48.5	0.0	0.0	0.0	0.9	0.9
Incr Delay (d2), s/veh				0.4	1.8	2.8	4.1	0.3	0.0	0.0	0.3	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.0	7.9	6.5	3.3	0.1	0.0	0.0	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.1	45.1	45.2	52.6	0.3	0.0	0.0	1.1	1.4
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1435			1027			1221	
Approach Delay, s/veh					44.0			12.6			1.3	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	88.9		14.5	74.5	31.1
Change Period (Y+Rc), s	5.0		4.0	5.0	4.0
Max Green Setting (Gmax), s	77.0		18.0	55.0	34.0
Max Q Clear Time (g_c+I1), s	2.0		10.0	3.3	21.0
Green Ext Time (p_c), s	5.8		0.5	7.5	6.0

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

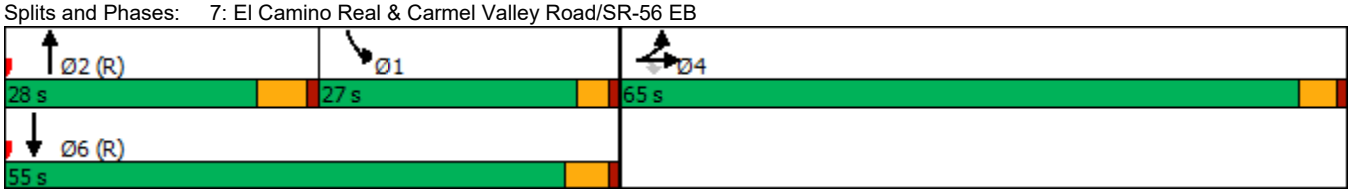
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	593	732	216	359	148	663
Future Volume (vph)	593	732	216	359	148	663
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	65.0	65.0	65.0	28.0	27.0	55.0
Total Split (%)	54.2%	54.2%	54.2%	23.3%	22.5%	45.8%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	51.1	51.1	51.1	31.9	23.0	59.4
Actuated g/C Ratio	0.43	0.43	0.43	0.27	0.19	0.50
v/c Ratio	0.70	0.73	0.32	0.37	0.47	0.29
Control Delay	33.1	31.6	10.8	31.4	32.9	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	33.1	31.6	10.8	31.4	32.9	9.6
LOS	C	C	B	C	C	A
Approach Delay		29.4		31.4		13.9
Approach LOS		C		C		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 25.5	Intersection LOS: C
Intersection Capacity Utilization 84.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	593	732	216	0	0	0	0	359	210	148	663	0
Future Volume (veh/h)	593	732	216	0	0	0	0	359	210	148	663	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	430	1096	235				0	390	228	161	721	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	664	1395	589				0	905	295	560	2797	0
Arrive On Green	0.37	0.37	0.37				0.00	0.19	0.19	0.10	0.18	0.00
Sat Flow, veh/h	1781	3741	1579				0	5087	1572	1781	5274	0
Grp Volume(v), veh/h	430	1096	235				0	390	228	161	721	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1579				0	1609	1572	1781	1702	0
Q Serve(g_s), s	23.9	31.2	13.2				0.0	8.6	16.5	10.0	14.6	0.0
Cycle Q Clear(g_c), s	23.9	31.2	13.2				0.0	8.6	16.5	10.0	14.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	664	1395	589				0	905	295	560	2797	0
V/C Ratio(X)	0.65	0.79	0.40				0.00	0.43	0.77	0.29	0.26	0.00
Avail Cap(c_a), veh/h	898	1886	796				0	905	295	560	2797	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	31.1	33.4	27.7				0.0	43.1	46.3	41.3	28.2	0.0
Incr Delay (d2), s/veh	1.1	1.6	0.4				0.0	1.5	17.7	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	13.9	4.9				0.0	3.4	7.7	4.6	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	35.0	28.2				0.0	44.6	64.1	41.6	28.4	0.0
LnGrp LOS	C	C	C				A	D	E	D	C	A
Approach Vol, veh/h		1761						618			882	
Approach Delay, s/veh		33.4						51.8			30.8	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	42.7	28.0		49.3		70.7
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	23.0	* 23		60.5		50.0
Max Q Clear Time (g_c+I1), s	12.0	18.5		33.2		16.6
Green Ext Time (p_c), s	0.3	1.3		11.6		5.0

Intersection Summary			
HCM 6th Ctrl Delay			36.2
HCM 6th LOS			D

Notes

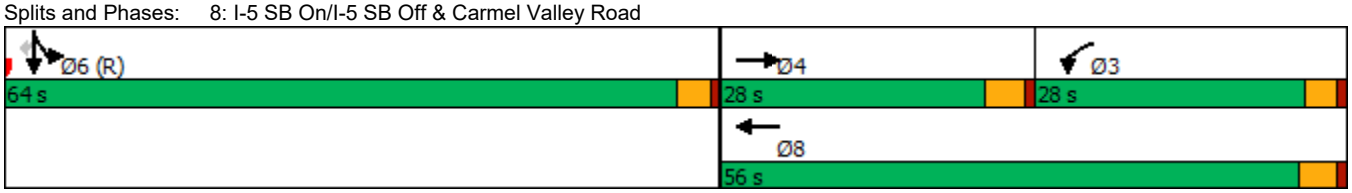
User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	261	395	580	895	3	113
Future Volume (vph)	261	395	580	895	3	113
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	56.0	64.0	64.0	64.0
Total Split (%)	23.3%	23.3%	46.7%	53.3%	53.3%	53.3%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	18.5	19.9	42.5	69.0	69.0	69.0
Actuated g/C Ratio	0.15	0.17	0.35	0.58	0.58	0.58
v/c Ratio	0.77	0.75	0.50	0.51	0.53	0.12
Control Delay	47.0	32.7	9.8	19.2	19.7	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	32.7	9.8	19.2	19.7	3.1
LOS	D	C	A	B	B	A
Approach Delay	47.0		19.0		17.8	
Approach LOS	D		B		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 23.4	Intersection LOS: C
Intersection Capacity Utilization 76.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	261	162	395	580	0	0	0	0	895	3	113
Future Volume (veh/h)	0	261	162	395	580	0	0	0	0	895	3	113
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	284	176	429	630	0				1012	0	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	342	206	503	1223	0				2084	0	925
Arrive On Green	0.00	0.16	0.16	0.15	0.34	0.00				0.59	0.00	0.59
Sat Flow, veh/h	0	2219	1277	3456	3647	0				3563	0	1581
Grp Volume(v), veh/h	0	236	224	429	630	0				1012	0	83
Grp Sat Flow(s),veh/h/ln	0	1777	1626	1728	1777	0				1781	0	1581
Q Serve(g_s), s	0.0	15.4	16.1	14.5	17.0	0.0				19.8	0.0	2.8
Cycle Q Clear(g_c), s	0.0	15.4	16.1	14.5	17.0	0.0				19.8	0.0	2.8
Prop In Lane	0.00		0.79	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	286	262	503	1223	0				2084	0	925
V/C Ratio(X)	0.00	0.82	0.86	0.85	0.52	0.00				0.49	0.00	0.09
Avail Cap(c_a), veh/h	0	348	318	691	1525	0				2084	0	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.76	0.76	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	48.7	49.0	50.0	31.4	0.0				14.4	0.0	10.9
Incr Delay (d2), s/veh	0.0	12.6	17.3	5.8	0.3	0.0				0.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.7	7.7	6.6	7.1	0.0				8.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	61.3	66.2	55.8	31.6	0.0				15.2	0.0	11.1
LnGrp LOS	A	E	E	E	C	A				B	A	B
Approach Vol, veh/h		460			1059						1095	
Approach Delay, s/veh		63.7			41.4						14.9	
Approach LOS		E			D						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		22.0	23.8		74.2		45.8					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		24.0	* 24		60.0		51.5					
Max Q Clear Time (g_c+I1), s		16.5	18.1		21.8		19.0					
Green Ext Time (p_c), s		0.9	1.2		4.9		4.4					

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

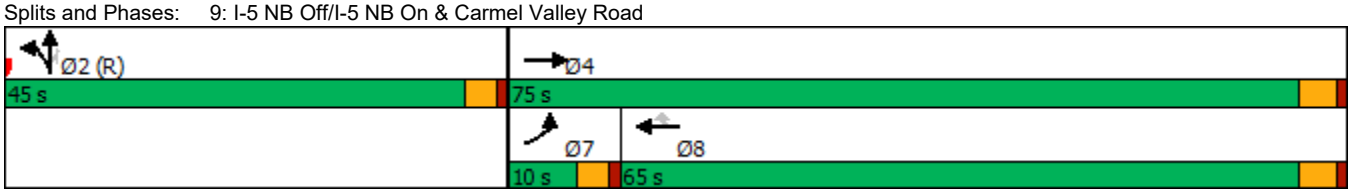
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	65	1093	877	755	95	0	633
Future Volume (vph)	65	1093	877	755	95	0	633
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	75.0	65.0	65.0	45.0	45.0	45.0
Total Split (%)	8.3%	62.5%	54.2%	54.2%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.0	57.7	49.7	49.7	53.8	53.8	53.8
Actuated g/C Ratio	0.05	0.48	0.41	0.41	0.45	0.45	0.45
v/c Ratio	0.42	0.70	0.65	0.73	0.12	0.51	0.50
Control Delay	56.3	21.0	22.8	20.1	23.2	24.1	23.7
Queue Delay	0.0	0.3	0.2	2.0	0.0	0.0	0.0
Total Delay	56.3	21.3	23.0	22.1	23.2	24.1	23.7
LOS	E	C	C	C	C	C	C
Approach Delay		23.3	22.6			23.8	
Approach LOS		C	C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 23.1	Intersection LOS: C
Intersection Capacity Utilization 76.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1093	0	0	877	755	95	0	633	0	0	0
Future Volume (veh/h)	65	1093	0	0	877	755	95	0	633	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	71	1188	0	0	953	821	69	0	725			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	130	2044	0	0	1792	797	630	0	1117			
Arrive On Green	0.04	0.58	0.00	0.00	0.50	0.50	0.35	0.00	0.35			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3157			
Grp Volume(v), veh/h	71	1188	0	0	953	821	69	0	725			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	2.4	25.6	0.0	0.0	21.8	60.5	3.1	0.0	23.1			
Cycle Q Clear(g_c), s	2.4	25.6	0.0	0.0	21.8	60.5	3.1	0.0	23.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	130	2044	0	0	1792	797	630	0	1117			
V/C Ratio(X)	0.54	0.58	0.00	0.00	0.53	1.03	0.11	0.00	0.65			
Avail Cap(c_a), veh/h	173	2088	0	0	1792	797	630	0	1117			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.73	0.73	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	56.7	16.3	0.0	0.0	20.2	29.8	26.1	0.0	32.5			
Incr Delay (d2), s/veh	2.6	0.3	0.0	0.0	0.2	33.8	0.4	0.0	2.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	9.7	0.0	0.0	8.6	28.7	1.4	0.0	9.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	16.5	0.0	0.0	20.4	63.6	26.4	0.0	35.4			
LnGrp LOS	E	B	A	A	C	F	C	A	D			
Approach Vol, veh/h		1259			1774			794				
Approach Delay, s/veh		19.0			40.4			34.7				
Approach LOS		B			D			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		46.5		73.5			8.5	65.0				
Change Period (Y+Rc), s		4.0		4.5			4.0	4.5				
Max Green Setting (Gmax), s		41.0		70.5			6.0	60.5				
Max Q Clear Time (g_c+I1), s		25.1		27.6			4.4	62.5				
Green Ext Time (p_c), s		3.1		10.7			0.0	0.0				

Intersection Summary			
HCM 6th Ctrl Delay			32.1
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	19	89	1633	1583
Future Volume (vph)	19	89	1633	1583
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	14.0	93.0	79.0
Total Split (%)	22.5%	11.7%	77.5%	65.8%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	37.6	9.5	73.9	60.4
Actuated g/C Ratio	0.31	0.08	0.62	0.50
v/c Ratio	0.11	0.69	0.57	0.70
Control Delay	16.7	79.0	8.8	16.7
Queue Delay	0.0	0.0	0.2	0.1
Total Delay	16.7	79.0	9.1	16.8
LOS	B	E	A	B
Approach Delay	16.7		12.7	16.8
Approach LOS	B		B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 62.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	19	35	89	1633	1583	50
Future Volume (veh/h)	19	35	89	1633	1583	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	38	97	1775	1721	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	225	408	121	2781	2255	71
Arrive On Green	0.38	0.38	0.07	0.54	0.44	0.44
Sat Flow, veh/h	586	1061	1781	5274	5253	159
Grp Volume(v), veh/h	60	0	97	1775	1152	623
Grp Sat Flow(s),veh/h/ln	1675	0	1781	1702	1702	1841
Q Serve(g_s), s	2.7	0.0	6.4	29.1	34.2	34.2
Cycle Q Clear(g_c), s	2.7	0.0	6.4	29.1	34.2	34.2
Prop In Lane	0.35	0.63	1.00			0.09
Lane Grp Cap(c), veh/h	644	0	121	2781	1510	816
V/C Ratio(X)	0.09	0.00	0.80	0.64	0.76	0.76
Avail Cap(c_a), veh/h	644	0	148	3766	2113	1143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.71	0.71	1.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	55.1	19.1	28.1	28.1
Incr Delay (d2), s/veh	0.3	0.0	16.6	0.2	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	3.4	10.8	13.5	14.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.9	0.0	71.8	19.3	29.2	30.1
LnGrp LOS	C	A	E	B	C	C
Approach Vol, veh/h	60			1872	1775	
Approach Delay, s/veh	23.9			22.0	29.5	
Approach LOS	C			C	C	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		69.8		50.2	12.1	57.7
Change Period (Y+Rc), s		4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		88.5		23.0	10.0	74.5
Max Q Clear Time (g_c+I1), s		31.1		4.7	8.4	36.2
Green Ext Time (p_c), s		21.1		0.1	0.0	17.0

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

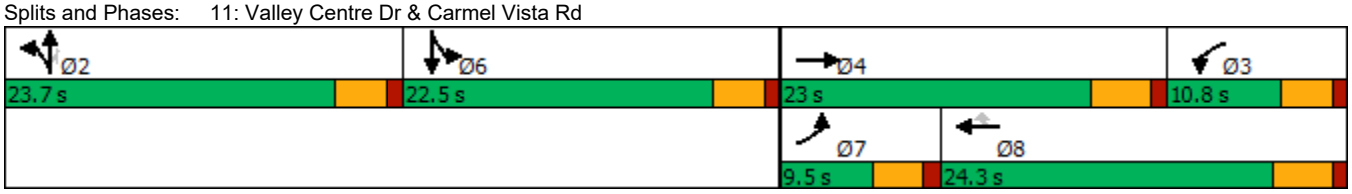
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	25	165	51	438	63	56	9	12	44	17
Future Volume (vph)	25	165	51	438	63	56	9	12	44	17
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	23.0	10.8	24.3	24.3	23.7	23.7	23.7	22.5	22.5
Total Split (%)	11.9%	28.8%	13.5%	30.4%	30.4%	29.6%	29.6%	29.6%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.9	11.2	7.6	14.7	14.7	21.1	21.1	21.1	8.6	8.6
Actuated g/C Ratio	0.10	0.19	0.13	0.25	0.25	0.36	0.36	0.36	0.15	0.15
v/c Ratio	0.15	0.38	0.24	0.53	0.14	0.06	0.06	0.02	0.18	0.32
Control Delay	32.8	17.1	30.5	22.7	1.7	19.1	19.1	0.1	26.4	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	17.1	30.5	22.7	1.7	19.1	19.1	0.1	26.4	12.2
LOS	C	B	C	C	A	B	B	A	C	B
Approach Delay		18.5		21.0			16.2			16.7
Approach LOS		B		C			B			B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 57.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 35.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	87	51	438	63	56	9	12	44	17	76
Future Volume (veh/h)	25	165	87	51	438	63	56	9	12	44	17	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	179	95	55	476	68	68	0	13	48	18	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	308	156	162	726	324	1299	0	578	169	28	127
Arrive On Green	0.03	0.13	0.13	0.09	0.20	0.20	0.36	0.00	0.36	0.09	0.09	0.09
Sat Flow, veh/h	1781	2282	1157	1781	3554	1585	3563	0	1585	1781	290	1339
Grp Volume(v), veh/h	27	138	136	55	476	68	68	0	13	48	0	101
Grp Sat Flow(s),veh/h/ln	1781	1777	1662	1781	1777	1585	1781	0	1585	1781	0	1629
Q Serve(g_s), s	0.8	3.9	4.2	1.6	6.6	1.9	0.7	0.0	0.3	1.4	0.0	3.2
Cycle Q Clear(g_c), s	0.8	3.9	4.2	1.6	6.6	1.9	0.7	0.0	0.3	1.4	0.0	3.2
Prop In Lane	1.00		0.70	1.00		1.00	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	55	240	224	162	726	324	1299	0	578	169	0	155
V/C Ratio(X)	0.49	0.57	0.61	0.34	0.66	0.21	0.05	0.00	0.02	0.28	0.00	0.65
Avail Cap(c_a), veh/h	181	608	569	224	1302	581	1299	0	578	610	0	558
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.8	21.9	22.0	23.0	19.8	17.9	11.1	0.0	11.0	22.7	0.0	23.6
Incr Delay (d2), s/veh	6.7	2.2	2.7	1.2	1.0	0.3	0.1	0.0	0.1	0.9	0.0	4.6
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	0.4	1.6	1.6	0.6	2.5	0.6	0.2	0.0	0.1	0.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	24.1	24.7	24.3	20.8	18.2	11.2	0.0	11.1	23.7	0.0	28.2
LnGrp LOS	C	C	C	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h		301			599			81			149	
Approach Delay, s/veh		25.1			20.8			11.2			26.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.7	9.4	11.8		9.1	5.7	15.5				
Change Period (Y+Rc), s		4.0	4.5	* 4.5		4.0	4.0	4.5				
Max Green Setting (Gmax), s		19.7	6.8	* 19		18.5	5.5	19.8				
Max Q Clear Time (g_c+I1), s		2.7	3.6	6.2		5.2	2.8	8.6				
Green Ext Time (p_c), s		0.2	0.0	1.1		0.5	0.0	2.4				

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

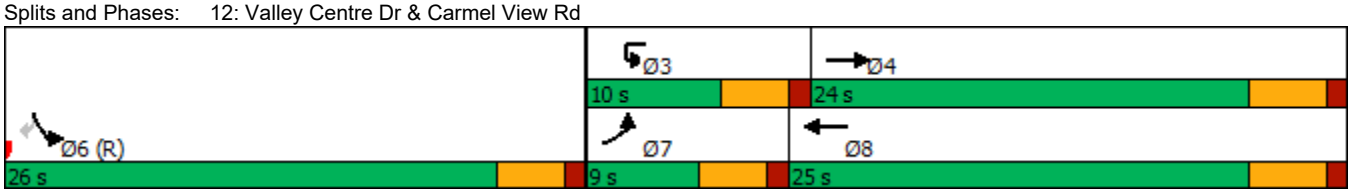
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	18	196	2	424	86	129
Future Volume (vph)	18	196	2	424	86	129
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	9.0	24.0	10.0	25.0	26.0	26.0
Total Split (%)	15.0%	40.0%	16.7%	41.7%	43.3%	43.3%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	5.0	13.7	5.6	13.9	35.8	35.8
Actuated g/C Ratio	0.08	0.23	0.09	0.23	0.60	0.60
v/c Ratio	0.14	0.26	0.01	0.59	0.09	0.14
Control Delay	27.8	18.9	24.5	22.6	7.9	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	18.9	24.5	22.6	7.9	2.7
LOS	C	B	C	C	A	A
Approach Delay		19.7		22.6	4.8	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 2 (3%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 17.5	Intersection LOS: B
Intersection Capacity Utilization 37.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	18	196	2	424	24	86	129
Future Volume (veh/h)	18	196	2	424	24	86	129
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	20	213		461	26	93	140
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	42	1034		686	39	1011	899
Arrive On Green	0.02	0.29		0.20	0.20	0.57	0.57
Sat Flow, veh/h	1781	3647		3511	192	1781	1585
Grp Volume(v), veh/h	20	213		239	248	93	140
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1833	1781	1585
Q Serve(g_s), s	0.7	2.7		7.5	7.5	1.4	2.5
Cycle Q Clear(g_c), s	0.7	2.7		7.5	7.5	1.4	2.5
Prop In Lane	1.00				0.10	1.00	1.00
Lane Grp Cap(c), veh/h	42	1034		356	368	1011	899
V/C Ratio(X)	0.48	0.21		0.67	0.67	0.09	0.16
Avail Cap(c_a), veh/h	148	1155		607	626	1011	899
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	16.0		22.2	22.2	5.9	6.2
Incr Delay (d2), s/veh	7.7	0.1		2.2	2.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0		3.0	3.1	0.5	3.4
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	36.6	16.1		24.3	24.3	6.1	6.5
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		233		487		233	
Approach Delay, s/veh		17.9		24.3		6.4	
Approach LOS		B		C		A	

Timer - Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				22.0		38.0	5.4	16.5
Change Period (Y+Rc), s				4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s				19.5		22.0	5.0	20.5
Max Q Clear Time (g_c+I1), s				4.7		4.5	2.7	9.5
Green Ext Time (p_c), s				1.0		0.6	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

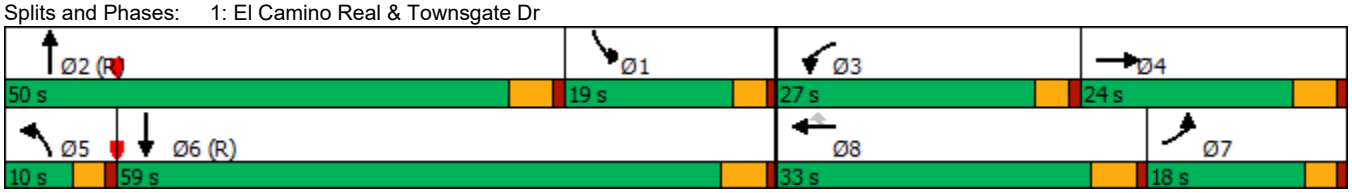
Notes

User approved ignoring U-Turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	73	23	153	2	75	10	902	86	309
Future Volume (vph)	73	23	153	2	75	10	902	86	309
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	18.0	24.0	27.0	33.0	33.0	10.0	50.0	19.0	59.0
Total Split (%)	15.0%	20.0%	22.5%	27.5%	27.5%	8.3%	41.7%	15.8%	49.2%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	14.0	19.0	23.0	28.0	28.0	6.0	45.0	15.0	54.0
Actuated g/C Ratio	0.12	0.16	0.19	0.23	0.23	0.05	0.38	0.12	0.45
v/c Ratio	0.38	0.20	0.49	0.00	0.17	0.12	0.65	0.42	0.15
Control Delay	55.0	24.7	48.9	35.5	0.9	56.3	21.9	55.0	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	24.7	48.9	35.5	0.9	56.3	21.9	55.0	19.6
LOS	D	C	D	D	A	E	C	D	B
Approach Delay		42.2		33.0			22.2		27.2
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 16 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 25.9	Intersection LOS: C
Intersection Capacity Utilization 54.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	23	30	153	2	75	10	902	224	86	309	4
Future Volume (veh/h)	73	23	30	153	2	75	10	902	224	86	309	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	25	33	166	2	82	11	980	243	93	336	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	120	158	336	429	364	88	1506	373	219	2345	28
Arrive On Green	0.11	0.16	0.16	0.19	0.23	0.23	0.10	0.74	0.74	0.12	0.45	0.45
Sat Flow, veh/h	1781	731	965	1781	1870	1585	1781	4082	1010	1781	5202	62
Grp Volume(v), veh/h	79	0	58	166	2	82	11	817	406	93	220	120
Grp Sat Flow(s),veh/h/ln	1781	0	1697	1781	1870	1585	1781	1702	1689	1781	1702	1859
Q Serve(g_s), s	5.0	0.0	3.6	10.2	0.1	5.1	0.7	14.8	14.8	5.9	4.6	4.6
Cycle Q Clear(g_c), s	5.0	0.0	3.6	10.2	0.1	5.1	0.7	14.8	14.8	5.9	4.6	4.6
Prop In Lane	1.00		0.57	1.00		1.00	1.00		0.60	1.00		0.03
Lane Grp Cap(c), veh/h	204	0	278	336	429	364	88	1256	623	219	1535	838
V/C Ratio(X)	0.39	0.00	0.21	0.49	0.00	0.23	0.13	0.65	0.65	0.42	0.14	0.14
Avail Cap(c_a), veh/h	204	0	278	336	429	364	88	1256	623	219	1535	838
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	44.1	44.3	36.3	38.2	52.6	12.0	12.0	49.5	19.7	19.7
Incr Delay (d2), s/veh	5.4	0.0	1.7	5.1	0.0	1.4	2.9	2.6	5.2	5.9	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.7	5.0	0.0	2.2	0.4	3.8	4.3	2.9	1.8	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	0.0	45.8	49.4	36.3	39.6	55.5	14.7	17.3	55.4	19.9	20.0
LnGrp LOS	E	A	D	D	D	D	E	B	B	E	B	C
Approach Vol, veh/h		137			250			1234			433	
Approach Delay, s/veh		51.4			46.1			15.9			27.5	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	50.0	27.0	25.0	10.0	60.0	19.0	33.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	15.0	* 45	23.0	19.0	6.0	54.0	14.0	* 28
Max Q Clear Time (g_c+I1), s	7.9	16.8	12.2	5.6	2.7	6.6	7.0	7.1
Green Ext Time (p_c), s	0.1	8.9	0.3	0.2	0.0	2.0	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

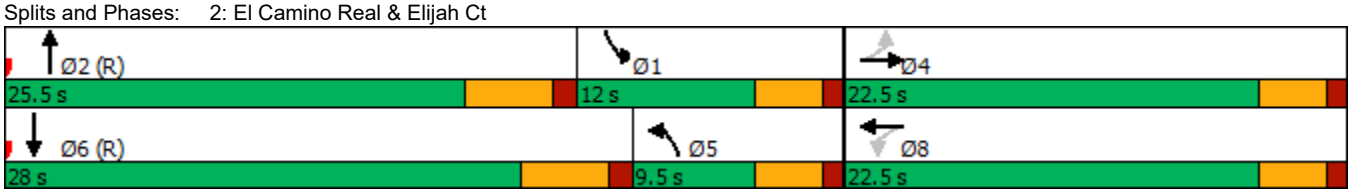
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	0	33	1	13	1074	97	428
Future Volume (vph)	10	0	33	1	13	1074	97	428
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	9.5	25.5	12.0	28.0
Total Split (%)	37.5%	37.5%	37.5%	37.5%	15.8%	42.5%	20.0%	46.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	18.5	18.5	18.5	18.5	5.5	20.5	8.0	23.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.09	0.34	0.13	0.38
v/c Ratio	0.03	0.01	0.08	0.11	0.09	0.72	0.44	0.24
Control Delay	14.8	0.0	15.5	5.8	29.5	19.9	22.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	0.0	15.5	5.8	29.5	19.9	22.2	7.8
LOS	B	A	B	A	C	B	C	A
Approach Delay		10.9		9.5		20.0		10.5
Approach LOS		B		A		C		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 47.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	4	33	1	52	13	1074	78	97	428	4
Future Volume (veh/h)	10	0	4	33	1	52	13	1074	78	97	428	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	0	4	36	1	57	14	1167	85	105	465	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	500	0	489	553	8	482	163	1660	121	238	2002	17
Arrive On Green	0.31	0.00	0.31	0.31	0.31	0.31	0.03	0.11	0.11	0.27	0.77	0.77
Sat Flow, veh/h	1345	0	1585	1412	27	1562	1781	4857	354	1781	5221	45
Grp Volume(v), veh/h	11	0	4	36	0	58	14	818	434	105	303	166
Grp Sat Flow(s),veh/h/ln	1345	0	1585	1412	0	1589	1781	1702	1807	1781	1702	1862
Q Serve(g_s), s	0.4	0.0	0.1	1.1	0.0	1.6	0.5	13.9	13.9	2.9	1.5	1.5
Cycle Q Clear(g_c), s	1.9	0.0	0.1	1.2	0.0	1.6	0.5	13.9	13.9	2.9	1.5	1.5
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.20	1.00		0.02
Lane Grp Cap(c), veh/h	500	0	489	553	0	490	163	1163	617	238	1305	714
V/C Ratio(X)	0.02	0.00	0.01	0.07	0.00	0.12	0.09	0.70	0.70	0.44	0.23	0.23
Avail Cap(c_a), veh/h	500	0	489	553	0	490	163	1163	617	238	1305	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	14.4	14.8	0.0	14.9	26.6	23.7	23.7	20.1	4.5	4.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.5	1.0	3.6	6.6	5.9	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.4	0.0	0.6	0.2	6.6	7.5	1.4	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	14.4	15.0	0.0	15.4	27.7	27.3	30.3	26.0	4.9	5.3
LnGrp LOS	B	A	B	B	A	B	C	C	C	C	A	A
Approach Vol, veh/h		15			94			1266			574	
Approach Delay, s/veh		15.3			15.3			28.3			8.9	
Approach LOS		B			B			C			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	25.5		22.5	9.5	28.0		22.5
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	8.0	20.5		18.5	5.5	23.0		18.5
Max Q Clear Time (g_c+I1), s	4.9	15.9		3.9	2.5	3.5		3.6
Green Ext Time (p_c), s	0.1	2.9		0.0	0.0	2.5		0.3

Intersection Summary		
HCM 6th Ctrl Delay		21.8
HCM 6th LOS		C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	58	167	344	54	99	179	1014	64	384
Future Volume (vph)	58	167	344	54	99	179	1014	64	384
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	18.0	33.0	35.0	13.0	28.0	35.0	55.0	19.0	39.0
Total Split (%)	15.0%	27.5%	29.2%	10.8%	23.3%	29.2%	45.8%	15.8%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.6	17.0	29.4	22.2	15.4	12.4	71.9	10.1	67.6
Actuated g/C Ratio	0.08	0.14	0.24	0.18	0.13	0.10	0.60	0.08	0.56
v/c Ratio	0.45	0.69	0.67	0.29	0.46	0.55	0.38	0.47	0.16
Control Delay	61.8	62.1	18.3	37.6	23.3	54.2	10.5	58.6	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	62.1	18.3	37.6	23.3	54.2	10.5	58.6	6.9
LOS	E	E	B	D	C	D	B	E	A
Approach Delay		35.6			26.0		16.9		13.9
Approach LOS		D			C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 24 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 52.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	167	344	54	99	128	179	1014	46	64	384	25
Future Volume (veh/h)	58	167	344	54	99	128	179	1014	46	64	384	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	182	374	59	108	139	195	1102	50	70	417	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	438	489	254	400	354	261	2690	122	89	2511	161
Arrive On Green	0.05	0.23	0.23	0.04	0.22	0.22	0.15	1.00	1.00	0.10	1.00	1.00
Sat Flow, veh/h	1781	1870	1575	1781	1777	1574	3456	5005	227	1781	4903	314
Grp Volume(v), veh/h	63	182	374	59	108	139	195	749	403	70	288	156
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1777	1574	1728	1702	1828	1781	1702	1813
Q Serve(g_s), s	4.2	9.9	25.8	3.0	6.0	9.0	6.5	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	4.2	9.9	25.8	3.0	6.0	9.0	6.5	0.0	0.0	4.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.17
Lane Grp Cap(c), veh/h	82	438	489	254	400	354	261	1829	982	89	1743	928
V/C Ratio(X)	0.77	0.42	0.77	0.23	0.27	0.39	0.75	0.41	0.41	0.78	0.17	0.17
Avail Cap(c_a), veh/h	208	452	500	323	400	354	893	1829	982	223	1743	928
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	0.98	0.98	0.98
Uniform Delay (d), s/veh	56.6	39.0	37.5	34.2	38.4	39.5	49.9	0.0	0.0	53.3	0.0	0.0
Incr Delay (d2), s/veh	14.3	0.6	6.8	0.5	0.4	0.7	4.0	0.6	1.2	13.5	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.6	10.6	1.3	2.6	3.5	2.7	0.2	0.3	2.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	39.6	44.3	34.7	38.7	40.2	53.9	0.6	1.2	66.8	0.2	0.4
LnGrp LOS	E	D	D	C	D	D	D	A	A	E	A	A
Approach Vol, veh/h		619			306			1347			514	
Approach Delay, s/veh		45.6			38.6			8.5			9.3	
Approach LOS		D			D			A			A	

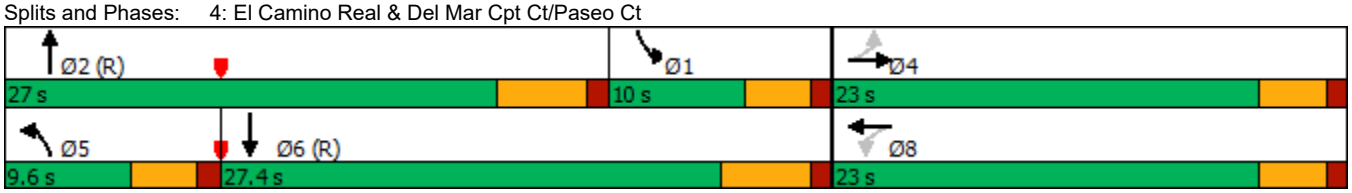
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	69.5	8.4	32.1	13.1	66.5	9.5	31.0
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	50.0	9.0	29.0	31.0	34.0	14.0	24.0
Max Q Clear Time (g_c+I1), s	6.6	2.0	5.0	27.8	8.5	2.0	6.2	11.0
Green Ext Time (p_c), s	0.1	8.8	0.0	0.3	0.6	2.6	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	31	0	52	2	14	1167	6	770
Future Volume (vph)	31	0	52	2	14	1167	6	770
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	9.6	27.0	10.0	27.4
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.0%	45.0%	16.7%	45.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.5	9.5	9.5	9.5	6.0	42.4	5.7	42.3
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.10	0.71	0.10	0.70
v/c Ratio	0.16	0.15	0.28	0.18	0.09	0.36	0.04	0.23
Control Delay	21.1	0.6	23.5	8.0	35.1	4.0	27.8	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	0.6	23.5	8.0	35.1	4.0	27.8	5.3
LOS	C	A	C	A	D	A	C	A
Approach Delay		7.0		16.1		4.4		5.5
Approach LOS		A		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 30 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.36	
Intersection Signal Delay: 5.5	Intersection LOS: A
Intersection Capacity Utilization 40.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	69	52	2	47	14	1167	13	6	770	4
Future Volume (veh/h)	31	0	69	52	2	47	14	1167	13	6	770	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	0	75	57	2	51	15	1268	14	7	837	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	0	211	240	8	204	33	1909	21	473	3306	16
Arrive On Green	0.13	0.00	0.13	0.13	0.13	0.13	0.04	0.73	0.73	0.53	1.00	1.00
Sat Flow, veh/h	1339	0	1567	1313	60	1518	1781	5206	57	1781	5245	25
Grp Volume(v), veh/h	34	0	75	57	0	53	15	829	453	7	543	298
Grp Sat Flow(s),veh/h/ln	1339	0	1567	1313	0	1577	1781	1702	1860	1781	1702	1866
Q Serve(g_s), s	1.4	0.0	2.6	2.5	0.0	1.8	0.5	7.6	7.6	0.1	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	2.6	5.1	0.0	1.8	0.5	7.6	7.6	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		0.03	1.00		0.01
Lane Grp Cap(c), veh/h	260	0	211	240	0	212	33	1248	682	473	2146	1176
V/C Ratio(X)	0.13	0.00	0.36	0.24	0.00	0.25	0.46	0.66	0.66	0.01	0.25	0.25
Avail Cap(c_a), veh/h	504	0	496	479	0	499	166	1248	682	473	2146	1176
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	0.93	0.93	0.93
Uniform Delay (d), s/veh	24.7	0.0	23.6	25.9	0.0	23.3	28.6	6.1	6.1	10.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.0	0.5	0.0	0.6	8.6	2.5	4.5	0.0	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	0.8	0.0	0.7	0.3	1.8	2.3	0.0	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	0.0	24.6	26.4	0.0	23.9	37.2	8.6	10.6	10.4	0.3	0.5
LnGrp LOS	C	A	C	C	A	C	D	A	B	B	A	A
Approach Vol, veh/h		109			110			1297			848	
Approach Delay, s/veh		24.7			25.2			9.6			0.4	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.9	27.0		12.1	5.1	42.8		12.1
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	6.0	* 22		19.0	5.6	22.4		19.0
Max Q Clear Time (g_c+I1), s	2.1	9.6		5.2	2.5	2.0		7.1
Green Ext Time (p_c), s	0.0	6.2		0.4	0.0	4.9		0.3

Intersection Summary		
HCM 6th Ctrl Delay		7.7
HCM 6th LOS		A

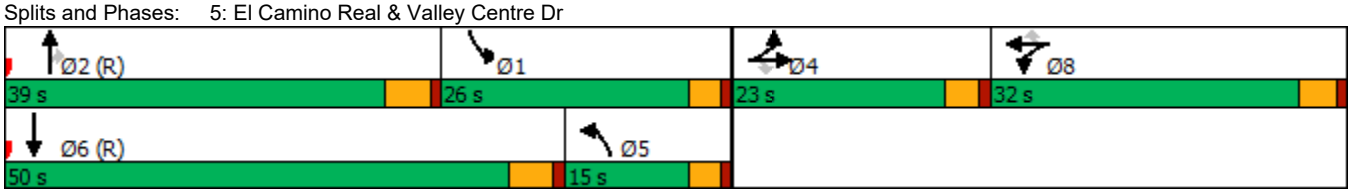
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	96	52	83	353	21	157	91	851	296	165	939
Future Volume (vph)	96	52	83	353	21	157	91	851	296	165	939
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	32.0	32.0	32.0	15.0	39.0	39.0	26.0	50.0
Total Split (%)	19.2%	19.2%	19.2%	26.7%	26.7%	26.7%	12.5%	32.5%	32.5%	21.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	11.9	11.9	11.9	21.3	21.3	21.3	10.1	48.2	48.2	21.1	59.2
Actuated g/C Ratio	0.10	0.10	0.10	0.18	0.18	0.18	0.08	0.40	0.40	0.18	0.49
v/c Ratio	0.52	0.53	0.28	0.71	0.74	0.40	0.66	0.45	0.41	0.58	0.43
Control Delay	61.4	58.2	2.6	58.9	61.2	9.1	68.6	15.4	3.7	49.6	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	58.2	2.6	58.9	61.2	9.1	68.6	15.4	3.7	49.6	23.2
LOS	E	E	A	E	E	A	E	B	A	D	C
Approach Delay		42.2			46.5			16.5			27.0
Approach LOS		D			D			B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 114 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 27.3	Intersection LOS: C
Intersection Capacity Utilization 55.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	52	83	353	21	157	91	851	296	165	939	52
Future Volume (veh/h)	96	52	83	353	21	157	91	851	296	165	939	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	92	79	446	0	122	99	925	322	179	1021	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	147	122	539	0	237	444	1447	447	607	1855	103
Arrive On Green	0.08	0.08	0.08	0.15	0.00	0.15	0.50	0.57	0.57	0.68	0.75	0.75
Sat Flow, veh/h	1781	1870	1555	3563	0	1569	1781	5106	1577	1781	4947	276
Grp Volume(v), veh/h	86	92	79	446	0	122	99	925	322	179	702	376
Grp Sat Flow(s),veh/h/ln	1781	1870	1555	1781	0	1569	1781	1702	1577	1781	1702	1819
Q Serve(g_s), s	5.6	5.7	5.9	14.6	0.0	8.6	3.8	14.8	18.0	4.8	10.5	10.6
Cycle Q Clear(g_c), s	5.6	5.7	5.9	14.6	0.0	8.6	3.8	14.8	18.0	4.8	10.5	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	140	147	122	539	0	237	444	1447	447	607	1277	682
V/C Ratio(X)	0.61	0.63	0.65	0.83	0.00	0.51	0.22	0.64	0.72	0.29	0.55	0.55
Avail Cap(c_a), veh/h	282	296	246	816	0	360	444	1447	447	607	1277	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.00	0.93	0.86	0.86	0.86	0.98	0.98	0.98
Uniform Delay (d), s/veh	53.5	53.6	53.7	49.4	0.0	46.9	23.5	21.8	22.5	13.3	10.7	10.7
Incr Delay (d2), s/veh	4.3	4.3	5.6	4.1	0.0	1.6	0.2	1.9	8.4	0.3	1.7	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.9	2.5	6.7	0.0	3.4	1.5	4.5	5.6	1.7	2.9	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	57.9	59.3	53.5	0.0	48.5	23.7	23.7	30.9	13.6	12.4	13.8
LnGrp LOS	E	E	E	D	A	D	C	C	C	B	B	B
Approach Vol, veh/h		257			568			1346			1257	
Approach Delay, s/veh		58.3			52.4			25.4			13.0	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	44.9	39.0		13.4	33.9	50.0		22.7
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	22.0	34.0		19.0	11.0	45.0		27.5
Max Q Clear Time (g_c+I1), s	6.8	20.0		7.9	5.8	12.6		16.6
Green Ext Time (p_c), s	0.4	6.0		0.7	0.1	7.6		1.6

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

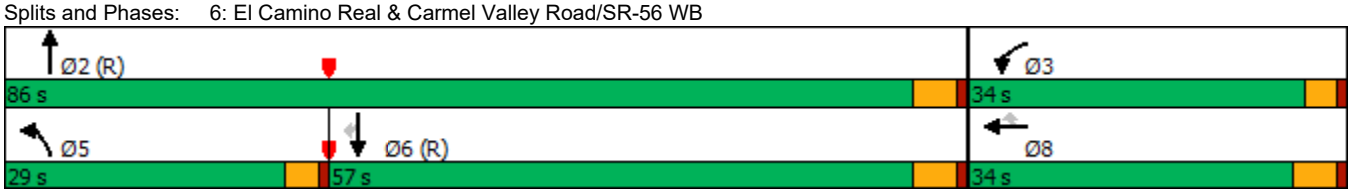
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	185	678	213	354	1125	713	607
Future Volume (vph)	185	678	213	354	1125	713	607
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	34.0	34.0	34.0	29.0	86.0	57.0	57.0
Total Split (%)	28.3%	28.3%	28.3%	24.2%	71.7%	47.5%	47.5%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	25.5	24.5	24.5	18.7	85.5	62.8	62.8
Actuated g/C Ratio	0.21	0.20	0.20	0.16	0.71	0.52	0.52
v/c Ratio	0.28	0.71	0.59	0.72	0.49	0.46	0.45
Control Delay	39.8	48.2	30.6	62.4	1.0	5.4	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	39.8	48.2	30.6	62.4	1.3	5.4	4.5
LOS	D	D	C	E	A	A	A
Approach Delay		43.3			15.9	5.2	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	185	678	213	354	1125	0	0	713	607
Future Volume (veh/h)	0	0	0	185	678	213	354	1125	0	0	713	607
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				201	737	232	385	1223	0	0	775	660
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				671	992	306	452	2597	0	0	2120	1792
Arrive On Green				0.19	0.19	0.19	0.26	1.00	0.00	0.00	1.00	1.00
Sat Flow, veh/h				3456	5106	1573	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				201	737	232	385	1223	0	0	775	660
Grp Sat Flow(s),veh/h/ln				1728	1702	1573	1728	1777	0	0	1870	1581
Q Serve(g_s), s				6.0	16.3	16.7	12.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				6.0	16.3	16.7	12.7	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				671	992	306	452	2597	0	0	2120	1792
V/C Ratio(X)				0.30	0.74	0.76	0.85	0.47	0.00	0.00	0.37	0.37
Avail Cap(c_a), veh/h				864	1277	393	720	2597	0	0	2120	1792
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.59	0.59	0.00	0.00	0.88	0.88
Uniform Delay (d), s/veh				41.4	45.5	45.7	43.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.2	1.7	6.3	3.5	0.4	0.0	0.0	0.4	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.5	6.8	6.8	4.8	0.1	0.0	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.6	47.3	52.0	46.7	0.4	0.0	0.0	0.4	0.5
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1170			1608			1435	
Approach Delay, s/veh					47.2			11.5			0.5	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	92.7		19.7	73.0		27.3
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	81.0		25.0	52.0		30.0
Max Q Clear Time (g_c+I1), s	2.0		14.7	2.0		18.7
Green Ext Time (p_c), s	11.3		1.0	9.9		4.6

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

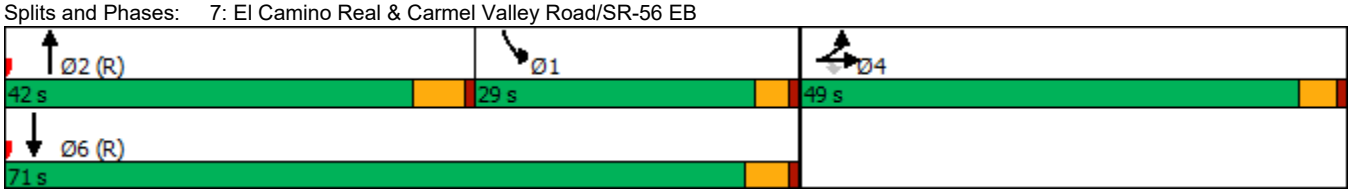
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	439	757	148	1043	224	631
Future Volume (vph)	439	757	148	1043	224	631
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	49.0	49.0	49.0	42.0	29.0	71.0
Total Split (%)	40.8%	40.8%	40.8%	35.0%	24.2%	59.2%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	41.5	41.5	41.5	39.5	25.0	69.0
Actuated g/C Ratio	0.35	0.35	0.35	0.33	0.21	0.58
v/c Ratio	0.76	0.81	0.26	0.73	0.66	0.23
Control Delay	44.5	41.9	7.5	36.9	36.6	3.4
Queue Delay	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	44.5	41.9	7.5	36.9	37.6	3.4
LOS	D	D	A	D	D	A
Approach Delay		39.2		36.9		12.3
Approach LOS		D		D		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 31.9	Intersection LOS: C
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	439	757	148	0	0	0	0	1043	355	224	631	0
Future Volume (veh/h)	439	757	148	0	0	0	0	1043	355	224	631	0
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	318	1046	161				0	1134	386	243	686	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	587	1232	520				0	1468	480	430	3020	0
Arrive On Green	0.33	0.33	0.33				0.00	0.30	0.30	0.08	0.20	0.00
Sat Flow, veh/h	1781	3741	1578				0	5087	1577	1781	5274	0
Grp Volume(v), veh/h	318	1046	161				0	1134	386	243	686	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1578				0	1609	1577	1781	1702	0
Q Serve(g_s), s	17.5	31.2	9.1				0.0	25.7	27.1	15.8	13.6	0.0
Cycle Q Clear(g_c), s	17.5	31.2	9.1				0.0	25.7	27.1	15.8	13.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	587	1232	520				0	1468	480	430	3020	0
V/C Ratio(X)	0.54	0.85	0.31				0.00	0.77	0.80	0.57	0.23	0.00
Avail Cap(c_a), veh/h	661	1387	585				0	1468	480	430	3020	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	32.8	37.4	30.0				0.0	38.0	38.5	49.2	25.2	0.0
Incr Delay (d2), s/veh	0.8	4.7	0.3				0.0	4.0	13.4	1.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	14.6	3.5				0.0	10.1	11.7	7.7	6.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.6	42.2	30.4				0.0	42.0	51.9	50.7	25.4	0.0
LnGrp LOS	C	D	C				A	D	D	D	C	A
Approach Vol, veh/h		1525						1520			929	
Approach Delay, s/veh		39.1						44.5			32.0	
Approach LOS		D						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	42.0		44.0		76.0
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	25.0	* 37		44.5		66.0
Max Q Clear Time (g_c+I1), s	17.8	29.1		33.2		15.6
Green Ext Time (p_c), s	0.4	4.9		6.3		4.9

Intersection Summary		
HCM 6th Ctrl Delay		39.5
HCM 6th LOS		D

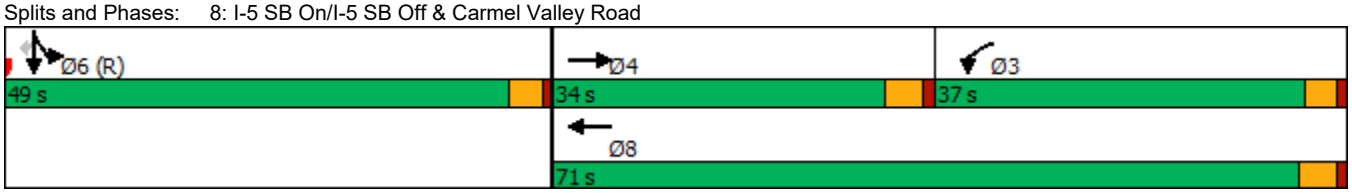
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	417	620	647	626	1	89
Future Volume (vph)	417	620	647	626	1	89
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	34.0	37.0	71.0	49.0	49.0	49.0
Total Split (%)	28.3%	30.8%	59.2%	40.8%	40.8%	40.8%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.6	28.3	56.9	54.6	54.6	54.6
Actuated g/C Ratio	0.20	0.24	0.47	0.46	0.46	0.46
v/c Ratio	0.79	0.83	0.42	0.45	0.47	0.12
Control Delay	51.5	39.0	8.2	26.9	27.3	5.4
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	39.0	8.2	26.9	27.3	5.4
LOS	D	D	A	C	C	A
Approach Delay	51.6		23.3		24.7	
Approach LOS	D		C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 29.6	Intersection LOS: C
Intersection Capacity Utilization 72.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	417	108	620	647	0	0	0	0	626	1	89
Future Volume (veh/h)	0	417	108	620	647	0	0	0	0	626	1	89
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	453	117	674	703	0				711	0	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	537	138	760	1598	0				1708	0	758
Arrive On Green	0.00	0.19	0.19	0.22	0.45	0.00				0.48	0.00	0.48
Sat Flow, veh/h	0	2889	716	3456	3647	0				3563	0	1580
Grp Volume(v), veh/h	0	287	283	674	703	0				711	0	65
Grp Sat Flow(s),veh/h/ln	0	1777	1735	1728	1777	0				1781	0	1580
Q Serve(g_s), s	0.0	18.6	18.9	22.7	16.3	0.0				15.6	0.0	2.7
Cycle Q Clear(g_c), s	0.0	18.6	18.9	22.7	16.3	0.0				15.6	0.0	2.7
Prop In Lane	0.00		0.41	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	341	333	760	1598	0				1708	0	758
V/C Ratio(X)	0.00	0.84	0.85	0.89	0.44	0.00				0.42	0.00	0.09
Avail Cap(c_a), veh/h	0	437	426	950	1969	0				1708	0	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.74	0.74	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.7	46.8	45.3	22.7	0.0				20.3	0.0	17.0
Incr Delay (d2), s/veh	0.0	11.1	12.3	6.6	0.1	0.0				0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.1	9.1	10.2	6.6	0.0				6.6	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	57.7	59.1	51.9	22.8	0.0				21.1	0.0	17.2
LnGrp LOS	A	E	E	D	C	A				C	A	B
Approach Vol, veh/h		570			1377						776	
Approach Delay, s/veh		58.4			37.1						20.7	
Approach LOS		E			D						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		30.9	27.6		61.5		58.5					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		33.0	* 30		45.0		66.5					
Max Q Clear Time (g_c+I1), s		24.7	20.9		17.6		18.3					
Green Ext Time (p_c), s		1.7	2.1		3.1		5.2					

Intersection Summary	
HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

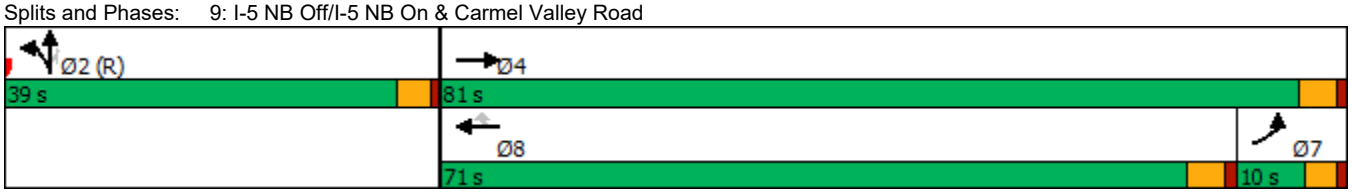
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	38	1005	1028	679	239	7	413
Future Volume (vph)	38	1005	1028	679	239	7	413
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	81.0	71.0	71.0	39.0	39.0	39.0
Total Split (%)	8.3%	67.5%	59.2%	59.2%	32.5%	32.5%	32.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.4	63.8	55.3	55.3	47.7	47.7	47.7
Actuated g/C Ratio	0.05	0.53	0.46	0.46	0.40	0.40	0.40
v/c Ratio	0.22	0.58	0.68	0.66	0.35	0.38	0.37
Control Delay	67.2	20.7	8.2	6.5	30.5	18.2	17.6
Queue Delay	0.0	0.6	0.1	1.5	0.0	0.0	0.0
Total Delay	67.2	21.4	8.4	8.0	30.5	18.2	17.6
LOS	E	C	A	A	C	B	B
Approach Delay		23.0	8.2			22.0	
Approach LOS		C	A			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 15.4	Intersection LOS: B
Intersection Capacity Utilization 72.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1005	0	0	1028	679	239	7	413	0	0	0
Future Volume (veh/h)	38	1005	0	0	1028	679	239	7	413	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	41	1092	0	0	1117	738	176	0	544			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	107	2069	0	0	1826	812	618	0	1095			
Arrive On Green	0.03	0.58	0.00	0.00	0.51	0.51	0.35	0.00	0.35			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3156			
Grp Volume(v), veh/h	41	1092	0	0	1117	738	176	0	544			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	1.4	22.2	0.0	0.0	26.8	51.1	8.6	0.0	16.3			
Cycle Q Clear(g_c), s	1.4	22.2	0.0	0.0	26.8	51.1	8.6	0.0	16.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	107	2069	0	0	1826	812	618	0	1095			
V/C Ratio(X)	0.38	0.53	0.00	0.00	0.61	0.91	0.28	0.00	0.50			
Avail Cap(c_a), veh/h	173	2265	0	0	1969	876	618	0	1095			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	57.0	15.1	0.0	0.0	20.7	26.6	28.4	0.0	30.9			
Incr Delay (d2), s/veh	1.6	0.1	0.0	0.0	0.3	8.9	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			
%ile BackOfQ(50%),veh/ln	0.6	8.4	0.0	0.0	10.6	19.8	3.9	0.0	6.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	15.3	0.0	0.0	21.0	35.5	29.6	0.0	32.5			
LnGrp LOS	E	B	A	A	C	D	C	A	C			
Approach Vol, veh/h		1133			1855			720				
Approach Delay, s/veh		16.8			26.8			31.8				
Approach LOS		B			C			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		45.6		74.4			8.2	66.1				
Change Period (Y+Rc), s		4.0		4.5			4.5	* 4.5				
Max Green Setting (Gmax), s		35.0		76.5			6.0	* 67				
Max Q Clear Time (g_c+I1), s		18.3		24.2			3.4	53.1				
Green Ext Time (p_c), s		2.7		9.7			0.0	8.5				

Intersection Summary												
HCM 6th Ctrl Delay			24.7									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	46	64	1352	1586
Future Volume (vph)	46	64	1352	1586
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	15.0	93.0	78.0
Total Split (%)	22.5%	12.5%	77.5%	65.0%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	39.6	10.1	71.9	59.9
Actuated g/C Ratio	0.33	0.08	0.60	0.50
v/c Ratio	0.26	0.47	0.48	0.70
Control Delay	19.5	61.5	6.7	14.9
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	19.5	61.5	6.8	14.9
LOS	B	E	A	B
Approach Delay	19.5		9.3	14.9
Approach LOS	B		A	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 12.6	Intersection LOS: B
Intersection Capacity Utilization 61.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	46	97	64	1352	1586	41
Future Volume (veh/h)	46	97	64	1352	1586	41
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	105	70	1470	1724	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	214	449	90	2699	2255	59
Arrive On Green	0.40	0.40	0.05	0.53	0.44	0.44
Sat Flow, veh/h	534	1122	1781	5274	5284	133
Grp Volume(v), veh/h	156	0	70	1470	1147	622
Grp Sat Flow(s),veh/h/ln	1666	0	1781	1702	1702	1845
Q Serve(g_s), s	7.4	0.0	4.7	22.9	34.1	34.1
Cycle Q Clear(g_c), s	7.4	0.0	4.7	22.9	34.1	34.1
Prop In Lane	0.32	0.67	1.00			0.07
Lane Grp Cap(c), veh/h	667	0	90	2699	1500	813
V/C Ratio(X)	0.23	0.00	0.78	0.54	0.76	0.76
Avail Cap(c_a), veh/h	667	0	163	3766	2085	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.82	0.82	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	56.3	18.7	28.3	28.3
Incr Delay (d2), s/veh	0.8	0.0	11.3	0.1	1.1	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	3.1	0.0	2.3	8.5	13.5	14.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.6	0.0	67.6	18.9	29.4	30.4
LnGrp LOS	C	A	E	B	C	C
Approach Vol, veh/h	156			1540	1769	
Approach Delay, s/veh	24.6			21.1	29.8	
Approach LOS	C			C	C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			67.9		52.1	10.6	57.4
Change Period (Y+Rc), s			4.5		4.0	4.5	* 4.5
Max Green Setting (Gmax), s			88.5		23.0	11.0	* 74
Max Q Clear Time (g_c+I1), s			24.9		9.4	6.7	36.1
Green Ext Time (p_c), s			15.3		0.4	0.0	16.7

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

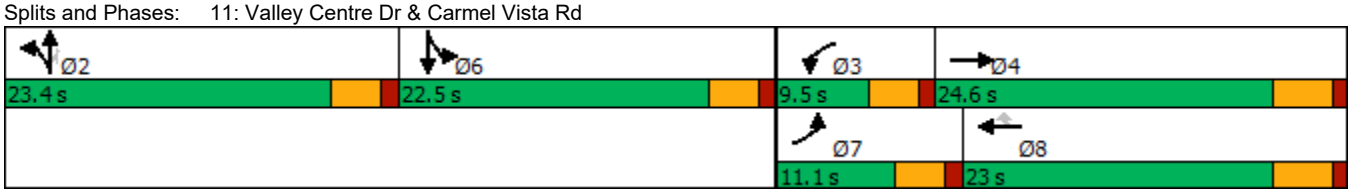
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	60	402	5	302	57	152	50	113	81	3
Future Volume (vph)	60	402	5	302	57	152	50	113	81	3
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.1	24.6	9.5	23.0	23.0	23.4	23.4	23.4	22.5	22.5
Total Split (%)	13.9%	30.8%	11.9%	28.8%	28.8%	29.3%	29.3%	29.3%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	7.0	16.3	5.9	12.0	12.0	20.9	20.9	20.9	9.5	9.5
Actuated g/C Ratio	0.12	0.28	0.10	0.21	0.21	0.36	0.36	0.36	0.16	0.16
v/c Ratio	0.31	0.46	0.03	0.45	0.15	0.18	0.18	0.19	0.31	0.10
Control Delay	33.4	20.1	31.8	24.8	1.3	20.0	20.0	5.4	27.5	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	20.1	31.8	24.8	1.3	20.0	20.0	5.4	27.5	12.3
LOS	C	C	C	C	A	C	B	A	C	B
Approach Delay		21.8		21.2			14.7			23.7
Approach LOS		C		C			B			C

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 58.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay: 20.0	Intersection LOS: C
Intersection Capacity Utilization 38.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	402	15	5	302	57	152	50	113	81	3	24
Future Volume (veh/h)	60	402	15	5	302	57	152	50	113	81	3	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	437	16	5	328	62	110	132	123	88	3	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	734	27	12	560	250	678	712	603	141	13	115
Arrive On Green	0.06	0.21	0.21	0.01	0.16	0.16	0.38	0.38	0.38	0.08	0.08	0.08
Sat Flow, veh/h	1781	3496	128	1781	3554	1585	1781	1870	1585	1781	167	1444
Grp Volume(v), veh/h	65	222	231	5	328	62	110	132	123	88	0	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1847	1781	1777	1585	1781	1870	1585	1781	0	1610
Q Serve(g_s), s	1.8	5.7	5.8	0.1	4.4	1.7	2.1	2.4	2.7	2.4	0.0	0.9
Cycle Q Clear(g_c), s	1.8	5.7	5.8	0.1	4.4	1.7	2.1	2.4	2.7	2.4	0.0	0.9
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	105	373	388	12	560	250	678	712	603	141	0	128
V/C Ratio(X)	0.62	0.59	0.60	0.42	0.59	0.25	0.16	0.19	0.20	0.62	0.00	0.23
Avail Cap(c_a), veh/h	248	700	728	192	1289	575	678	712	603	646	0	584
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	23.4	18.2	18.2	25.2	19.9	18.8	10.4	10.5	10.6	22.7	0.0	22.0
Incr Delay (d2), s/veh	5.8	1.5	1.5	21.7	1.0	0.5	0.5	0.6	0.8	4.4	0.0	0.9
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	0.8	2.1	2.2	0.1	1.6	0.6	0.8	0.9	0.9	1.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	19.7	19.7	46.9	20.9	19.3	10.9	11.1	11.4	27.2	0.0	22.9
LnGrp LOS	C	B	B	D	C	B	B	B	B	C	A	C
Approach Vol, veh/h		518			395			365			117	
Approach Delay, s/veh		20.9			21.0			11.1			26.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.4	4.3	15.2		8.0	7.0	12.5
Change Period (Y+Rc), s		4.0	4.0	4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		19.4	5.5	20.1		18.5	7.1	18.5
Max Q Clear Time (g_c+I1), s		4.7	2.1	7.8		4.4	3.8	6.4
Green Ext Time (p_c), s		1.3	0.0	2.0		0.3	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

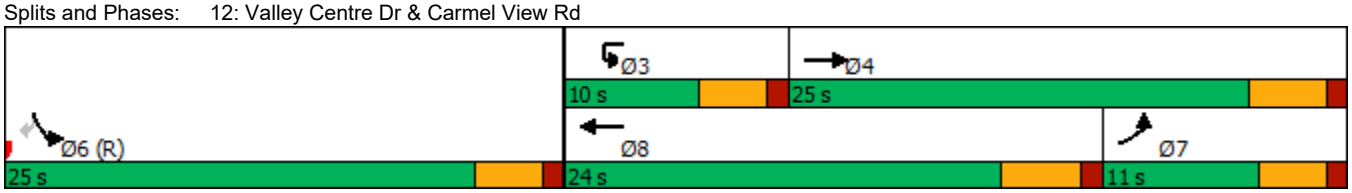
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	97	503	16	319	29	47
Future Volume (vph)	97	503	16	319	29	47
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	11.0	25.0	10.0	24.0	25.0	25.0
Total Split (%)	18.3%	41.7%	16.7%	40.0%	41.7%	41.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	8.1	21.1	5.8	12.9	28.4	28.4
Actuated g/C Ratio	0.14	0.35	0.10	0.22	0.47	0.47
v/c Ratio	0.44	0.44	0.10	0.56	0.04	0.07
Control Delay	29.6	15.6	26.1	20.6	11.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	15.6	26.1	20.6	11.8	4.8
LOS	C	B	C	C	B	A
Approach Delay		17.9		20.8	7.5	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 43.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	97	503	16	319	83	29	47
Future Volume (veh/h)	97	503	16	319	83	29	47
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	105	547		347	90	32	51
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	135	1209		529	135	923	821
Arrive On Green	0.08	0.34		0.19	0.19	0.52	0.52
Sat Flow, veh/h	1781	3647		2887	714	1781	1585
Grp Volume(v), veh/h	105	547		219	218	32	51
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1731	1781	1585
Q Serve(g_s), s	3.5	7.2		6.8	7.0	0.5	1.0
Cycle Q Clear(g_c), s	3.5	7.2		6.8	7.0	0.5	1.0
Prop In Lane	1.00				0.41	1.00	1.00
Lane Grp Cap(c), veh/h	135	1209		336	328	923	821
V/C Ratio(X)	0.78	0.45		0.65	0.67	0.03	0.06
Avail Cap(c_a), veh/h	208	1214		577	562	923	821
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	15.4		22.5	22.6	7.1	7.2
Incr Delay (d2), s/veh	8.9	0.2		2.1	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.5		2.7	2.7	0.2	1.3
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	36.2	15.7		24.6	24.9	7.2	7.3
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		652		437		83	
Approach Delay, s/veh		19.0		24.7		7.3	
Approach LOS		B		C		A	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			24.9		35.1	9.0	15.9
Change Period (Y+Rc), s			4.5		4.0	4.5	* 4.5
Max Green Setting (Gmax), s			20.5		21.0	7.0	* 20
Max Q Clear Time (g_c+I1), s			9.2		3.0	5.5	9.0
Green Ext Time (p_c), s			2.6		0.2	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

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

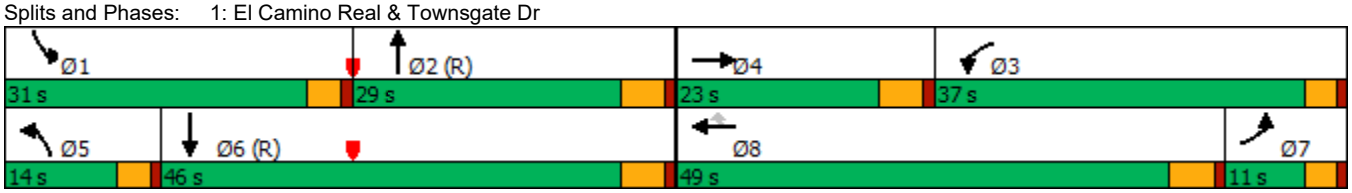
APPENDIX E

NEAR TERM WITHOUT PROJECT HCM ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	4	210	27	135	35	295	172	651
Future Volume (vph)	2	4	210	27	135	35	295	172	651
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	11.0	23.0	37.0	49.0	49.0	14.0	29.0	31.0	46.0
Total Split (%)	9.2%	19.2%	30.8%	40.8%	40.8%	11.7%	24.2%	25.8%	38.3%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	7.0	18.0	33.0	44.0	44.0	10.0	24.0	27.0	41.0
Actuated g/C Ratio	0.06	0.15	0.28	0.37	0.37	0.08	0.20	0.22	0.34
v/c Ratio	0.02	0.03	0.47	0.04	0.22	0.26	0.41	0.47	0.48
Control Delay	54.0	34.0	40.0	24.8	4.9	73.6	11.5	44.9	31.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	34.0	40.0	24.8	4.9	73.6	11.5	44.9	31.1
LOS	D	C	D	C	A	E	B	D	C
Approach Delay		38.0		26.1			16.7		33.6
Approach LOS		D		C			B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 14 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay: 27.9	Intersection LOS: C
Intersection Capacity Utilization 49.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	4	4	210	27	135	35	295	92	172	651	106
Future Volume (veh/h)	2	4	4	210	27	135	35	295	92	172	651	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	4	4	228	29	147	38	321	100	187	708	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	129	129	490	686	581	148	782	232	401	1515	244
Arrive On Green	0.06	0.15	0.15	0.28	0.37	0.37	0.17	0.40	0.40	0.22	0.34	0.34
Sat Flow, veh/h	1781	858	858	1781	1870	1585	1781	3908	1158	1781	4433	713
Grp Volume(v), veh/h	2	0	8	228	29	147	38	277	144	187	542	281
Grp Sat Flow(s),veh/h/ln	1781	0	1716	1781	1870	1585	1781	1702	1662	1781	1702	1742
Q Serve(g_s), s	0.1	0.0	0.5	12.8	1.2	4.1	2.2	7.0	7.5	10.9	15.0	15.2
Cycle Q Clear(g_c), s	0.1	0.0	0.5	12.8	1.2	4.1	2.2	7.0	7.5	10.9	15.0	15.2
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.70	1.00		0.41
Lane Grp Cap(c), veh/h	104	0	257	490	686	581	148	681	332	401	1163	595
V/C Ratio(X)	0.02	0.00	0.03	0.47	0.04	0.25	0.26	0.41	0.43	0.47	0.47	0.47
Avail Cap(c_a), veh/h	104	0	257	490	686	581	148	681	332	401	1163	595
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	0.0	43.6	36.2	24.4	7.3	46.8	30.9	31.1	40.3	30.9	31.0
Incr Delay (d2), s/veh	0.3	0.0	0.2	3.2	0.1	1.0	4.1	1.8	4.1	3.9	1.3	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	6.0	0.6	3.0	1.1	2.7	3.0	5.1	6.1	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	0.0	43.8	39.3	24.6	8.4	50.9	32.7	35.1	44.1	32.3	33.7
LnGrp LOS	D	A	D	D	C	A	D	C	D	D	C	C
Approach Vol, veh/h		10			404			459			1010	
Approach Delay, s/veh		45.7			27.0			35.0			34.9	
Approach LOS		D			C			C			C	

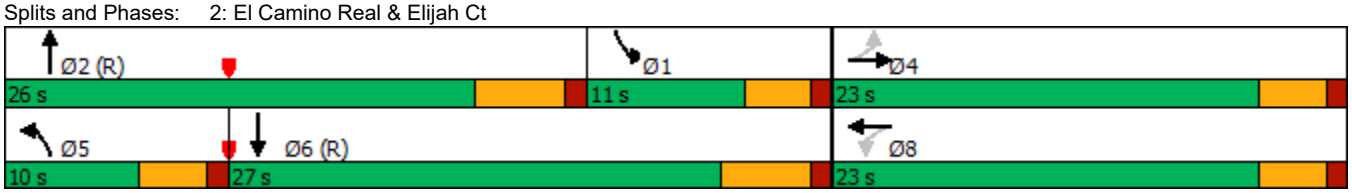
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	29.0	37.0	23.0	14.0	46.0	11.0	49.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	27.0	24.0	33.0	18.0	10.0	41.0	7.0	44.0
Max Q Clear Time (g_c+I1), s	12.9	9.5	14.8	2.5	4.2	17.2	2.1	6.1
Green Ext Time (p_c), s	0.4	2.0	0.6	0.0	0.0	5.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	0	117	0	23	335	66	808
Future Volume (vph)	3	0	117	0	23	335	66	808
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	10.0	26.0	11.0	27.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.7%	43.3%	18.3%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	19.0	19.0	19.0	6.0	21.0	7.0	22.0
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.10	0.35	0.12	0.37
v/c Ratio	0.01	0.00	0.29	0.08	0.14	0.22	0.35	0.47
Control Delay	14.3	0.0	17.6	0.2	19.5	14.7	19.2	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	0.0	17.6	0.2	19.5	14.7	19.2	6.8
LOS	B	A	B	A	B	B	B	A
Approach Delay		7.2		11.4		15.0		7.8
Approach LOS		A		B		B		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 12 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 43.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	3	117	0	64	23	335	18	66	808	2
Future Volume (veh/h)	3	0	3	117	0	64	23	335	18	66	808	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	0	3	127	0	70	25	364	20	72	878	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	0	494	557	0	494	175	1706	93	204	1983	5
Arrive On Green	0.31	0.00	0.31	0.31	0.00	0.31	0.03	0.11	0.11	0.15	0.50	0.50
Sat Flow, veh/h	1331	0	1585	1414	0	1585	1781	4956	270	1781	5260	12
Grp Volume(v), veh/h	3	0	3	127	0	70	25	249	135	72	568	312
Grp Sat Flow(s),veh/h/ln	1331	0	1585	1414	0	1585	1781	1702	1822	1781	1702	1868
Q Serve(g_s), s	0.1	0.0	0.1	4.2	0.0	1.9	0.8	4.1	4.1	2.2	6.5	6.5
Cycle Q Clear(g_c), s	2.0	0.0	0.1	4.2	0.0	1.9	0.8	4.1	4.1	2.2	6.5	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.01
Lane Grp Cap(c), veh/h	490	0	494	557	0	494	175	1172	627	204	1283	704
V/C Ratio(X)	0.01	0.00	0.01	0.23	0.00	0.14	0.14	0.21	0.22	0.35	0.44	0.44
Avail Cap(c_a), veh/h	490	0	494	557	0	494	175	1172	627	204	1283	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	0.0	14.5	15.9	0.0	15.1	27.0	19.5	19.5	23.8	11.1	11.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.0	0.0	0.6	1.7	0.4	0.8	4.7	1.1	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	0.0	0.0	0.0	1.4	0.0	0.7	0.4	1.5	1.7	1.1	2.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	0.0	14.5	16.9	0.0	15.7	28.7	19.9	20.3	28.5	12.2	13.1
LnGrp LOS	B	A	B	B	A	B	C	B	C	C	B	B
Approach Vol, veh/h		6			197			409			952	
Approach Delay, s/veh		15.2			16.5			20.6			13.7	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	26.0		23.0	10.0	28.0		23.0
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	7.0	* 21		19.0	6.0	22.0		19.0
Max Q Clear Time (g_c+I1), s	4.2	6.1		4.0	2.8	8.5		6.2
Green Ext Time (p_c), s	0.0	1.8		0.0	0.0	4.3		0.6

Intersection Summary			
HCM 6th Ctrl Delay			15.9
HCM 6th LOS			B

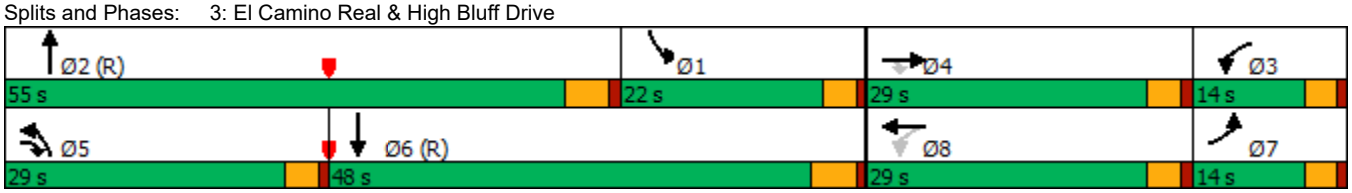
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	23	82	234	71	197	179	263	86	788
Future Volume (vph)	23	82	234	71	197	179	263	86	788
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	14.0	29.0	29.0	14.0	29.0	29.0	55.0	22.0	48.0
Total Split (%)	11.7%	24.2%	24.2%	11.7%	24.2%	24.2%	45.8%	18.3%	40.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	7.2	12.3	24.4	23.3	15.8	12.1	65.9	18.0	71.8
Actuated g/C Ratio	0.06	0.10	0.20	0.19	0.13	0.10	0.55	0.15	0.60
v/c Ratio	0.24	0.47	0.57	0.29	0.63	0.56	0.11	0.35	0.32
Control Delay	58.4	58.1	15.8	41.7	47.2	29.4	8.7	29.3	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	58.1	15.8	41.7	47.2	29.4	8.7	29.3	6.3
LOS	E	E	B	D	D	C	A	C	A
Approach Delay		28.9			46.1		16.7		8.4
Approach LOS		C			D		B		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 19.7	Intersection LOS: B
Intersection Capacity Utilization 50.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	82	234	71	197	81	179	263	24	86	788	90
Future Volume (veh/h)	23	82	234	71	197	81	179	263	24	86	788	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	89	254	77	214	88	195	286	26	93	857	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	276	352	208	296	117	263	1987	177	441	2772	316
Arrive On Green	0.07	0.15	0.15	0.04	0.12	0.12	0.08	0.42	0.42	0.49	1.00	1.00
Sat Flow, veh/h	1781	1870	1569	1781	2474	982	3456	4769	425	1781	4648	529
Grp Volume(v), veh/h	25	89	254	77	152	150	195	203	109	93	627	328
Grp Sat Flow(s),veh/h/ln	1781	1870	1569	1781	1777	1679	1728	1702	1791	1781	1702	1774
Q Serve(g_s), s	1.6	5.1	14.8	0.0	9.8	10.4	6.6	4.4	4.6	3.5	0.0	0.0
Cycle Q Clear(g_c), s	1.6	5.1	14.8	0.0	9.8	10.4	6.6	4.4	4.6	3.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.24	1.00		0.30
Lane Grp Cap(c), veh/h	118	276	352	208	212	201	263	1418	746	441	2030	1057
V/C Ratio(X)	0.21	0.32	0.72	0.37	0.71	0.75	0.74	0.14	0.15	0.21	0.31	0.31
Avail Cap(c_a), veh/h	148	390	448	288	370	350	720	1418	746	441	2030	1057
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	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.89	0.89	0.89
Uniform Delay (d), s/veh	53.0	45.8	29.5	50.7	50.9	51.1	54.3	21.7	21.7	23.7	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.7	4.1	1.1	4.4	5.5	4.0	0.2	0.4	0.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.4	5.8	2.2	4.6	4.6	3.0	1.7	1.9	1.4	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	46.5	33.6	51.8	55.3	56.6	58.3	21.9	22.2	23.9	0.4	0.7
LnGrp LOS	D	D	C	D	E	E	E	C	C	C	A	A
Approach Vol, veh/h		368			379			507			1048	
Approach Delay, s/veh		38.1			55.1			36.0			2.5	
Approach LOS		D			E			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.7	55.0	8.6	21.7	13.1	76.5	12.0	18.3
Change Period (Y+Rc), s	5.0	* 5	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	* 50	10.0	25.0	25.0	43.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	5.5	6.6	2.0	16.8	8.6	2.0	3.6	12.4
Green Ext Time (p_c), s	0.1	1.8	0.1	0.9	0.5	6.8	0.0	1.3

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

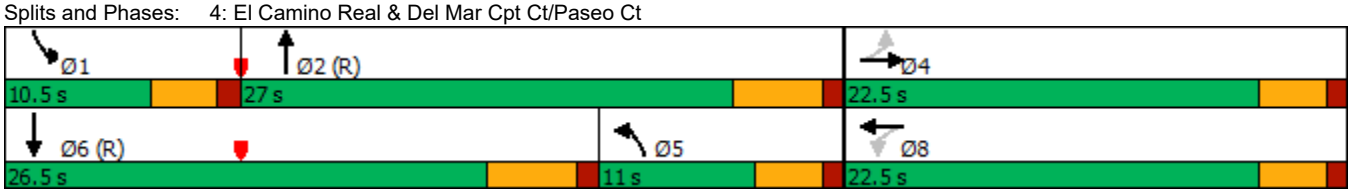
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	15	0	6	1	57	472	59	1019
Future Volume (vph)	15	0	6	1	57	472	59	1019
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	11.0	27.0	10.5	26.5
Total Split (%)	37.5%	37.5%	37.5%	37.5%	18.3%	45.0%	17.5%	44.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.4	8.4	8.4	8.4	6.6	41.4	7.0	41.8
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.11	0.69	0.12	0.70
v/c Ratio	0.08	0.04	0.04	0.03	0.32	0.16	0.31	0.33
Control Delay	20.3	0.2	19.3	12.8	30.2	6.5	33.4	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	0.2	19.3	12.8	30.2	6.5	33.4	2.8
LOS	C	A	B	B	C	A	C	A
Approach Delay		9.1		16.3		8.9		4.4
Approach LOS		A		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 13 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.33	
Intersection Signal Delay: 6.0	Intersection LOS: A
Intersection Capacity Utilization 44.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	18	6	1	5	57	472	42	59	1019	45
Future Volume (veh/h)	15	0	18	6	1	5	57	472	42	59	1019	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	0	20	7	1	5	62	513	46	64	1108	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	0	105	195	18	90	608	3158	280	97	1796	79
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.11	0.22	0.22	0.04	0.24	0.24
Sat Flow, veh/h	1379	0	1557	1365	267	1334	1781	4773	423	1781	5011	221
Grp Volume(v), veh/h	16	0	20	7	0	6	62	364	195	64	752	405
Grp Sat Flow(s),veh/h/ln	1379	0	1557	1365	0	1601	1781	1702	1792	1781	1702	1829
Q Serve(g_s), s	0.7	0.0	0.7	0.3	0.0	0.2	1.9	5.2	5.3	2.1	11.8	11.8
Cycle Q Clear(g_c), s	0.9	0.0	0.7	1.0	0.0	0.2	1.9	5.2	5.3	2.1	11.8	11.8
Prop In Lane	1.00		1.00	1.00		0.83	1.00		0.24	1.00		0.12
Lane Grp Cap(c), veh/h	208	0	105	195	0	108	608	2252	1186	97	1220	655
V/C Ratio(X)	0.08	0.00	0.19	0.04	0.00	0.06	0.10	0.16	0.16	0.66	0.62	0.62
Avail Cap(c_a), veh/h	540	0	480	524	0	494	608	2252	1186	193	1220	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	0.94	0.94	0.94
Uniform Delay (d), s/veh	26.6	0.0	26.4	26.9	0.0	26.2	18.4	10.0	10.0	28.3	19.1	19.1
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.1	0.0	0.2	0.1	0.1	0.3	6.9	2.2	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	0.2	0.0	0.3	0.1	0.0	0.1	0.7	1.2	1.4	1.0	4.7	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	0.0	27.3	27.0	0.0	26.4	18.4	10.1	10.3	35.2	21.3	23.2
LnGrp LOS	C	A	C	C	A	C	B	B	B	D	C	C
Approach Vol, veh/h		36			13			621			1221	
Approach Delay, s/veh		27.1			26.7			11.0			22.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.3	44.7		8.0	25.5	26.5		8.0
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0
Max Green Setting (Gmax), s	6.5	22.0		18.5	7.0	* 22		18.5
Max Q Clear Time (g_c+I1), s	4.1	7.3		2.9	3.9	13.8		3.0
Green Ext Time (p_c), s	0.0	2.8		0.1	0.0	4.0		0.0

Intersection Summary		
HCM 6th Ctrl Delay		19.0
HCM 6th LOS		B

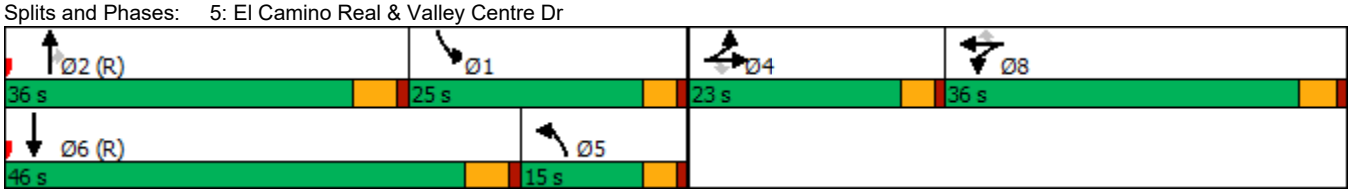
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	28	6	36	400	9	143	49	745	144	140	750
Future Volume (vph)	28	6	36	400	9	143	49	745	144	140	750
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	36.0	36.0	36.0	15.0	36.0	36.0	25.0	46.0
Total Split (%)	19.2%	19.2%	19.2%	30.0%	30.0%	30.0%	12.5%	30.0%	30.0%	20.8%	38.3%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.1	9.1	9.1	23.1	23.1	23.1	8.7	54.7	54.7	17.5	65.4
Actuated g/C Ratio	0.08	0.08	0.08	0.19	0.19	0.19	0.07	0.46	0.46	0.15	0.54
v/c Ratio	0.20	0.20	0.10	0.71	0.74	0.35	0.41	0.35	0.20	0.59	0.30
Control Delay	53.4	32.6	0.8	56.8	58.4	8.4	63.7	16.8	5.5	67.9	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	32.6	0.8	56.8	58.4	8.4	63.7	16.8	5.5	67.9	25.4
LOS	D	C	A	E	E	A	E	B	A	E	C
Approach Delay		29.7			46.2			17.5			31.9
Approach LOS		C			D			B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 29.6	Intersection LOS: C
Intersection Capacity Utilization 53.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	6	36	400	9	143	49	745	144	140	750	23
Future Volume (veh/h)	28	6	36	400	9	143	49	745	144	140	750	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	0	52	487	0	107	53	810	157	152	815	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	0	145	585	0	258	536	1319	407	685	1739	53
Arrive On Green	0.05	0.00	0.05	0.16	0.00	0.16	0.20	0.17	0.17	0.77	0.68	0.68
Sat Flow, veh/h	1781	0	3069	3563	0	1571	1781	5106	1576	1781	5089	156
Grp Volume(v), veh/h	22	0	52	487	0	107	53	810	157	152	545	295
Grp Sat Flow(s),veh/h/ln	1781	0	1535	1781	0	1571	1781	1702	1576	1781	1702	1841
Q Serve(g_s), s	1.4	0.0	2.0	15.9	0.0	7.3	2.9	17.6	10.6	2.9	8.9	9.0
Cycle Q Clear(g_c), s	1.4	0.0	2.0	15.9	0.0	7.3	2.9	17.6	10.6	2.9	8.9	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	84	0	145	585	0	258	536	1319	407	685	1163	629
V/C Ratio(X)	0.26	0.00	0.36	0.83	0.00	0.42	0.10	0.61	0.39	0.22	0.47	0.47
Avail Cap(c_a), veh/h	282	0	486	935	0	412	536	1319	407	685	1163	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.86	0.00	0.86	0.94	0.94	0.94	0.95	0.95	0.95
Uniform Delay (d), s/veh	55.1	0.0	55.4	48.6	0.0	45.0	34.6	44.1	41.2	8.9	13.9	13.9
Incr Delay (d2), s/veh	1.6	0.0	1.5	3.1	0.0	0.9	0.1	2.0	2.6	0.2	1.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.8	7.2	0.0	2.9	1.2	7.8	4.5	1.0	2.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	0.0	56.9	51.7	0.0	45.9	34.7	46.1	43.8	9.0	15.2	16.3
LnGrp LOS	E	A	E	D	A	D	C	D	D	A	B	B
Approach Vol, veh/h		74			594			1020			992	
Approach Delay, s/veh		56.9			50.7			45.1			14.6	
Approach LOS		E			D			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	50.1	36.0		9.7	40.1	46.0		24.2
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	21.0	31.0		19.0	11.0	41.0		31.5
Max Q Clear Time (g_c+I1), s	4.9	19.6		4.0	4.9	11.0		17.9
Green Ext Time (p_c), s	0.3	4.3		0.2	0.0	5.4		1.8

Intersection Summary		
HCM 6th Ctrl Delay		35.4
HCM 6th LOS		D

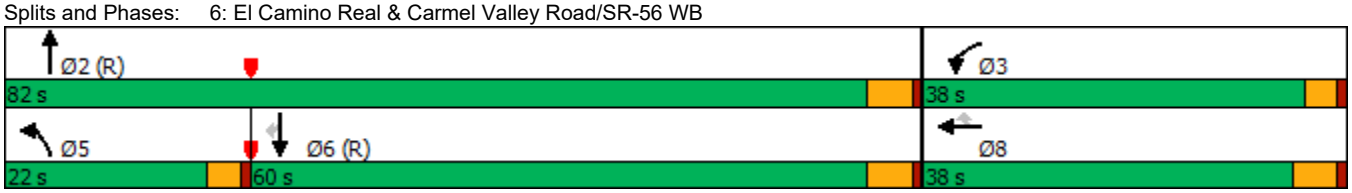
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	311	805	228	225	734	527	628
Future Volume (vph)	311	805	228	225	734	527	628
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	38.0	38.0	38.0	22.0	82.0	60.0	60.0
Total Split (%)	31.7%	31.7%	31.7%	18.3%	68.3%	50.0%	50.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	29.6	28.6	28.6	13.8	81.4	63.6	63.6
Actuated g/C Ratio	0.25	0.24	0.24	0.12	0.68	0.53	0.53
v/c Ratio	0.40	0.72	0.47	0.62	0.33	0.38	0.46
Control Delay	38.7	45.5	10.6	60.5	1.5	3.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	38.7	45.5	10.6	60.5	1.7	3.8	5.5
LOS	D	D	B	E	A	A	A
Approach Delay		38.0			15.5	4.2	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 7 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 85.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	311	805	228	225	734	0	0	527	628
Future Volume (veh/h)	0	0	0	311	805	228	225	734	0	0	527	628
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				338	875	248	245	798	0	0	573	683
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				785	1160	358	306	2480	0	0	2155	1821
Arrive On Green				0.23	0.23	0.23	0.18	1.00	0.00	0.00	0.96	0.96
Sat Flow, veh/h				3456	5106	1575	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				338	875	248	245	798	0	0	573	683
Grp Sat Flow(s),veh/h/ln				1728	1702	1575	1728	1777	0	0	1870	1581
Q Serve(g_s), s				10.1	19.2	17.3	8.2	0.0	0.0	0.0	0.9	1.5
Cycle Q Clear(g_c), s				10.1	19.2	17.3	8.2	0.0	0.0	0.0	0.9	1.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				785	1160	358	306	2480	0	0	2155	1821
V/C Ratio(X)				0.43	0.75	0.69	0.80	0.32	0.00	0.00	0.27	0.38
Avail Cap(c_a), veh/h				979	1447	446	518	2480	0	0	2155	1821
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	1.00	1.00	0.84	0.84	0.00	0.00	0.93	0.93
Uniform Delay (d), s/veh				39.7	43.3	42.5	48.4	0.0	0.0	0.0	1.0	1.0
Incr Delay (d2), s/veh				0.4	1.8	3.4	4.1	0.3	0.0	0.0	0.3	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.2	7.9	6.8	3.3	0.1	0.0	0.0	0.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.1	45.0	45.9	52.5	0.3	0.0	0.0	1.3	1.5
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1461			1043			1256	
Approach Delay, s/veh					44.0			12.5			1.4	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	88.7		14.6	74.1	31.3
Change Period (Y+Rc), s	5.0		4.0	5.0	4.0
Max Green Setting (Gmax), s	77.0		18.0	55.0	34.0
Max Q Clear Time (g_c+I1), s	2.0		10.2	3.5	21.2
Green Ext Time (p_c), s	6.0		0.5	7.8	6.1

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

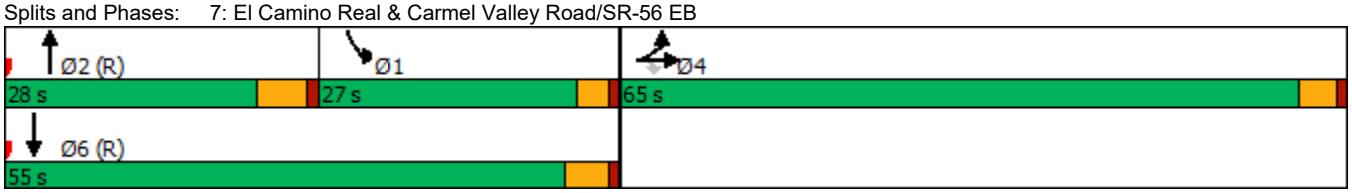
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	605	748	220	360	154	683
Future Volume (vph)	605	748	220	360	154	683
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	65.0	65.0	65.0	28.0	27.0	55.0
Total Split (%)	54.2%	54.2%	54.2%	23.3%	22.5%	45.8%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	51.9	51.9	51.9	31.1	23.0	58.6
Actuated g/C Ratio	0.43	0.43	0.43	0.26	0.19	0.49
v/c Ratio	0.70	0.74	0.32	0.38	0.49	0.30
Control Delay	32.8	31.2	11.6	31.9	33.0	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	32.8	31.2	11.6	31.9	33.0	10.0
LOS	C	C	B	C	C	B
Approach Delay		29.2		31.9		14.3
Approach LOS		C		C		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 25.5	Intersection LOS: C
Intersection Capacity Utilization 85.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	605	748	220	0	0	0	0	360	216	154	683	0
Future Volume (veh/h)	605	748	220	0	0	0	0	360	216	154	683	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	439	1120	239				0	391	235	167	742	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	677	1421	600				0	905	295	548	2762	0
Arrive On Green	0.38	0.38	0.38				0.00	0.19	0.19	0.10	0.18	0.00
Sat Flow, veh/h	1781	3741	1579				0	5087	1572	1781	5274	0
Grp Volume(v), veh/h	439	1120	239				0	391	235	167	742	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1579				0	1609	1572	1781	1702	0
Q Serve(g_s), s	24.3	31.8	13.3				0.0	8.6	17.1	10.4	15.0	0.0
Cycle Q Clear(g_c), s	24.3	31.8	13.3				0.0	8.6	17.1	10.4	15.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	677	1421	600				0	905	295	548	2762	0
V/C Ratio(X)	0.65	0.79	0.40				0.00	0.43	0.80	0.30	0.27	0.00
Avail Cap(c_a), veh/h	898	1886	796				0	905	295	548	2762	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	30.6	32.9	27.2				0.0	43.1	46.6	42.0	28.8	0.0
Incr Delay (d2), s/veh	1.1	1.7	0.4				0.0	1.5	19.7	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	14.2	5.0				0.0	3.4	8.1	4.9	6.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	34.6	27.6				0.0	44.6	66.3	42.3	29.0	0.0
LnGrp LOS	C	C	C				A	D	E	D	C	A
Approach Vol, veh/h		1798						626			909	
Approach Delay, s/veh		33.0						52.7			31.5	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	41.9	28.0		50.1		69.9
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	23.0	* 23		60.5		50.0
Max Q Clear Time (g_c+I1), s	12.4	19.1		33.8		17.0
Green Ext Time (p_c), s	0.3	1.2		11.8		5.2

Intersection Summary	
HCM 6th Ctrl Delay	36.3
HCM 6th LOS	D

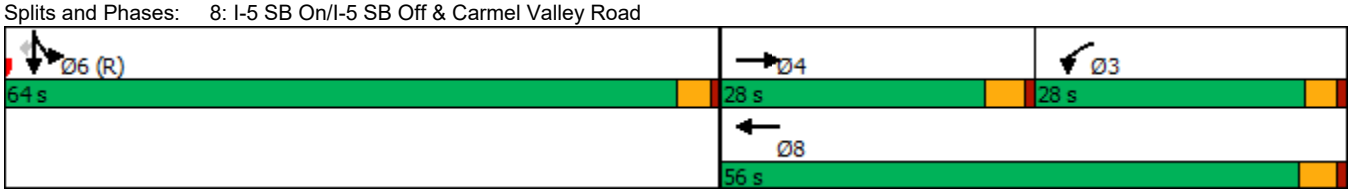
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	271	388	599	899	3	116
Future Volume (vph)	271	388	599	899	3	116
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	56.0	64.0	64.0	64.0
Total Split (%)	23.3%	23.3%	46.7%	53.3%	53.3%	53.3%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	19.2	19.7	42.9	68.6	68.6	68.6
Actuated g/C Ratio	0.16	0.16	0.36	0.57	0.57	0.57
v/c Ratio	0.78	0.75	0.51	0.52	0.54	0.13
Control Delay	47.3	33.0	10.1	19.6	20.1	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	33.0	10.1	19.6	20.1	3.2
LOS	D	C	B	B	C	A
Approach Delay	47.3		19.1		18.2	
Approach LOS	D		B		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 77.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	271	167	388	599	0	0	0	0	899	3	116
Future Volume (veh/h)	0	271	167	388	599	0	0	0	0	899	3	116
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	295	182	422	651	0				1017	0	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	352	211	497	1232	0				2076	0	921
Arrive On Green	0.00	0.17	0.17	0.14	0.35	0.00				0.58	0.00	0.58
Sat Flow, veh/h	0	2222	1276	3456	3647	0				3563	0	1581
Grp Volume(v), veh/h	0	245	232	422	651	0				1017	0	85
Grp Sat Flow(s),veh/h/ln	0	1777	1627	1728	1777	0				1781	0	1581
Q Serve(g_s), s	0.0	16.0	16.7	14.3	17.6	0.0				20.0	0.0	2.8
Cycle Q Clear(g_c), s	0.0	16.0	16.7	14.3	17.6	0.0				20.0	0.0	2.8
Prop In Lane	0.00		0.78	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	294	269	497	1232	0				2076	0	921
V/C Ratio(X)	0.00	0.83	0.86	0.85	0.53	0.00				0.49	0.00	0.09
Avail Cap(c_a), veh/h	0	348	319	691	1525	0				2076	0	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.77	0.77	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	48.5	48.8	50.1	31.4	0.0				14.6	0.0	11.0
Incr Delay (d2), s/veh	0.0	13.9	18.6	5.7	0.3	0.0				0.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.1	8.0	6.5	7.4	0.0				8.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	62.3	67.3	55.8	31.6	0.0				15.5	0.0	11.2
LnGrp LOS	A	E	E	E	C	A				B	A	B
Approach Vol, veh/h		477			1073						1102	
Approach Delay, s/veh		64.8			41.1						15.1	
Approach LOS		E			D						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		21.7	24.3		73.9		46.1					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		24.0	* 24		60.0		51.5					
Max Q Clear Time (g_c+I1), s		16.3	18.7		22.0		19.6					
Green Ext Time (p_c), s		0.9	1.2		4.9		4.6					

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

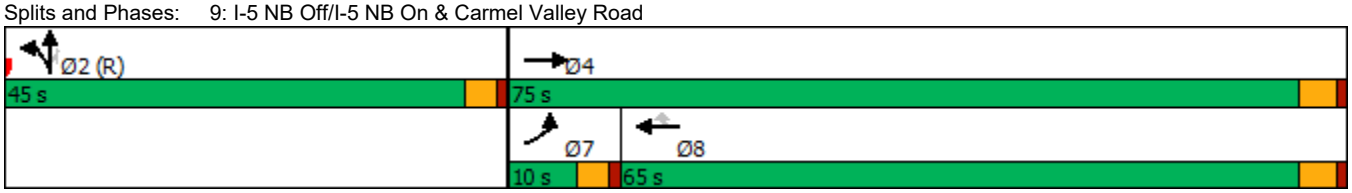
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	67	1105	887	769	98	0	605
Future Volume (vph)	67	1105	887	769	98	0	605
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	75.0	65.0	65.0	45.0	45.0	45.0
Total Split (%)	8.3%	62.5%	54.2%	54.2%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.0	58.4	50.4	50.4	53.1	53.1	53.1
Actuated g/C Ratio	0.05	0.49	0.42	0.42	0.44	0.44	0.44
v/c Ratio	0.43	0.70	0.65	0.74	0.13	0.50	0.49
Control Delay	57.0	20.5	16.6	18.2	23.6	24.0	23.6
Queue Delay	0.0	0.4	0.2	3.5	0.0	0.0	0.0
Total Delay	57.0	20.9	16.8	21.6	23.6	24.0	23.6
LOS	E	C	B	C	C	C	C
Approach Delay		23.0	19.1			23.8	
Approach LOS		C	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 21.3	Intersection LOS: C
Intersection Capacity Utilization 77.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	1105	0	0	887	769	98	0	605	0	0	0
Future Volume (veh/h)	67	1105	0	0	887	769	98	0	605	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	73	1201	0	0	964	836	71	0	696			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	131	2045	0	0	1792	797	630	0	1116			
Arrive On Green	0.04	0.58	0.00	0.00	0.50	0.50	0.35	0.00	0.35			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3157			
Grp Volume(v), veh/h	73	1201	0	0	964	836	71	0	696			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	2.5	26.0	0.0	0.0	22.1	60.5	3.2	0.0	21.9			
Cycle Q Clear(g_c), s	2.5	26.0	0.0	0.0	22.1	60.5	3.2	0.0	21.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	131	2045	0	0	1792	797	630	0	1116			
V/C Ratio(X)	0.56	0.59	0.00	0.00	0.54	1.05	0.11	0.00	0.62			
Avail Cap(c_a), veh/h	173	2088	0	0	1792	797	630	0	1116			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.00	0.00	0.66	0.66	1.00	0.00	1.00			
Uniform Delay (d), s/veh	56.7	16.3	0.0	0.0	20.2	29.8	26.1	0.0	32.2			
Incr Delay (d2), s/veh	2.6	0.3	0.0	0.0	0.2	39.8	0.4	0.0	2.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	9.9	0.0	0.0	8.8	30.0	1.4	0.0	8.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	16.6	0.0	0.0	20.5	69.6	26.5	0.0	34.8			
LnGrp LOS	E	B	A	A	C	F	C	A	C			
Approach Vol, veh/h		1274			1800			767				
Approach Delay, s/veh		19.1			43.3			34.0				
Approach LOS		B			D			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		46.4		73.6			8.6	65.0				
Change Period (Y+Rc), s		4.0		4.5			4.0	4.5				
Max Green Setting (Gmax), s		41.0		70.5			6.0	60.5				
Max Q Clear Time (g_c+I1), s		23.9		28.0			4.5	62.5				
Green Ext Time (p_c), s		3.1		10.9			0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	10	22	1677	1630
Future Volume (vph)	10	22	1677	1630
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	14.0	93.0	79.0
Total Split (%)	22.5%	11.7%	77.5%	65.8%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	42.7	7.2	68.8	61.6
Actuated g/C Ratio	0.36	0.06	0.57	0.51
v/c Ratio	0.04	0.23	0.63	0.69
Control Delay	21.7	63.3	12.3	17.9
Queue Delay	0.0	0.0	0.2	0.1
Total Delay	21.7	63.3	12.5	17.9
LOS	C	E	B	B
Approach Delay	21.7		13.2	17.9
Approach LOS	C		B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	10	11	22	1677	1630	26
Future Volume (veh/h)	10	11	22	1677	1630	26
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	12	24	1823	1772	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	332	362	41	2575	2320	37
Arrive On Green	0.42	0.42	0.02	0.50	0.45	0.45
Sat Flow, veh/h	781	852	1781	5274	5346	82
Grp Volume(v), veh/h	24	0	24	1823	1165	635
Grp Sat Flow(s),veh/h/ln	1704	0	1781	1702	1702	1855
Q Serve(g_s), s	1.0	0.0	1.6	33.0	34.5	34.5
Cycle Q Clear(g_c), s	1.0	0.0	1.6	33.0	34.5	34.5
Prop In Lane	0.46	0.50	1.00			0.04
Lane Grp Cap(c), veh/h	724	0	41	2575	1525	831
V/C Ratio(X)	0.03	0.00	0.59	0.71	0.76	0.76
Avail Cap(c_a), veh/h	724	0	148	3766	2113	1152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.71	0.71	1.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	58.1	22.9	27.8	27.8
Incr Delay (d2), s/veh	0.1	0.0	9.2	0.3	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.8	12.5	13.6	15.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.2	0.0	67.2	23.2	28.9	29.8
LnGrp LOS	C	A	E	C	C	C
Approach Vol, veh/h	24			1847	1800	
Approach Delay, s/veh	20.2			23.8	29.2	
Approach LOS	C			C	C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	65.0	55.0	6.8	58.3
Change Period (Y+Rc), s	4.5	4.0	4.0	4.5
Max Green Setting (Gmax), s	88.5	23.0	10.0	74.5
Max Q Clear Time (g_c+I1), s	35.0	3.0	3.6	36.5
Green Ext Time (p_c), s	21.6	0.0	0.0	17.3

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

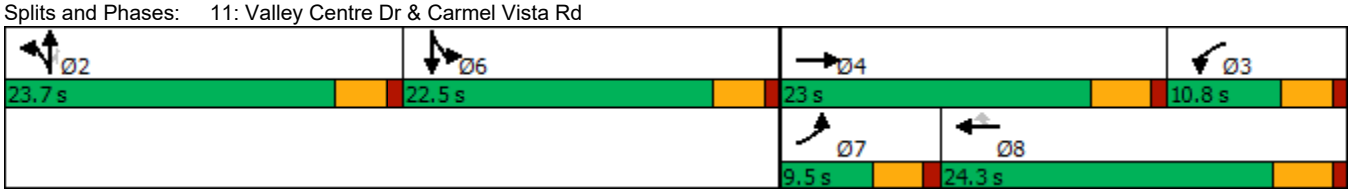
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	25	170	53	434	65	50	9	12	45	18
Future Volume (vph)	25	170	53	434	65	50	9	12	45	18
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	23.0	10.8	24.3	24.3	23.7	23.7	23.7	22.5	22.5
Total Split (%)	11.9%	28.8%	13.5%	30.4%	30.4%	29.6%	29.6%	29.6%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.9	11.2	7.6	14.6	14.6	21.2	21.2	21.2	8.6	8.6
Actuated g/C Ratio	0.10	0.19	0.13	0.25	0.25	0.37	0.37	0.37	0.15	0.15
v/c Ratio	0.15	0.39	0.25	0.53	0.14	0.05	0.05	0.02	0.19	0.33
Control Delay	32.8	17.3	30.7	22.7	2.0	19.1	19.1	0.1	26.4	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	17.3	30.7	22.7	2.0	19.1	19.1	0.1	26.4	12.4
LOS	C	B	C	C	A	B	B	A	C	B
Approach Delay		18.6		21.0			15.9			16.9
Approach LOS		B		C			B			B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 57.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 35.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	170	88	53	434	65	50	9	12	45	18	76
Future Volume (veh/h)	25	170	88	53	434	65	50	9	12	45	18	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	185	96	58	472	71	61	0	13	49	20	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	316	157	156	722	322	1298	0	578	172	31	127
Arrive On Green	0.03	0.14	0.14	0.09	0.20	0.20	0.36	0.00	0.36	0.10	0.10	0.10
Sat Flow, veh/h	1781	2300	1142	1781	3554	1585	3563	0	1585	1781	317	1316
Grp Volume(v), veh/h	27	141	140	58	472	71	61	0	13	49	0	103
Grp Sat Flow(s),veh/h/ln	1781	1777	1665	1781	1777	1585	1781	0	1585	1781	0	1633
Q Serve(g_s), s	0.8	4.0	4.3	1.7	6.6	2.0	0.6	0.0	0.3	1.4	0.0	3.3
Cycle Q Clear(g_c), s	0.8	4.0	4.3	1.7	6.6	2.0	0.6	0.0	0.3	1.4	0.0	3.3
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.81
Lane Grp Cap(c), veh/h	55	244	229	156	722	322	1298	0	578	172	0	158
V/C Ratio(X)	0.49	0.58	0.61	0.37	0.65	0.22	0.05	0.00	0.02	0.29	0.00	0.65
Avail Cap(c_a), veh/h	181	608	570	224	1302	581	1298	0	578	610	0	559
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.8	21.9	22.0	23.3	19.8	18.0	11.1	0.0	11.0	22.7	0.0	23.6
Incr Delay (d2), s/veh	6.7	2.2	2.6	1.5	1.0	0.3	0.1	0.0	0.1	0.9	0.0	4.5
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	0.4	1.6	1.6	0.7	2.4	0.7	0.2	0.0	0.1	0.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	24.0	24.6	24.7	20.8	18.3	11.2	0.0	11.1	23.6	0.0	28.1
LnGrp LOS	C	C	C	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h		308			601			74			152	
Approach Delay, s/veh		25.0			20.9			11.2			26.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.7	9.2	11.9		9.2	5.7	15.5				
Change Period (Y+Rc), s		4.0	4.5	* 4.5		4.0	4.0	4.5				
Max Green Setting (Gmax), s		19.7	6.8	* 19		18.5	5.5	19.8				
Max Q Clear Time (g_c+I1), s		2.6	3.7	6.3		5.3	2.8	8.6				
Green Ext Time (p_c), s		0.2	0.0	1.1		0.5	0.0	2.4				

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

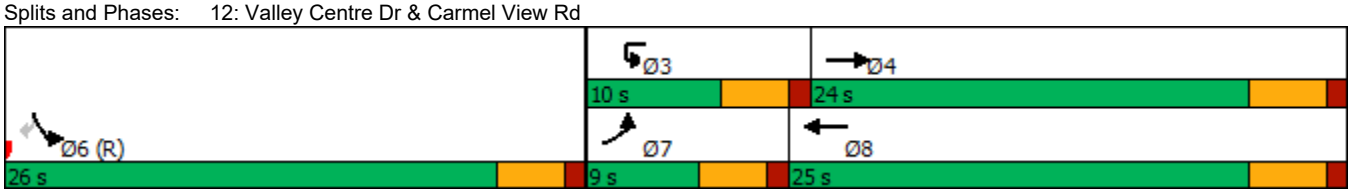
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	12	208	2	438	89	115
Future Volume (vph)	12	208	2	438	89	115
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	9.0	24.0	10.0	25.0	26.0	26.0
Total Split (%)	15.0%	40.0%	16.7%	41.7%	43.3%	43.3%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	5.0	14.0	5.6	14.2	35.5	35.5
Actuated g/C Ratio	0.08	0.23	0.09	0.24	0.59	0.59
v/c Ratio	0.09	0.27	0.01	0.60	0.09	0.13
Control Delay	26.9	18.9	24.5	22.7	8.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.9	18.9	24.5	22.7	8.0	2.8
LOS	C	B	C	C	A	A
Approach Delay		19.3		22.7	5.1	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 2 (3%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 17.8	Intersection LOS: B
Intersection Capacity Utilization 35.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	12	208	2	438	25	89	115
Future Volume (veh/h)	12	208	2	438	25	89	115
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	13	226		476	27	97	125
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	29	1024		701	40	1016	904
Arrive On Green	0.02	0.29		0.21	0.21	0.57	0.57
Sat Flow, veh/h	1781	3647		3510	193	1781	1585
Grp Volume(v), veh/h	13	226		247	256	97	125
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1833	1781	1585
Q Serve(g_s), s	0.4	2.9		7.7	7.7	1.5	2.2
Cycle Q Clear(g_c), s	0.4	2.9		7.7	7.7	1.5	2.2
Prop In Lane	1.00				0.11	1.00	1.00
Lane Grp Cap(c), veh/h	29	1024		364	376	1016	904
V/C Ratio(X)	0.45	0.22		0.68	0.68	0.10	0.14
Avail Cap(c_a), veh/h	148	1155		607	626	1016	904
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	16.2		22.0	22.0	5.9	6.0
Incr Delay (d2), s/veh	10.0	0.1		2.2	2.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.0		3.1	3.2	0.5	3.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	39.3	16.3		24.2	24.2	6.0	6.3
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		239		503		222	
Approach Delay, s/veh		17.6		24.2		6.2	
Approach LOS		B		C		A	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		21.8		38.2	5.0	16.8
Change Period (Y+Rc), s		4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		19.5		22.0	5.0	20.5
Max Q Clear Time (g_c+I1), s		4.9		4.2	2.4	9.7
Green Ext Time (p_c), s		1.0		0.6	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

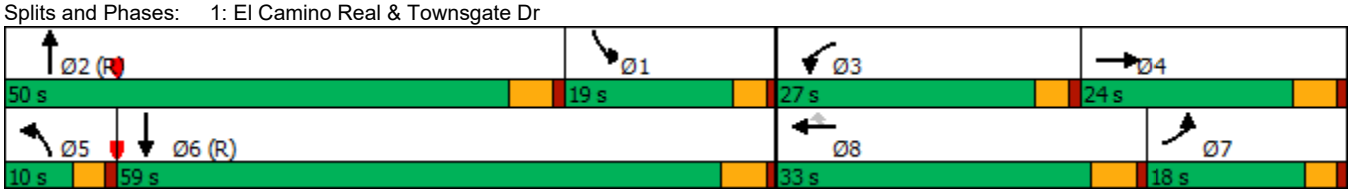
Notes

User approved ignoring U-Turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	75	24	155	2	103	8	986	125	425
Future Volume (vph)	75	24	155	2	103	8	986	125	425
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	18.0	24.0	27.0	33.0	33.0	10.0	50.0	19.0	59.0
Total Split (%)	15.0%	20.0%	22.5%	27.5%	27.5%	8.3%	41.7%	15.8%	49.2%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	14.0	19.0	23.0	28.0	28.0	6.0	45.0	15.0	54.0
Actuated g/C Ratio	0.12	0.16	0.19	0.23	0.23	0.05	0.38	0.12	0.45
v/c Ratio	0.40	0.20	0.50	0.00	0.23	0.10	0.70	0.62	0.20
Control Delay	55.4	25.1	49.1	35.5	3.8	56.1	21.2	62.7	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	25.1	49.1	35.5	3.8	56.1	21.2	62.7	20.2
LOS	E	C	D	D	A	E	C	E	C
Approach Delay		42.7		31.0			21.5		29.8
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 16 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 26.0	Intersection LOS: C
Intersection Capacity Utilization 57.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	24	30	155	2	103	8	986	224	125	425	4
Future Volume (veh/h)	75	24	30	155	2	103	8	986	224	125	425	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	26	33	168	2	112	9	1072	243	136	462	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	123	156	336	429	364	88	1535	348	219	2354	20
Arrive On Green	0.11	0.16	0.16	0.19	0.23	0.23	0.10	0.74	0.74	0.12	0.45	0.45
Sat Flow, veh/h	1781	749	950	1781	1870	1585	1781	4162	943	1781	5221	45
Grp Volume(v), veh/h	82	0	59	168	2	112	9	877	438	136	301	165
Grp Sat Flow(s),veh/h/ln	1781	0	1699	1781	1870	1585	1781	1702	1701	1781	1702	1862
Q Serve(g_s), s	5.2	0.0	3.7	10.3	0.1	7.1	0.6	17.0	17.0	8.8	6.5	6.5
Cycle Q Clear(g_c), s	5.2	0.0	3.7	10.3	0.1	7.1	0.6	17.0	17.0	8.8	6.5	6.5
Prop In Lane	1.00		0.56	1.00		1.00	1.00		0.55	1.00		0.02
Lane Grp Cap(c), veh/h	204	0	279	336	429	364	88	1256	627	219	1535	840
V/C Ratio(X)	0.40	0.00	0.21	0.50	0.00	0.31	0.10	0.70	0.70	0.62	0.20	0.20
Avail Cap(c_a), veh/h	204	0	279	336	429	364	88	1256	627	219	1535	840
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	0.0	44.2	44.4	36.3	39.0	52.5	12.3	12.3	50.8	20.2	20.2
Incr Delay (d2), s/veh	5.8	0.0	1.7	5.2	0.0	2.2	2.3	3.2	6.4	12.5	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	1.7	5.1	0.0	3.0	0.3	4.2	4.7	4.6	2.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	0.0	45.9	49.6	36.3	41.2	54.9	15.6	18.7	63.3	20.5	20.7
LnGrp LOS	E	A	D	D	D	D	D	B	B	E	C	C
Approach Vol, veh/h		141			282			1324			602	
Approach Delay, s/veh		51.7			46.1			16.9			30.2	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	50.0	27.0	25.0	10.0	60.0	19.0	33.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	15.0	* 45	23.0	19.0	6.0	54.0	14.0	* 28
Max Q Clear Time (g_c+I1), s	10.8	19.0	12.3	5.7	2.6	8.5	7.2	9.1
Green Ext Time (p_c), s	0.1	9.4	0.3	0.2	0.0	2.8	0.1	0.3

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

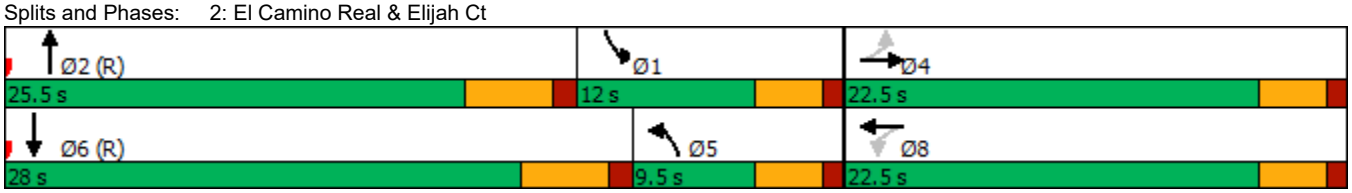
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	0	34	1	13	1153	100	543
Future Volume (vph)	10	0	34	1	13	1153	100	543
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	9.5	25.5	12.0	28.0
Total Split (%)	37.5%	37.5%	37.5%	37.5%	15.8%	42.5%	20.0%	46.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	18.5	18.5	18.5	18.5	5.5	20.5	8.0	23.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.09	0.34	0.13	0.38
v/c Ratio	0.03	0.01	0.09	0.11	0.09	0.77	0.46	0.30
Control Delay	14.8	0.0	15.5	5.7	28.8	23.9	22.4	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	0.0	15.5	5.7	28.8	23.9	22.4	8.0
LOS	B	A	B	A	C	C	C	A
Approach Delay		10.9		9.4		23.9		10.2
Approach LOS		B		A		C		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 18.7	Intersection LOS: B
Intersection Capacity Utilization 49.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	4	34	1	54	13	1153	80	100	543	4
Future Volume (veh/h)	10	0	4	34	1	54	13	1153	80	100	543	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	0	4	37	1	59	14	1253	87	109	590	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	498	0	489	553	8	482	163	1666	116	238	2006	14
Arrive On Green	0.31	0.00	0.31	0.31	0.31	0.31	0.03	0.11	0.11	0.27	0.77	0.77
Sat Flow, veh/h	1343	0	1585	1412	26	1563	1781	4875	338	1781	5233	35
Grp Volume(v), veh/h	11	0	4	37	0	60	14	875	465	109	384	210
Grp Sat Flow(s),veh/h/ln	1343	0	1585	1412	0	1589	1781	1702	1809	1781	1702	1864
Q Serve(g_s), s	0.4	0.0	0.1	1.1	0.0	1.6	0.5	14.9	15.0	3.1	2.0	2.0
Cycle Q Clear(g_c), s	2.0	0.0	0.1	1.2	0.0	1.6	0.5	14.9	15.0	3.1	2.0	2.0
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.19	1.00		0.02
Lane Grp Cap(c), veh/h	498	0	489	553	0	490	163	1163	618	238	1305	715
V/C Ratio(X)	0.02	0.00	0.01	0.07	0.00	0.12	0.09	0.75	0.75	0.46	0.29	0.29
Avail Cap(c_a), veh/h	498	0	489	553	0	490	163	1163	618	238	1305	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	14.4	14.8	0.0	14.9	26.6	24.2	24.2	20.2	4.6	4.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.5	1.0	4.5	8.2	6.3	0.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.4	0.0	0.6	0.2	7.2	8.3	1.5	0.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	14.4	15.0	0.0	15.4	27.7	28.7	32.4	26.5	5.1	5.6
LnGrp LOS	B	A	B	B	A	B	C	C	C	C	A	A
Approach Vol, veh/h		15			97			1354			703	
Approach Delay, s/veh		15.4			15.3			29.9			8.6	
Approach LOS		B			B			C			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	25.5		22.5	9.5	28.0		22.5
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	8.0	20.5		18.5	5.5	23.0		18.5
Max Q Clear Time (g_c+I1), s	5.1	17.0		4.0	2.5	4.0		3.6
Green Ext Time (p_c), s	0.1	2.4		0.0	0.0	3.2		0.3

Intersection Summary			
HCM 6th Ctrl Delay			22.3
HCM 6th LOS			C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	60	172	347	56	102	169	1070	102	462
Future Volume (vph)	60	172	347	56	102	169	1070	102	462
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	18.0	33.0	35.0	13.0	28.0	35.0	55.0	19.0	39.0
Total Split (%)	15.0%	27.5%	29.2%	10.8%	23.3%	29.2%	45.8%	15.8%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.8	17.3	29.3	22.5	15.6	12.0	66.8	12.8	67.7
Actuated g/C Ratio	0.08	0.14	0.24	0.19	0.13	0.10	0.56	0.11	0.56
v/c Ratio	0.45	0.70	0.71	0.30	0.50	0.54	0.43	0.59	0.19
Control Delay	61.8	62.1	24.8	37.6	21.6	53.8	12.4	56.3	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	62.1	24.8	37.6	21.6	53.8	12.4	56.3	9.2
LOS	E	E	C	D	C	D	B	E	A
Approach Delay		39.7			24.4		17.9		17.4
Approach LOS		D			C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 24 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 23.1	Intersection LOS: C
Intersection Capacity Utilization 55.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	172	347	56	102	158	169	1070	47	102	462	26
Future Volume (veh/h)	60	172	347	56	102	158	169	1070	47	102	462	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	187	377	61	111	172	184	1163	51	111	502	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	442	487	255	403	357	249	2550	112	135	2537	140
Arrive On Green	0.05	0.24	0.24	0.04	0.23	0.23	0.14	1.00	1.00	0.15	1.00	1.00
Sat Flow, veh/h	1781	1870	1575	1781	1777	1575	3456	5014	220	1781	4950	274
Grp Volume(v), veh/h	65	187	377	61	111	172	184	789	425	111	344	186
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1777	1575	1728	1702	1830	1781	1702	1820
Q Serve(g_s), s	4.3	10.2	26.1	3.1	6.2	11.4	6.1	0.0	0.0	7.2	0.0	0.0
Cycle Q Clear(g_c), s	4.3	10.2	26.1	3.1	6.2	11.4	6.1	0.0	0.0	7.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.15
Lane Grp Cap(c), veh/h	84	442	487	255	403	357	249	1731	930	135	1744	933
V/C Ratio(X)	0.77	0.42	0.77	0.24	0.28	0.48	0.74	0.46	0.46	0.82	0.20	0.20
Avail Cap(c_a), veh/h	208	452	495	322	403	357	893	1731	930	223	1744	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	0.97	0.97	0.97
Uniform Delay (d), s/veh	56.5	38.9	37.7	34.0	38.3	40.3	50.3	0.0	0.0	50.1	0.0	0.0
Incr Delay (d2), s/veh	13.9	0.6	7.4	0.5	0.4	1.0	4.0	0.8	1.5	11.2	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	4.7	10.8	1.4	2.7	4.4	2.6	0.2	0.4	3.4	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	39.5	45.1	34.5	38.6	41.3	54.3	0.8	1.5	61.3	0.2	0.5
LnGrp LOS	E	D	D	C	D	D	D	A	A	E	A	A
Approach Vol, veh/h		629			344			1398			641	
Approach Delay, s/veh		46.1			39.2			8.1			10.9	
Approach LOS		D			D			A			B	

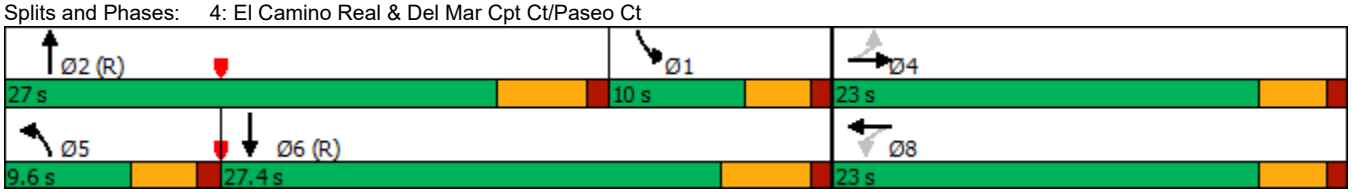
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	66.0	8.5	32.4	12.7	66.5	9.7	31.2
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	50.0	9.0	29.0	31.0	34.0	14.0	24.0
Max Q Clear Time (g_c+I1), s	9.2	2.0	5.1	28.1	8.1	2.0	6.3	13.4
Green Ext Time (p_c), s	0.1	9.5	0.0	0.3	0.6	3.2	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	0	50	2	7	1214	6	852
Future Volume (vph)	32	0	50	2	7	1214	6	852
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	9.6	27.0	10.0	27.4
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.0%	45.0%	16.7%	45.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.4	9.4	9.4	9.4	5.9	42.5	5.7	42.4
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.10	0.71	0.10	0.71
v/c Ratio	0.17	0.15	0.26	0.19	0.05	0.37	0.04	0.26
Control Delay	21.3	0.6	23.4	8.0	32.4	5.3	27.0	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	0.6	23.4	8.0	32.4	5.3	27.0	5.3
LOS	C	A	C	A	C	A	C	A
Approach Delay		7.3		15.7		5.4		5.5
Approach LOS		A		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 30 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay: 6.0	Intersection LOS: A
Intersection Capacity Utilization 41.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	68	50	2	48	7	1214	6	6	852	4
Future Volume (veh/h)	32	0	68	50	2	48	7	1214	6	6	852	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	0	74	54	2	52	8	1320	7	7	926	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	0	207	237	8	200	19	1922	10	477	3363	15
Arrive On Green	0.13	0.00	0.13	0.13	0.13	0.13	0.02	0.73	0.73	0.54	1.00	1.00
Sat Flow, veh/h	1337	0	1567	1314	58	1518	1781	5241	28	1781	5248	23
Grp Volume(v), veh/h	35	0	74	54	0	54	8	857	470	7	601	329
Grp Sat Flow(s),veh/h/ln	1337	0	1567	1314	0	1577	1781	1702	1865	1781	1702	1866
Q Serve(g_s), s	1.4	0.0	2.6	2.3	0.0	1.8	0.3	8.1	8.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	2.6	4.9	0.0	1.8	0.3	8.1	8.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		0.01	1.00		0.01
Lane Grp Cap(c), veh/h	255	0	207	237	0	208	19	1248	684	477	2182	1196
V/C Ratio(X)	0.14	0.00	0.36	0.23	0.00	0.26	0.43	0.69	0.69	0.01	0.28	0.28
Avail Cap(c_a), veh/h	502	0	496	480	0	499	166	1248	684	477	2182	1196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.90	0.90	0.90	0.92	0.92	0.92
Uniform Delay (d), s/veh	24.9	0.0	23.7	26.0	0.0	23.4	29.2	6.1	6.1	10.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.0	0.5	0.0	0.7	13.6	2.8	5.0	0.0	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.0	0.7	0.0	0.7	0.2	1.9	2.5	0.0	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	0.0	24.8	26.4	0.0	24.1	42.8	8.9	11.2	10.2	0.3	0.5
LnGrp LOS	C	A	C	C	A	C	D	A	B	B	A	A
Approach Vol, veh/h		109			108			1335			937	
Approach Delay, s/veh		24.9			25.3			9.9			0.4	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.1	27.0		11.9	4.6	43.5		11.9
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	6.0	* 22		19.0	5.6	22.4		19.0
Max Q Clear Time (g_c+I1), s	2.1	10.1		5.3	2.3	2.0		6.9
Green Ext Time (p_c), s	0.0	6.2		0.4	0.0	5.5		0.3

Intersection Summary		
HCM 6th Ctrl Delay		7.7
HCM 6th LOS		A

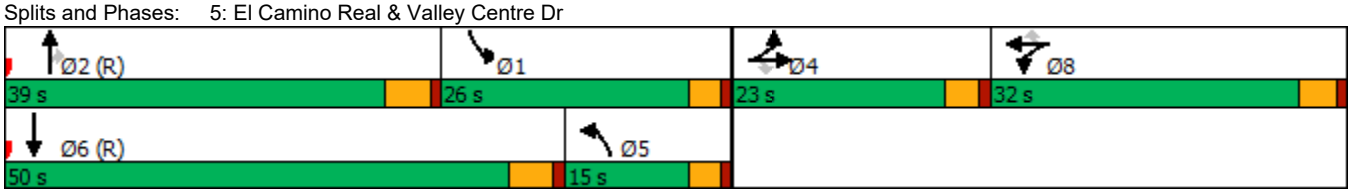
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	36	26	32	362	9	182	69	917	301	197	1023
Future Volume (vph)	36	26	32	362	9	182	69	917	301	197	1023
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	32.0	32.0	32.0	15.0	39.0	39.0	26.0	50.0
Total Split (%)	19.2%	19.2%	19.2%	26.7%	26.7%	26.7%	12.5%	32.5%	32.5%	21.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.4	9.4	9.4	21.3	21.3	21.3	9.5	54.1	54.1	19.6	66.2
Actuated g/C Ratio	0.08	0.08	0.08	0.18	0.18	0.18	0.08	0.45	0.45	0.16	0.55
v/c Ratio	0.27	0.27	0.13	0.71	0.74	0.44	0.54	0.44	0.39	0.74	0.41
Control Delay	54.8	50.4	1.1	59.0	60.2	9.0	61.0	14.4	3.5	59.1	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	50.4	1.1	59.0	60.2	9.0	61.0	14.4	3.5	59.1	21.0
LOS	D	D	A	E	E	A	E	B	A	E	C
Approach Delay		36.9			44.6			14.3			27.0
Approach LOS		D			D			B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 114 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 25.2	Intersection LOS: C
Intersection Capacity Utilization 58.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	26	32	362	9	182	69	917	301	197	1023	24
Future Volume (veh/h)	36	26	32	362	9	182	69	917	301	197	1023	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	36	33	459	0	135	75	997	327	214	1112	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	92	76	553	0	244	489	1447	447	653	1924	45
Arrive On Green	0.05	0.05	0.05	0.16	0.00	0.16	0.55	0.57	0.57	0.73	0.75	0.75
Sat Flow, veh/h	1781	1870	1537	3563	0	1570	1781	5106	1577	1781	5132	120
Grp Volume(v), veh/h	35	36	33	459	0	135	75	997	327	214	737	401
Grp Sat Flow(s),veh/h/ln	1781	1870	1537	1781	0	1570	1781	1702	1577	1781	1702	1848
Q Serve(g_s), s	2.3	2.2	2.5	15.0	0.0	9.5	2.5	16.7	18.4	5.1	11.5	11.5
Cycle Q Clear(g_c), s	2.3	2.2	2.5	15.0	0.0	9.5	2.5	16.7	18.4	5.1	11.5	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	88	92	76	553	0	244	489	1447	447	653	1277	693
V/C Ratio(X)	0.40	0.39	0.44	0.83	0.00	0.55	0.15	0.69	0.73	0.33	0.58	0.58
Avail Cap(c_a), veh/h	282	296	243	816	0	360	489	1447	447	653	1277	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.00	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Uniform Delay (d), s/veh	55.3	55.3	55.4	49.2	0.0	46.9	20.2	22.2	22.6	10.8	10.8	10.8
Incr Delay (d2), s/veh	2.9	2.7	3.9	4.3	0.0	1.8	0.1	2.3	8.6	0.3	1.9	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.1	1.0	6.9	0.0	3.8	1.0	4.9	5.7	1.7	3.1	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	58.0	59.3	53.5	0.0	48.7	20.3	24.5	31.3	11.1	12.7	14.2
LnGrp LOS	E	E	E	D	A	D	C	C	C	B	B	B
Approach Vol, veh/h		104			594			1399			1352	
Approach Delay, s/veh		58.5			52.4			25.9			12.9	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.0	39.0		9.9	37.0	50.0		23.1
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	22.0	34.0		19.0	11.0	45.0		27.5
Max Q Clear Time (g_c+I1), s	7.1	20.4		4.5	4.5	13.5		17.0
Green Ext Time (p_c), s	0.5	6.3		0.3	0.1	8.1		1.6

Intersection Summary			
HCM 6th Ctrl Delay			26.3
HCM 6th LOS			C

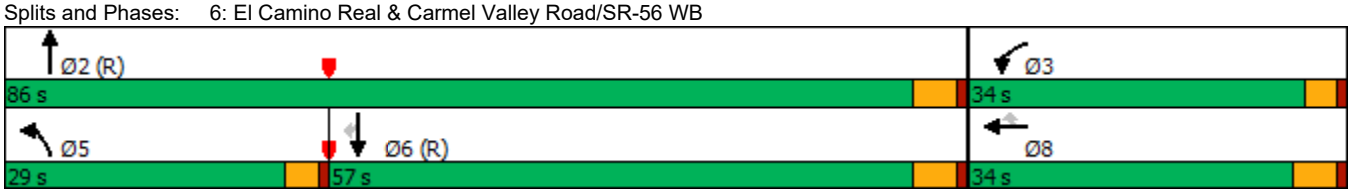
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	191	689	225	363	1163	737	622
Future Volume (vph)	191	689	225	363	1163	737	622
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	34.0	34.0	34.0	29.0	86.0	57.0	57.0
Total Split (%)	28.3%	28.3%	28.3%	24.2%	71.7%	47.5%	47.5%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	25.9	24.9	24.9	19.0	85.1	62.1	62.1
Actuated g/C Ratio	0.22	0.21	0.21	0.16	0.71	0.52	0.52
v/c Ratio	0.28	0.71	0.63	0.73	0.50	0.48	0.47
Control Delay	39.6	47.9	34.1	62.1	1.1	7.4	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	39.6	47.9	34.1	62.1	1.3	7.4	6.3
LOS	D	D	C	E	A	A	A
Approach Delay		43.7			15.8	7.1	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 20.6	Intersection LOS: C
Intersection Capacity Utilization 70.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	191	689	225	363	1163	0	0	737	622
Future Volume (veh/h)	0	0	0	191	689	225	363	1163	0	0	737	622
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				208	749	245	395	1264	0	0	801	676
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				695	1027	317	461	2572	0	0	2083	1761
Arrive On Green				0.20	0.20	0.20	0.27	1.00	0.00	0.00	1.00	1.00
Sat Flow, veh/h				3456	5106	1573	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				208	749	245	395	1264	0	0	801	676
Grp Sat Flow(s),veh/h/ln				1728	1702	1573	1728	1777	0	0	1870	1581
Q Serve(g_s), s				6.1	16.5	17.7	13.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				6.1	16.5	17.7	13.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				695	1027	317	461	2572	0	0	2083	1761
V/C Ratio(X)				0.30	0.73	0.77	0.86	0.49	0.00	0.00	0.38	0.38
Avail Cap(c_a), veh/h				864	1277	393	720	2572	0	0	2083	1761
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.56	0.56	0.00	0.00	0.89	0.89
Uniform Delay (d), s/veh				40.7	44.9	45.3	42.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.2	1.6	7.4	3.6	0.4	0.0	0.0	0.5	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.6	6.8	7.3	4.9	0.1	0.0	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.0	46.5	52.8	46.5	0.4	0.0	0.0	0.5	0.6
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1202			1659			1477	
Approach Delay, s/veh					46.8			11.4			0.5	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	91.9		20.0	71.8		28.1
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	81.0		25.0	52.0		30.0
Max Q Clear Time (g_c+I1), s	2.0		15.0	2.0		19.7
Green Ext Time (p_c), s	12.0		1.0	10.4		4.5

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

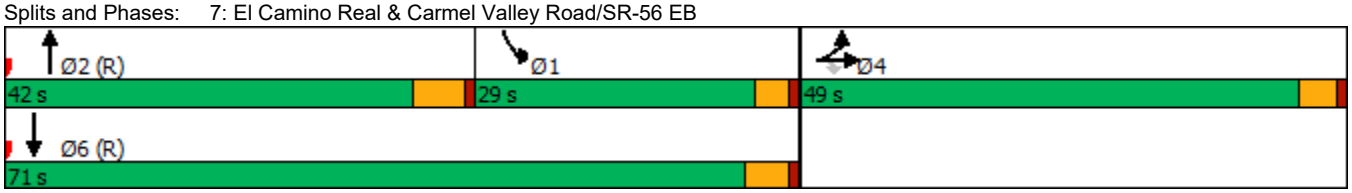
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	453	760	147	1076	235	647
Future Volume (vph)	453	760	147	1076	235	647
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	49.0	49.0	49.0	42.0	29.0	71.0
Total Split (%)	40.8%	40.8%	40.8%	35.0%	24.2%	59.2%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	41.7	41.7	41.7	39.3	25.0	68.8
Actuated g/C Ratio	0.35	0.35	0.35	0.33	0.21	0.57
v/c Ratio	0.77	0.81	0.25	0.76	0.69	0.24
Control Delay	45.1	42.1	7.6	37.8	38.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	1.3	0.0
Total Delay	45.1	42.1	7.6	37.8	40.0	3.3
LOS	D	D	A	D	D	A
Approach Delay		39.6		37.8		13.1
Approach LOS		D		D		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 32.6	Intersection LOS: C
Intersection Capacity Utilization 70.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	453	760	147	0	0	0	0	1076	366	235	647	0
Future Volume (veh/h)	453	760	147	0	0	0	0	1076	366	235	647	0
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	328	1056	160				0	1170	398	255	703	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	591	1241	523				0	1468	480	426	3009	0
Arrive On Green	0.33	0.33	0.33				0.00	0.30	0.30	0.08	0.19	0.00
Sat Flow, veh/h	1781	3741	1578				0	5087	1577	1781	5274	0
Grp Volume(v), veh/h	328	1056	160				0	1170	398	255	703	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1578				0	1609	1577	1781	1702	0
Q Serve(g_s), s	18.1	31.5	9.1				0.0	26.7	28.2	16.6	13.9	0.0
Cycle Q Clear(g_c), s	18.1	31.5	9.1				0.0	26.7	28.2	16.6	13.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	591	1241	523				0	1468	480	426	3009	0
V/C Ratio(X)	0.56	0.85	0.31				0.00	0.80	0.83	0.60	0.23	0.00
Avail Cap(c_a), veh/h	661	1387	585				0	1468	480	426	3009	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	32.9	37.3	29.8				0.0	38.3	38.9	49.7	25.5	0.0
Incr Delay (d2), s/veh	0.8	4.8	0.3				0.0	4.6	15.2	2.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	14.8	3.4				0.0	10.6	12.4	8.1	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	42.2	30.2				0.0	42.9	54.1	51.7	25.6	0.0
LnGrp LOS	C	D	C				A	D	D	D	C	A
Approach Vol, veh/h		1544						1568			958	
Approach Delay, s/veh		39.1						45.8			32.6	
Approach LOS		D						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	33.7	42.0		44.3		75.7
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	25.0	* 37		44.5		66.0
Max Q Clear Time (g_c+I1), s	18.6	30.2		33.5		15.9
Green Ext Time (p_c), s	0.4	4.4		6.2		5.0

Intersection Summary	
HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

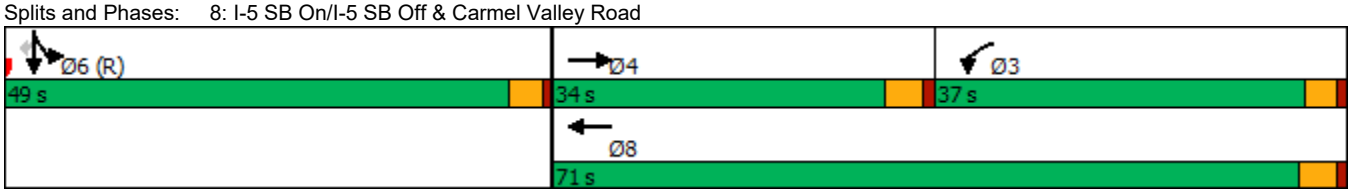
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	437	578	672	633	1	92
Future Volume (vph)	437	578	672	633	1	92
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	34.0	37.0	71.0	49.0	49.0	49.0
Total Split (%)	28.3%	30.8%	59.2%	40.8%	40.8%	40.8%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	25.3	27.1	56.4	55.1	55.1	55.1
Actuated g/C Ratio	0.21	0.23	0.47	0.46	0.46	0.46
v/c Ratio	0.81	0.81	0.44	0.45	0.47	0.12
Control Delay	52.0	39.1	8.8	26.6	27.0	5.3
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	52.1	39.1	8.8	26.6	27.0	5.3
LOS	D	D	A	C	C	A
Approach Delay	52.1		22.8		24.3	
Approach LOS	D		C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 29.6	Intersection LOS: C
Intersection Capacity Utilization 71.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	437	111	578	672	0	0	0	0	633	1	92
Future Volume (veh/h)	0	437	111	578	672	0	0	0	0	633	1	92
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	475	121	628	730	0				720	0	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	557	141	716	1576	0				1730	0	767
Arrive On Green	0.00	0.20	0.20	0.21	0.44	0.00				0.49	0.00	0.49
Sat Flow, veh/h	0	2897	709	3456	3647	0				3563	0	1580
Grp Volume(v), veh/h	0	300	296	628	730	0				720	0	67
Grp Sat Flow(s),veh/h/ln	0	1777	1736	1728	1777	0				1781	0	1580
Q Serve(g_s), s	0.0	19.5	19.8	21.1	17.3	0.0				15.6	0.0	2.7
Cycle Q Clear(g_c), s	0.0	19.5	19.8	21.1	17.3	0.0				15.6	0.0	2.7
Prop In Lane	0.00		0.41	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	353	345	716	1576	0				1730	0	767
V/C Ratio(X)	0.00	0.85	0.86	0.88	0.46	0.00				0.42	0.00	0.09
Avail Cap(c_a), veh/h	0	437	427	950	1969	0				1730	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.74	0.74	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.3	46.4	46.1	23.4	0.0				19.9	0.0	16.6
Incr Delay (d2), s/veh	0.0	12.3	13.5	5.6	0.2	0.0				0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.6	9.6	9.4	7.0	0.0				6.6	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	58.6	59.9	51.7	23.5	0.0				20.6	0.0	16.8
LnGrp LOS	A	E	E	D	C	A				C	A	B
Approach Vol, veh/h		596			1358						787	
Approach Delay, s/veh		59.3			36.6						20.3	
Approach LOS		E			D						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		29.4	28.4		62.3		57.7					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		33.0	* 30		45.0		66.5					
Max Q Clear Time (g_c+I1), s		23.1	21.8		17.6		19.3					
Green Ext Time (p_c), s		1.7	2.1		3.1		5.5					

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

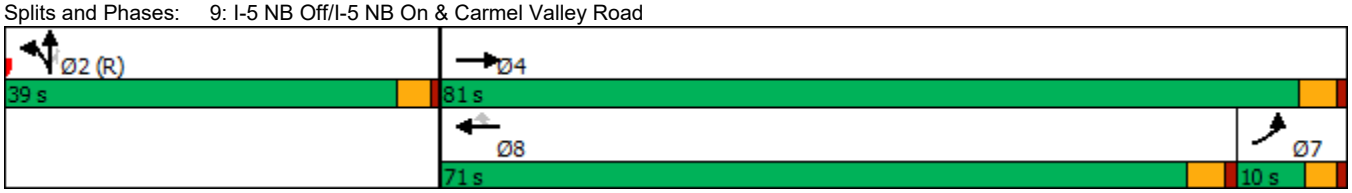
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	39	1032	1004	675	246	7	405
Future Volume (vph)	39	1032	1004	675	246	7	405
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	81.0	71.0	71.0	39.0	39.0	39.0
Total Split (%)	8.3%	67.5%	59.2%	59.2%	32.5%	32.5%	32.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.5	62.9	54.3	54.3	48.6	48.6	48.6
Actuated g/C Ratio	0.05	0.52	0.45	0.45	0.40	0.40	0.40
v/c Ratio	0.23	0.61	0.68	0.67	0.35	0.37	0.36
Control Delay	65.5	20.9	9.2	7.2	30.1	18.2	18.1
Queue Delay	0.0	0.6	0.1	2.3	0.0	0.0	0.0
Total Delay	65.5	21.5	9.3	9.5	30.1	18.2	18.1
LOS	E	C	A	A	C	B	B
Approach Delay		23.1	9.4			22.2	
Approach LOS		C	A			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 71.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1032	0	0	1004	675	246	7	405	0	0	0
Future Volume (veh/h)	39	1032	0	0	1004	675	246	7	405	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	42	1122	0	0	1091	734	181	0	538			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	108	2062	0	0	1817	808	622	0	1102			
Arrive On Green	0.03	0.58	0.00	0.00	0.51	0.51	0.35	0.00	0.35			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3156			
Grp Volume(v), veh/h	42	1122	0	0	1091	734	181	0	538			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	1.4	23.2	0.0	0.0	26.0	50.9	8.8	0.0	16.1			
Cycle Q Clear(g_c), s	1.4	23.2	0.0	0.0	26.0	50.9	8.8	0.0	16.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	108	2062	0	0	1817	808	622	0	1102			
V/C Ratio(X)	0.39	0.54	0.00	0.00	0.60	0.91	0.29	0.00	0.49			
Avail Cap(c_a), veh/h	173	2265	0	0	1969	876	622	0	1102			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.68	0.68	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	57.0	15.5	0.0	0.0	20.7	26.8	28.3	0.0	30.7			
Incr Delay (d2), s/veh	1.5	0.2	0.0	0.0	0.3	8.8	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			
%ile BackOfQ(50%),veh/ln	0.6	8.8	0.0	0.0	10.3	19.7	4.0	0.0	6.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	15.6	0.0	0.0	21.0	35.6	29.5	0.0	32.2			
LnGrp LOS	E	B	A	A	C	D	C	A	C			
Approach Vol, veh/h		1164			1825			719				
Approach Delay, s/veh		17.2			26.8			31.5				
Approach LOS		B			C			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		45.9		74.1			8.3	65.9				
Change Period (Y+Rc), s		4.0		4.5			4.5	* 4.5				
Max Green Setting (Gmax), s		35.0		76.5			6.0	* 67				
Max Q Clear Time (g_c+I1), s		18.1		25.2			3.4	52.9				
Green Ext Time (p_c), s		2.7		10.1			0.0	8.5				

Intersection Summary												
HCM 6th Ctrl Delay			24.7									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	19	31	1396	1632
Future Volume (vph)	19	31	1396	1632
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	15.0	93.0	78.0
Total Split (%)	22.5%	12.5%	77.5%	65.0%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	42.6	7.8	68.9	61.2
Actuated g/C Ratio	0.36	0.06	0.57	0.51
v/c Ratio	0.07	0.30	0.52	0.70
Control Delay	19.9	59.2	7.0	14.9
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	19.9	59.2	7.1	14.9
LOS	B	E	A	B
Approach Delay	19.9		8.3	14.9
Approach LOS	B		A	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 12.0	Intersection LOS: B
Intersection Capacity Utilization 54.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	19	22	31	1396	1632	29
Future Volume (veh/h)	19	22	31	1396	1632	29
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	24	34	1517	1774	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	322	368	50	2625	2316	42
Arrive On Green	0.42	0.42	0.03	0.51	0.45	0.45
Sat Flow, veh/h	775	886	1781	5274	5332	93
Grp Volume(v), veh/h	46	0	34	1517	1169	637
Grp Sat Flow(s),veh/h/ln	1698	0	1781	1702	1702	1853
Q Serve(g_s), s	2.0	0.0	2.3	24.6	34.6	34.7
Cycle Q Clear(g_c), s	2.0	0.0	2.3	24.6	34.6	34.7
Prop In Lane	0.46	0.52	1.00			0.05
Lane Grp Cap(c), veh/h	705	0	50	2625	1526	831
V/C Ratio(X)	0.07	0.00	0.68	0.58	0.77	0.77
Avail Cap(c_a), veh/h	705	0	163	3766	2085	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.81	0.81	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	57.8	20.1	27.8	27.8
Incr Delay (d2), s/veh	0.2	0.0	12.0	0.2	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.2	9.3	13.6	15.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.3	0.0	69.8	20.3	29.0	30.0
LnGrp LOS	C	A	E	C	C	C
Approach Vol, veh/h	46			1551	1806	
Approach Delay, s/veh	21.3			21.4	29.3	
Approach LOS	C			C	C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	66.2	53.8	7.9	58.3
Change Period (Y+Rc), s	4.5	4.0	4.5	* 4.5
Max Green Setting (Gmax), s	88.5	23.0	11.0	* 74
Max Q Clear Time (g_c+I1), s	26.6	4.0	4.3	36.7
Green Ext Time (p_c), s	16.1	0.1	0.0	17.2

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

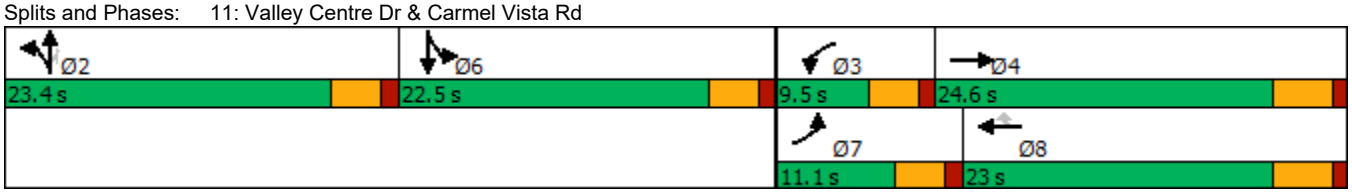
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	60	397	5	310	59	153	52	116	83	3
Future Volume (vph)	60	397	5	310	59	153	52	116	83	3
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.1	24.6	9.5	23.0	23.0	23.4	23.4	23.4	22.5	22.5
Total Split (%)	13.9%	30.8%	11.9%	28.8%	28.8%	29.3%	29.3%	29.3%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	7.0	16.3	5.9	12.0	12.0	20.9	20.9	20.9	9.6	9.6
Actuated g/C Ratio	0.12	0.28	0.10	0.21	0.21	0.36	0.36	0.36	0.16	0.16
v/c Ratio	0.31	0.45	0.03	0.46	0.15	0.18	0.18	0.19	0.31	0.10
Control Delay	33.4	20.1	31.8	25.0	1.5	20.1	20.0	5.5	27.6	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	20.1	31.8	25.0	1.5	20.1	20.0	5.5	27.6	12.3
LOS	C	C	C	C	A	C	C	A	C	B
Approach Delay		21.8		21.4			14.8			23.8
Approach LOS		C		C			B			C

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 58.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay: 20.1	Intersection LOS: C
Intersection Capacity Utilization 38.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	397	8	5	310	59	153	52	116	83	3	24
Future Volume (veh/h)	60	397	8	5	310	59	153	52	116	83	3	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	432	9	5	337	64	112	133	126	90	3	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	757	16	12	570	254	675	708	600	142	13	115
Arrive On Green	0.06	0.21	0.21	0.01	0.16	0.16	0.38	0.38	0.38	0.08	0.08	0.08
Sat Flow, veh/h	1781	3560	74	1781	3554	1585	1781	1870	1585	1781	167	1444
Grp Volume(v), veh/h	65	215	226	5	337	64	112	133	126	90	0	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1585	1781	1870	1585	1781	0	1610
Q Serve(g_s), s	1.8	5.6	5.6	0.1	4.5	1.8	2.1	2.4	2.7	2.5	0.0	0.9
Cycle Q Clear(g_c), s	1.8	5.6	5.6	0.1	4.5	1.8	2.1	2.4	2.7	2.5	0.0	0.9
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	105	378	395	12	570	254	675	708	600	142	0	128
V/C Ratio(X)	0.62	0.57	0.57	0.42	0.59	0.25	0.17	0.19	0.21	0.63	0.00	0.23
Avail Cap(c_a), veh/h	247	697	729	191	1284	573	675	708	600	643	0	582
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	23.5	18.1	18.1	25.3	19.9	18.8	10.5	10.6	10.7	22.8	0.0	22.1
Incr Delay (d2), s/veh	5.8	1.4	1.3	21.7	1.0	0.5	0.5	0.6	0.8	4.6	0.0	0.9
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	0.8	2.1	2.2	0.1	1.7	0.6	0.8	1.0	0.9	1.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	19.4	19.4	47.0	20.9	19.3	11.1	11.2	11.5	27.5	0.0	23.0
LnGrp LOS	C	B	B	D	C	B	B	B	B	C	A	C
Approach Vol, veh/h		506			406			371			119	
Approach Delay, s/veh		20.7			21.0			11.3			26.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.4	4.3	15.4		8.1	7.0	12.7
Change Period (Y+Rc), s		4.0	4.0	4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		19.4	5.5	20.1		18.5	7.1	18.5
Max Q Clear Time (g_c+I1), s		4.7	2.1	7.6		4.5	3.8	6.5
Green Ext Time (p_c), s		1.3	0.0	1.9		0.3	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

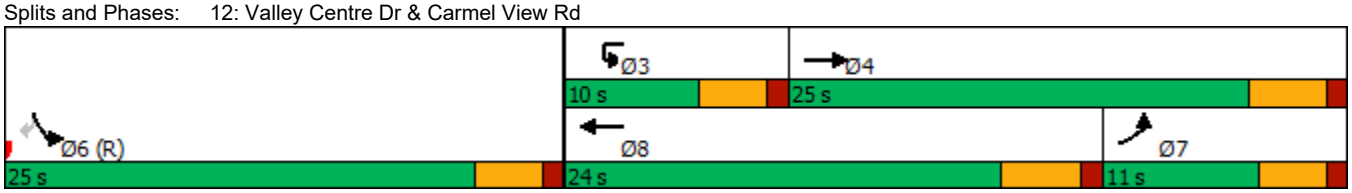
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	79	522	16	337	30	39
Future Volume (vph)	79	522	16	337	30	39
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	11.0	25.0	10.0	24.0	25.0	25.0
Total Split (%)	18.3%	41.7%	16.7%	40.0%	41.7%	41.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	7.7	21.2	5.8	13.4	28.3	28.3
Actuated g/C Ratio	0.13	0.35	0.10	0.22	0.47	0.47
v/c Ratio	0.38	0.45	0.10	0.57	0.04	0.06
Control Delay	28.6	15.7	26.1	20.6	11.9	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	15.7	26.1	20.6	11.9	5.1
LOS	C	B	C	C	B	A
Approach Delay		17.4		20.8	8.1	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 44.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	79	522	16	337	85	30	39
Future Volume (veh/h)	79	522	16	337	85	30	39
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	86	567		366	92	33	42
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	113	1186		549	136	935	832
Arrive On Green	0.06	0.33		0.20	0.20	0.52	0.52
Sat Flow, veh/h	1781	3647		2906	698	1781	1585
Grp Volume(v), veh/h	86	567		229	229	33	42
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1734	1781	1585
Q Serve(g_s), s	2.9	7.6		7.2	7.3	0.5	0.8
Cycle Q Clear(g_c), s	2.9	7.6		7.2	7.3	0.5	0.8
Prop In Lane	1.00				0.40	1.00	1.00
Lane Grp Cap(c), veh/h	113	1186		347	339	935	832
V/C Ratio(X)	0.76	0.48		0.66	0.68	0.04	0.05
Avail Cap(c_a), veh/h	208	1214		577	564	935	832
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	15.8		22.3	22.4	6.9	7.0
Incr Delay (d2), s/veh	9.4	0.3		2.2	2.4	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.7		2.9	2.9	0.2	1.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	37.0	16.1		24.5	24.7	7.0	7.1
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		653		458		75	
Approach Delay, s/veh		18.9		24.6		7.0	
Approach LOS		B		C		A	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			24.5		35.5	8.3	16.2
Change Period (Y+Rc), s			4.5		4.0	4.5	* 4.5
Max Green Setting (Gmax), s			20.5		21.0	7.0	* 20
Max Q Clear Time (g_c+I1), s			9.6		2.8	4.9	9.3
Green Ext Time (p_c), s			2.6		0.2	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

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

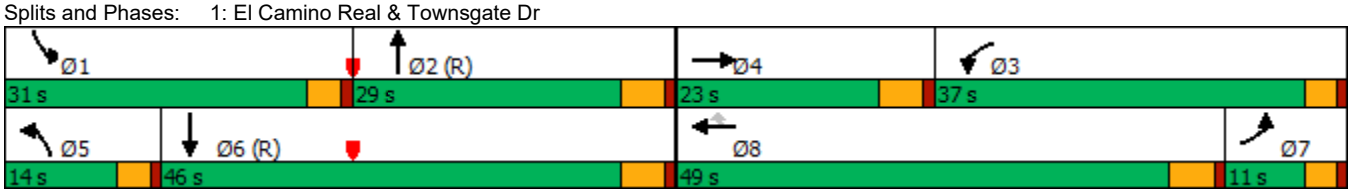
APPENDIX F

NEAR TERM WITH PROJECT HCM ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	4	217	27	135	36	302	172	671
Future Volume (vph)	2	4	217	27	135	36	302	172	671
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	11.0	23.0	37.0	49.0	49.0	14.0	29.0	31.0	46.0
Total Split (%)	9.2%	19.2%	30.8%	40.8%	40.8%	11.7%	24.2%	25.8%	38.3%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	7.0	18.0	33.0	44.0	44.0	10.0	24.0	27.0	41.0
Actuated g/C Ratio	0.06	0.15	0.28	0.37	0.37	0.08	0.20	0.22	0.34
v/c Ratio	0.02	0.04	0.49	0.04	0.22	0.27	0.42	0.47	0.49
Control Delay	54.0	29.8	40.4	24.8	4.9	73.7	11.3	44.9	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	29.8	40.4	24.8	4.9	73.7	11.3	44.9	31.3
LOS	D	C	D	C	A	E	B	D	C
Approach Delay		33.5		26.7			16.5		33.8
Approach LOS		C		C			B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 14 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	4	6	217	27	135	36	302	94	172	671	106
Future Volume (veh/h)	2	4	6	217	27	135	36	302	94	172	671	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	4	7	236	29	147	39	328	102	187	729	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	92	160	490	686	581	148	782	231	401	1521	238
Arrive On Green	0.06	0.15	0.15	0.28	0.37	0.37	0.17	0.40	0.40	0.22	0.34	0.34
Sat Flow, veh/h	1781	610	1068	1781	1870	1585	1781	3909	1157	1781	4453	696
Grp Volume(v), veh/h	2	0	11	236	29	147	39	283	147	187	556	288
Grp Sat Flow(s),veh/h/ln	1781	0	1678	1781	1870	1585	1781	1702	1662	1781	1702	1745
Q Serve(g_s), s	0.1	0.0	0.7	13.3	1.2	4.1	2.3	7.2	7.7	10.9	15.4	15.6
Cycle Q Clear(g_c), s	0.1	0.0	0.7	13.3	1.2	4.1	2.3	7.2	7.7	10.9	15.4	15.6
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.70	1.00		0.40
Lane Grp Cap(c), veh/h	104	0	252	490	686	581	148	681	332	401	1163	596
V/C Ratio(X)	0.02	0.00	0.04	0.48	0.04	0.25	0.26	0.42	0.44	0.47	0.48	0.48
Avail Cap(c_a), veh/h	104	0	252	490	686	581	148	681	332	401	1163	596
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	0.0	43.6	36.4	24.4	7.3	46.8	31.0	31.1	40.3	31.1	31.2
Incr Delay (d2), s/veh	0.3	0.0	0.3	3.4	0.1	1.0	4.3	1.9	4.2	3.9	1.4	2.8
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	0.1	0.0	0.3	6.2	0.6	3.0	1.2	2.8	3.1	5.1	6.3	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	0.0	44.0	39.7	24.6	8.4	51.1	32.8	35.3	44.1	32.5	33.9
LnGrp LOS	D	A	D	D	C	A	D	C	D	D	C	C
Approach Vol, veh/h		13			412			469			1031	
Approach Delay, s/veh		45.4			27.5			35.1			35.0	
Approach LOS		D			C			D			D	

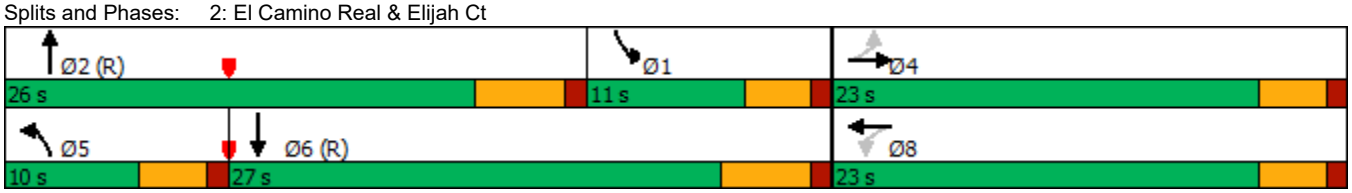
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	29.0	37.0	23.0	14.0	46.0	11.0	49.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	27.0	24.0	33.0	18.0	10.0	41.0	7.0	44.0
Max Q Clear Time (g_c+I1), s	12.9	9.7	15.3	2.7	4.3	17.6	2.1	6.1
Green Ext Time (p_c), s	0.4	2.1	0.6	0.0	0.0	5.2	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	0	117	0	23	345	66	836
Future Volume (vph)	3	0	117	0	23	345	66	836
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	10.0	26.0	11.0	27.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.7%	43.3%	18.3%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	19.0	19.0	19.0	6.0	21.0	7.0	22.0
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.10	0.35	0.12	0.37
v/c Ratio	0.01	0.00	0.29	0.08	0.14	0.22	0.35	0.49
Control Delay	14.3	0.0	17.6	0.2	19.2	14.9	19.2	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	0.0	17.6	0.2	19.2	14.9	19.2	7.0
LOS	B	A	B	A	B	B	B	A
Approach Delay		7.2		11.4		15.2		7.9
Approach LOS		A		B		B		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 12 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 44.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	3	117	0	64	23	345	18	66	836	2
Future Volume (veh/h)	3	0	3	117	0	64	23	345	18	66	836	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	0	3	127	0	70	25	375	20	72	909	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	0	494	557	0	494	175	1709	90	204	1984	4
Arrive On Green	0.31	0.00	0.31	0.31	0.00	0.31	0.03	0.11	0.11	0.15	0.50	0.50
Sat Flow, veh/h	1331	0	1585	1414	0	1585	1781	4965	262	1781	5261	12
Grp Volume(v), veh/h	3	0	3	127	0	70	25	256	139	72	588	323
Grp Sat Flow(s),veh/h/ln	1331	0	1585	1414	0	1585	1781	1702	1823	1781	1702	1868
Q Serve(g_s), s	0.1	0.0	0.1	4.2	0.0	1.9	0.8	4.2	4.2	2.2	6.8	6.8
Cycle Q Clear(g_c), s	2.0	0.0	0.1	4.2	0.0	1.9	0.8	4.2	4.2	2.2	6.8	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.01
Lane Grp Cap(c), veh/h	490	0	494	557	0	494	175	1172	628	204	1283	704
V/C Ratio(X)	0.01	0.00	0.01	0.23	0.00	0.14	0.14	0.22	0.22	0.35	0.46	0.46
Avail Cap(c_a), veh/h	490	0	494	557	0	494	175	1172	628	204	1283	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	0.0	14.5	15.9	0.0	15.1	27.0	19.6	19.6	23.8	11.2	11.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.0	0.0	0.6	1.7	0.4	0.8	4.7	1.2	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	0.0	0.0	0.0	1.4	0.0	0.7	0.4	1.5	1.7	1.1	2.1	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	0.0	14.5	16.9	0.0	15.7	28.7	20.0	20.4	28.5	12.4	13.3
LnGrp LOS	B	A	B	B	A	B	C	C	C	C	B	B
Approach Vol, veh/h		6			197			420			983	
Approach Delay, s/veh		15.2			16.5			20.7			13.9	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	26.0		23.0	10.0	28.0		23.0
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	7.0	* 21		19.0	6.0	22.0		19.0
Max Q Clear Time (g_c+I1), s	4.2	6.2		4.0	2.8	8.8		6.2
Green Ext Time (p_c), s	0.0	1.9		0.0	0.0	4.5		0.6

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

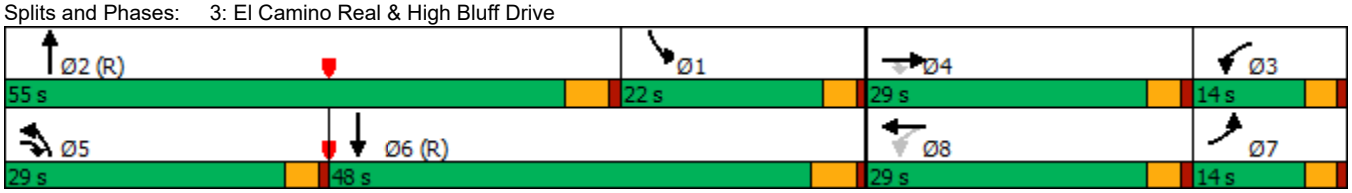
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	23	82	247	71	197	184	273	86	816
Future Volume (vph)	23	82	247	71	197	184	273	86	816
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	14.0	29.0	29.0	14.0	29.0	29.0	55.0	22.0	48.0
Total Split (%)	11.7%	24.2%	24.2%	11.7%	24.2%	24.2%	45.8%	18.3%	40.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	7.2	12.3	24.6	23.3	15.8	12.3	65.9	18.0	71.6
Actuated g/C Ratio	0.06	0.10	0.20	0.19	0.13	0.10	0.55	0.15	0.60
v/c Ratio	0.24	0.47	0.60	0.29	0.63	0.57	0.12	0.35	0.33
Control Delay	58.4	58.1	17.7	41.7	47.2	31.3	8.7	29.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	58.1	17.7	41.7	47.2	31.3	8.7	29.6	6.7
LOS	E	E	B	D	D	C	A	C	A
Approach Delay		29.8			46.1		17.3		8.7
Approach LOS		C			D		B		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 20.0	Intersection LOS: C
Intersection Capacity Utilization 50.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	82	247	71	197	81	184	273	24	86	816	90
Future Volume (veh/h)	23	82	247	71	197	81	184	273	24	86	816	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	89	268	77	214	88	200	297	26	93	887	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	287	362	207	296	117	264	1994	171	430	2752	303
Arrive On Green	0.07	0.15	0.15	0.04	0.12	0.12	0.15	0.83	0.83	0.48	1.00	1.00
Sat Flow, veh/h	1781	1870	1570	1781	2474	982	3456	4786	412	1781	4667	514
Grp Volume(v), veh/h	25	89	268	77	152	150	200	210	113	93	646	339
Grp Sat Flow(s),veh/h/ln	1781	1870	1570	1781	1777	1679	1728	1702	1793	1781	1702	1776
Q Serve(g_s), s	1.6	5.1	15.6	0.0	9.8	10.4	6.7	1.4	1.4	3.6	0.0	0.0
Cycle Q Clear(g_c), s	1.6	5.1	15.6	0.0	9.8	10.4	6.7	1.4	1.4	3.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.23	1.00		0.29
Lane Grp Cap(c), veh/h	129	287	362	207	212	201	264	1418	747	430	2007	1048
V/C Ratio(X)	0.19	0.31	0.74	0.37	0.71	0.75	0.76	0.15	0.15	0.22	0.32	0.32
Avail Cap(c_a), veh/h	148	390	448	287	370	350	720	1418	747	430	2007	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.88	0.88	0.88
Uniform Delay (d), s/veh	52.3	45.1	29.2	50.8	50.9	51.1	49.7	6.0	6.0	24.5	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.6	5.0	1.1	4.4	5.5	4.4	0.2	0.4	0.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.4	6.2	2.2	4.6	4.6	2.8	0.5	0.6	1.5	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	45.7	34.2	51.9	55.3	56.6	54.1	6.2	6.4	24.7	0.4	0.7
LnGrp LOS	D	D	C	D	E	E	D	A	A	C	A	A
Approach Vol, veh/h		382			379			523			1078	
Approach Delay, s/veh		38.1			55.1			24.5			2.6	
Approach LOS		D			E			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.9	55.0	8.6	22.4	13.2	75.8	12.7	18.3
Change Period (Y+Rc), s	5.0	* 5	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	* 50	10.0	25.0	25.0	43.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	5.6	3.4	2.0	17.6	8.7	2.0	3.6	12.4
Green Ext Time (p_c), s	0.1	1.9	0.1	0.8	0.5	7.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

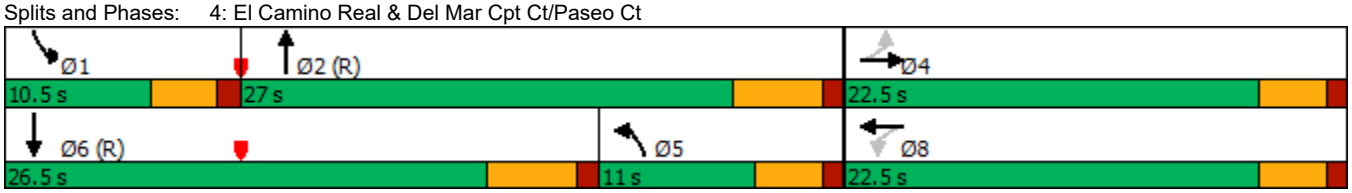
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	15	0	13	1	59	487	59	1060
Future Volume (vph)	15	0	13	1	59	487	59	1060
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	11.0	27.0	10.5	26.5
Total Split (%)	37.5%	37.5%	37.5%	37.5%	18.3%	45.0%	17.5%	44.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.4	8.4	8.4	8.4	6.6	41.4	7.0	41.8
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.11	0.69	0.12	0.70
v/c Ratio	0.08	0.06	0.07	0.03	0.33	0.17	0.31	0.34
Control Delay	20.3	0.2	20.1	12.8	29.9	5.5	33.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	0.2	20.1	12.8	29.9	5.5	33.6	2.8
LOS	C	A	C	B	C	A	C	A
Approach Delay		7.7		17.9		8.0		4.4
Approach LOS		A		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 13 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.34	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 45.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	25	13	1	5	59	487	44	59	1060	45
Future Volume (veh/h)	15	0	25	13	1	5	59	487	44	59	1060	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	0	27	14	1	5	64	529	48	64	1152	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	0	115	199	20	99	595	3120	280	97	1799	76
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.11	0.22	0.22	0.05	0.36	0.36
Sat Flow, veh/h	1382	0	1557	1359	267	1334	1781	4768	428	1781	5021	213
Grp Volume(v), veh/h	16	0	27	14	0	6	64	376	201	64	781	420
Grp Sat Flow(s),veh/h/ln	1382	0	1557	1359	0	1601	1781	1702	1791	1781	1702	1830
Q Serve(g_s), s	0.7	0.0	1.0	0.6	0.0	0.2	1.9	5.4	5.5	2.1	11.5	11.5
Cycle Q Clear(g_c), s	0.9	0.0	1.0	1.6	0.0	0.2	1.9	5.4	5.5	2.1	11.5	11.5
Prop In Lane	1.00		1.00	1.00		0.83	1.00		0.24	1.00		0.12
Lane Grp Cap(c), veh/h	218	0	115	199	0	119	595	2228	1172	97	1220	656
V/C Ratio(X)	0.07	0.00	0.23	0.07	0.00	0.05	0.11	0.17	0.17	0.66	0.64	0.64
Avail Cap(c_a), veh/h	541	0	480	517	0	494	595	2228	1172	193	1220	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.94	0.94	0.94	0.93	0.93	0.93
Uniform Delay (d), s/veh	26.2	0.0	26.2	26.9	0.0	25.8	18.6	10.2	10.3	27.8	16.0	16.0
Incr Delay (d2), s/veh	0.1	0.0	1.0	0.1	0.0	0.2	0.1	0.2	0.3	6.8	2.4	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	0.2	0.0	0.4	0.2	0.0	0.1	0.7	1.3	1.5	1.0	4.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	0.0	27.2	27.1	0.0	26.0	18.7	10.4	10.6	34.6	18.4	20.5
LnGrp LOS	C	A	C	C	A	C	B	B	B	C	B	C
Approach Vol, veh/h		43			20			641			1265	
Approach Delay, s/veh		26.9			26.7			11.3			19.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.3	44.3		8.5	25.0	26.5		8.5
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0
Max Green Setting (Gmax), s	6.5	22.0		18.5	7.0	* 22		18.5
Max Q Clear Time (g_c+I1), s	4.1	7.5		3.0	3.9	13.5		3.6
Green Ext Time (p_c), s	0.0	2.9		0.1	0.0	4.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

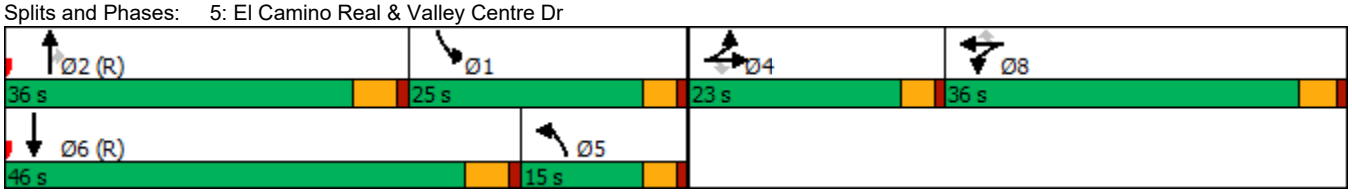
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	47	15	52	404	33	143	95	745	145	140	750
Future Volume (vph)	47	15	52	404	33	143	95	745	145	140	750
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	36.0	36.0	36.0	15.0	36.0	36.0	25.0	46.0
Total Split (%)	19.2%	19.2%	19.2%	30.0%	30.0%	30.0%	12.5%	30.0%	30.0%	20.8%	38.3%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.8	9.8	9.8	24.0	24.0	24.0	10.3	50.4	50.4	20.3	60.4
Actuated g/C Ratio	0.08	0.08	0.08	0.20	0.20	0.20	0.09	0.42	0.42	0.17	0.50
v/c Ratio	0.31	0.29	0.16	0.73	0.76	0.34	0.68	0.38	0.21	0.51	0.36
Control Delay	56.0	37.6	1.3	57.3	58.8	8.1	76.3	19.3	5.9	59.5	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	37.6	1.3	57.3	58.8	8.1	76.3	19.3	5.9	59.5	27.6
LOS	E	D	A	E	E	A	E	B	A	E	C
Approach Delay		32.5			47.0			22.8			32.2
Approach LOS		C			D			C			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 32.0	Intersection LOS: C
Intersection Capacity Utilization 54.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	15	52	404	33	143	95	745	145	140	750	78
Future Volume (veh/h)	47	15	52	404	33	143	95	745	145	140	750	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	46	42	502	0	115	103	810	158	152	815	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	101	83	601	0	265	517	1319	407	665	1604	166
Arrive On Green	0.05	0.05	0.05	0.17	0.00	0.17	0.19	0.17	0.17	0.75	0.68	0.68
Sat Flow, veh/h	1781	1870	1541	3563	0	1571	1781	5106	1576	1781	4695	487
Grp Volume(v), veh/h	39	46	42	502	0	115	103	810	158	152	590	310
Grp Sat Flow(s),veh/h/ln	1781	1870	1541	1781	0	1571	1781	1702	1576	1781	1702	1778
Q Serve(g_s), s	2.5	2.9	3.2	16.4	0.0	7.9	5.8	17.6	10.7	3.1	10.1	10.2
Cycle Q Clear(g_c), s	2.5	2.9	3.2	16.4	0.0	7.9	5.8	17.6	10.7	3.1	10.1	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	96	101	83	601	0	265	517	1319	407	665	1163	608
V/C Ratio(X)	0.41	0.46	0.51	0.84	0.00	0.43	0.20	0.61	0.39	0.23	0.51	0.51
Avail Cap(c_a), veh/h	282	296	244	935	0	412	517	1319	407	665	1163	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.00	0.85	0.93	0.93	0.93	0.95	0.95	0.95
Uniform Delay (d), s/veh	54.9	55.1	55.2	48.3	0.0	44.7	36.7	44.1	41.2	9.9	14.1	14.1
Incr Delay (d2), s/veh	2.7	3.2	4.7	3.4	0.0	1.0	0.2	2.0	2.6	0.2	1.5	2.9
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	1.5	1.3	7.4	0.0	3.1	2.5	7.8	4.5	1.1	3.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	58.3	59.9	51.7	0.0	45.7	36.8	46.1	43.8	10.1	15.6	17.0
LnGrp LOS	E	E	E	D	A	D	D	D	D	B	B	B
Approach Vol, veh/h		127			617			1071			1052	
Approach Delay, s/veh		58.6			50.6			44.9			15.2	
Approach LOS		E			D			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.8	36.0		10.5	38.8	46.0		24.7
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	21.0	31.0		19.0	11.0	41.0		31.5
Max Q Clear Time (g_c+I1), s	5.1	19.6		5.2	7.8	12.2		18.4
Green Ext Time (p_c), s	0.3	4.3		0.3	0.1	5.9		1.9

Intersection Summary		
HCM 6th Ctrl Delay		35.8
HCM 6th LOS		D

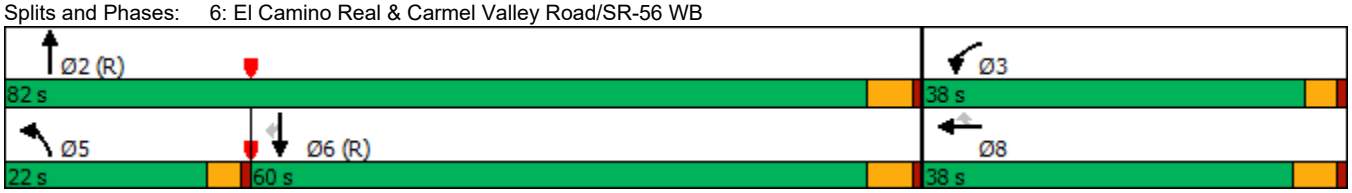
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	311	822	239	229	770	537	638
Future Volume (vph)	311	822	239	229	770	537	638
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	38.0	38.0	38.0	22.0	82.0	60.0	60.0
Total Split (%)	31.7%	31.7%	31.7%	18.3%	68.3%	50.0%	50.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	29.9	28.9	28.9	14.0	81.1	63.1	63.1
Actuated g/C Ratio	0.25	0.24	0.24	0.12	0.68	0.53	0.53
v/c Ratio	0.40	0.73	0.50	0.62	0.35	0.39	0.47
Control Delay	38.4	45.4	14.0	60.1	1.6	3.7	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	38.4	45.4	14.0	60.1	1.8	3.7	4.6
LOS	D	D	B	E	A	A	A
Approach Delay		38.4			15.2	3.9	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 7 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 87.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	311	822	239	229	770	0	0	537	638
Future Volume (veh/h)	0	0	0	311	822	239	229	770	0	0	537	638
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				338	893	260	249	837	0	0	584	693
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				796	1177	363	313	2468	0	0	2134	1804
Arrive On Green				0.23	0.23	0.23	0.12	0.92	0.00	0.00	0.95	0.95
Sat Flow, veh/h				3456	5106	1575	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				338	893	260	249	837	0	0	584	693
Grp Sat Flow(s),veh/h/ln				1728	1702	1575	1728	1777	0	0	1870	1581
Q Serve(g_s), s				10.0	19.6	18.3	8.4	3.1	0.0	0.0	1.2	2.0
Cycle Q Clear(g_c), s				10.0	19.6	18.3	8.4	3.1	0.0	0.0	1.2	2.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				796	1177	363	313	2468	0	0	2134	1804
V/C Ratio(X)				0.42	0.76	0.72	0.79	0.34	0.00	0.00	0.27	0.38
Avail Cap(c_a), veh/h				979	1447	446	518	2468	0	0	2134	1804
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	1.00	1.00	0.83	0.83	0.00	0.00	0.91	0.91
Uniform Delay (d), s/veh				39.4	43.1	42.6	51.7	1.5	0.0	0.0	1.2	1.3
Incr Delay (d2), s/veh				0.4	1.9	4.2	3.8	0.3	0.0	0.0	0.3	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	8.1	7.2	3.6	0.8	0.0	0.0	0.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.7	45.0	46.7	55.5	1.8	0.0	0.0	1.5	1.8
LnGrp LOS				D	D	D	E	A	A	A	A	A
Approach Vol, veh/h					1491			1086			1277	
Approach Delay, s/veh					44.1			14.1			1.7	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	88.3		14.9	73.5		31.7
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	77.0		18.0	55.0		34.0
Max Q Clear Time (g_c+I1), s	5.1		10.4	4.0		21.6
Green Ext Time (p_c), s	6.3		0.5	8.0		6.1

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

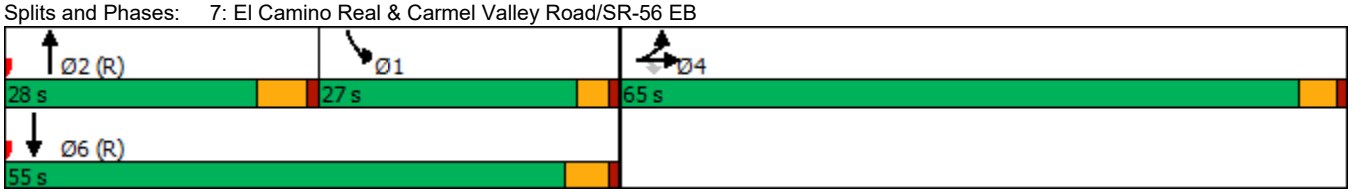
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	623	754	222	382	158	689
Future Volume (vph)	623	754	222	382	158	689
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	65.0	65.0	65.0	28.0	27.0	55.0
Total Split (%)	54.2%	54.2%	54.2%	23.3%	22.5%	45.8%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	52.8	52.8	52.8	30.2	23.0	57.7
Actuated g/C Ratio	0.44	0.44	0.44	0.25	0.19	0.48
v/c Ratio	0.70	0.74	0.32	0.41	0.51	0.31
Control Delay	32.2	30.8	11.8	33.3	33.5	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	32.2	30.8	11.8	33.3	33.5	10.2
LOS	C	C	B	C	C	B
Approach Delay		28.8		33.3		14.6
Approach LOS		C		C		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 25.7	Intersection LOS: C
Intersection Capacity Utilization 87.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	623	754	222	0	0	0	0	382	216	158	689	0
Future Volume (veh/h)	623	754	222	0	0	0	0	382	216	158	689	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	451	1136	241				0	415	235	172	749	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	685	1439	607				0	905	295	539	2738	0
Arrive On Green	0.38	0.38	0.38				0.00	0.19	0.19	0.10	0.18	0.00
Sat Flow, veh/h	1781	3741	1579				0	5087	1572	1781	5274	0
Grp Volume(v), veh/h	451	1136	241				0	415	235	172	749	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1579				0	1609	1572	1781	1702	0
Q Serve(g_s), s	25.0	32.2	13.3				0.0	9.2	17.1	10.8	15.2	0.0
Cycle Q Clear(g_c), s	25.0	32.2	13.3				0.0	9.2	17.1	10.8	15.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	685	1439	607				0	905	295	539	2738	0
V/C Ratio(X)	0.66	0.79	0.40				0.00	0.46	0.80	0.32	0.27	0.00
Avail Cap(c_a), veh/h	898	1886	796				0	905	295	539	2738	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	30.4	32.6	26.8				0.0	43.3	46.6	42.5	29.2	0.0
Incr Delay (d2), s/veh	1.1	1.7	0.4				0.0	1.7	19.7	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	14.3	5.0				0.0	3.7	8.1	5.0	7.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.5	34.4	27.2				0.0	45.0	66.3	42.8	29.4	0.0
LnGrp LOS	C	C	C				A	D	E	D	C	A
Approach Vol, veh/h		1828						650			921	
Approach Delay, s/veh		32.7						52.7			31.9	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	41.3	28.0		50.7		69.3
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	23.0	* 23		60.5		50.0
Max Q Clear Time (g_c+I1), s	12.8	19.1		34.2		17.2
Green Ext Time (p_c), s	0.3	1.2		12.0		5.2

Intersection Summary			
HCM 6th Ctrl Delay			36.3
HCM 6th LOS			D

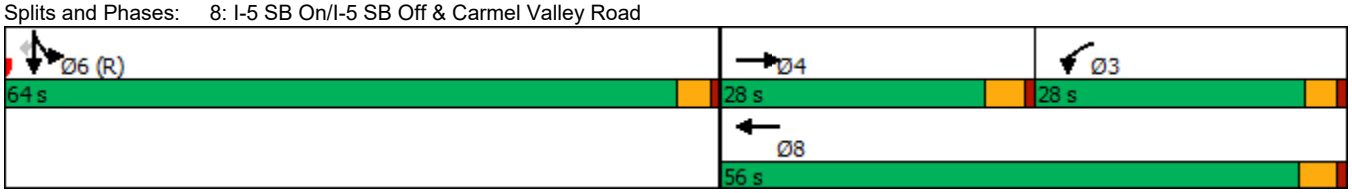
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	282	496	603	921	3	116
Future Volume (vph)	282	496	603	921	3	116
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	56.0	64.0	64.0	64.0
Total Split (%)	23.3%	23.3%	46.7%	53.3%	53.3%	53.3%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	19.7	22.5	46.2	65.3	65.3	65.3
Actuated g/C Ratio	0.16	0.19	0.38	0.54	0.54	0.54
v/c Ratio	0.79	0.84	0.48	0.56	0.58	0.13
Control Delay	48.4	39.6	10.6	22.1	22.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	39.6	10.6	22.1	22.7	3.3
LOS	D	D	B	C	C	A
Approach Delay	48.4		23.7		20.5	
Approach LOS	D		C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 26.7	Intersection LOS: C
Intersection Capacity Utilization 78.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	282	167	496	603	0	0	0	0	921	3	116
Future Volume (veh/h)	0	282	167	496	603	0	0	0	0	921	3	116
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	307	182	539	655	0				1041	0	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	363	210	606	1354	0				1952	0	866
Arrive On Green	0.00	0.17	0.17	0.18	0.38	0.00				0.55	0.00	0.55
Sat Flow, veh/h	0	2255	1248	3456	3647	0				3563	0	1581
Grp Volume(v), veh/h	0	251	238	539	655	0				1041	0	85
Grp Sat Flow(s),veh/h/ln	0	1777	1632	1728	1777	0				1781	0	1581
Q Serve(g_s), s	0.0	16.4	17.0	18.3	16.8	0.0				22.4	0.0	3.1
Cycle Q Clear(g_c), s	0.0	16.4	17.0	18.3	16.8	0.0				22.4	0.0	3.1
Prop In Lane	0.00		0.76	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	299	275	606	1354	0				1952	0	866
V/C Ratio(X)	0.00	0.84	0.87	0.89	0.48	0.00				0.53	0.00	0.10
Avail Cap(c_a), veh/h	0	348	320	691	1525	0				1952	0	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.76	0.76	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	48.3	48.6	48.3	28.2	0.0				17.3	0.0	13.0
Incr Delay (d2), s/veh	0.0	14.8	19.4	9.9	0.2	0.0				1.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.3	8.3	8.5	7.0	0.0				9.2	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	63.1	68.0	58.2	28.4	0.0				18.4	0.0	13.2
LnGrp LOS	A	E	E	E	C	A				B	A	B
Approach Vol, veh/h		489			1194						1126	
Approach Delay, s/veh		65.5			41.8						18.0	
Approach LOS		E			D						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		25.6	24.7		69.8		50.2					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		24.0	* 24		60.0		51.5					
Max Q Clear Time (g_c+I1), s		20.3	19.0		24.4		18.8					
Green Ext Time (p_c), s		0.8	1.1		5.0		4.6					

Intersection Summary	
HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

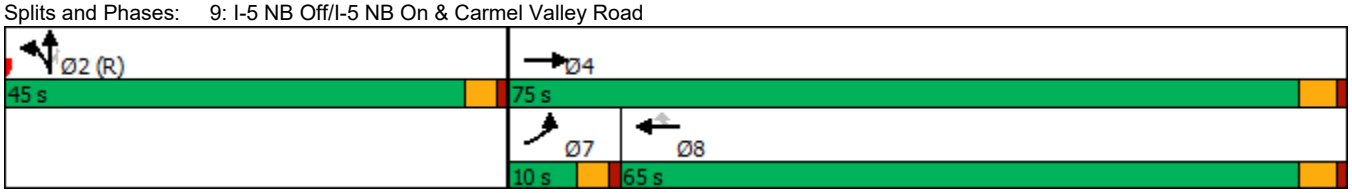
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	67	1138	909	777	98	0	657
Future Volume (vph)	67	1138	909	777	98	0	657
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	75.0	65.0	65.0	45.0	45.0	45.0
Total Split (%)	8.3%	62.5%	54.2%	54.2%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.0	59.3	51.3	51.3	52.2	52.2	52.2
Actuated g/C Ratio	0.05	0.49	0.43	0.43	0.44	0.44	0.44
v/c Ratio	0.43	0.71	0.65	0.74	0.13	0.55	0.54
Control Delay	57.9	19.0	21.2	19.9	24.0	26.7	26.1
Queue Delay	0.0	0.4	0.3	2.1	0.0	0.0	0.0
Total Delay	57.9	19.5	21.5	21.9	24.0	26.7	26.2
LOS	E	B	C	C	C	C	C
Approach Delay		21.6	21.7			26.1	
Approach LOS		C	C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 22.6	Intersection LOS: C
Intersection Capacity Utilization 78.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	1138	0	0	909	777	98	0	657	0	0	0
Future Volume (veh/h)	67	1138	0	0	909	777	98	0	657	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	73	1237	0	0	988	845	71	0	752			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	131	2045	0	0	1792	797	630	0	1116			
Arrive On Green	0.04	0.58	0.00	0.00	0.50	0.50	0.35	0.00	0.35			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3157			
Grp Volume(v), veh/h	73	1237	0	0	988	845	71	0	752			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	2.5	27.2	0.0	0.0	22.9	60.5	3.2	0.0	24.3			
Cycle Q Clear(g_c), s	2.5	27.2	0.0	0.0	22.9	60.5	3.2	0.0	24.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	131	2045	0	0	1792	797	630	0	1116			
V/C Ratio(X)	0.56	0.60	0.00	0.00	0.55	1.06	0.11	0.00	0.67			
Avail Cap(c_a), veh/h	173	2088	0	0	1792	797	630	0	1116			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	56.7	16.6	0.0	0.0	20.4	29.8	26.1	0.0	32.9			
Incr Delay (d2), s/veh	2.5	0.3	0.0	0.0	0.2	43.4	0.4	0.0	3.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	10.4	0.0	0.0	9.1	30.8	1.4	0.0	9.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	16.9	0.0	0.0	20.7	73.1	26.5	0.0	36.2			
LnGrp LOS	E	B	A	A	C	F	C	A	D			
Approach Vol, veh/h		1310			1833			823				
Approach Delay, s/veh		19.3			44.9			35.3				
Approach LOS		B			D			D				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		46.4		73.6			8.6	65.0				
Change Period (Y+Rc), s		4.0		4.5			4.0	4.5				
Max Green Setting (Gmax), s		41.0		70.5			6.0	60.5				
Max Q Clear Time (g_c+I1), s		26.3		29.2			4.5	62.5				
Green Ext Time (p_c), s		3.2		11.3			0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			34.4									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	19	90	1694	1636
Future Volume (vph)	19	90	1694	1636
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	14.0	93.0	79.0
Total Split (%)	22.5%	11.7%	77.5%	65.8%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	35.6	9.5	75.9	62.3
Actuated g/C Ratio	0.30	0.08	0.63	0.52
v/c Ratio	0.11	0.70	0.57	0.70
Control Delay	17.4	78.7	8.8	16.5
Queue Delay	0.0	0.0	0.3	0.1
Total Delay	17.4	78.7	9.1	16.6
LOS	B	E	A	B
Approach Delay	17.4		12.6	16.6
Approach LOS	B		B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 14.6	Intersection LOS: B
Intersection Capacity Utilization 63.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	19	35	90	1694	1636	51
Future Volume (veh/h)	19	35	90	1694	1636	51
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	38	98	1841	1778	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	217	394	122	2850	2322	72
Arrive On Green	0.37	0.37	0.07	0.56	0.46	0.46
Sat Flow, veh/h	586	1061	1781	5274	5256	157
Grp Volume(v), veh/h	60	0	98	1841	1189	644
Grp Sat Flow(s),veh/h/ln	1675	0	1781	1702	1702	1841
Q Serve(g_s), s	2.8	0.0	6.5	29.9	35.0	35.1
Cycle Q Clear(g_c), s	2.8	0.0	6.5	29.9	35.0	35.1
Prop In Lane	0.35	0.63	1.00			0.09
Lane Grp Cap(c), veh/h	621	0	122	2850	1554	840
V/C Ratio(X)	0.10	0.00	0.80	0.65	0.77	0.77
Avail Cap(c_a), veh/h	621	0	148	3766	2113	1143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	55.1	18.3	27.2	27.3
Incr Delay (d2), s/veh	0.3	0.0	16.5	0.2	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	3.4	11.0	13.8	15.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.9	0.0	71.6	18.5	28.4	29.4
LnGrp LOS	C	A	E	B	C	C
Approach Vol, veh/h	60			1939	1833	
Approach Delay, s/veh	24.9			21.2	28.8	
Approach LOS	C			C	C	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		71.5		48.5	12.2	59.3
Change Period (Y+Rc), s		4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		88.5		23.0	10.0	74.5
Max Q Clear Time (g_c+I1), s		31.9		4.8	8.5	37.1
Green Ext Time (p_c), s		22.4		0.1	0.0	17.7

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

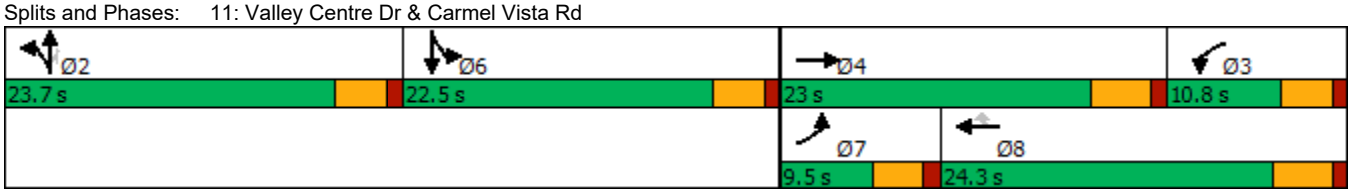
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	26	177	53	454	65	57	9	12	45	18
Future Volume (vph)	26	177	53	454	65	57	9	12	45	18
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	23.0	10.8	24.3	24.3	23.7	23.7	23.7	22.5	22.5
Total Split (%)	11.9%	28.8%	13.5%	30.4%	30.4%	29.6%	29.6%	29.6%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.9	11.4	7.7	14.9	14.9	21.1	21.1	21.1	8.6	8.6
Actuated g/C Ratio	0.10	0.20	0.13	0.26	0.26	0.36	0.36	0.36	0.15	0.15
v/c Ratio	0.16	0.39	0.25	0.54	0.14	0.06	0.06	0.02	0.19	0.33
Control Delay	33.0	17.3	30.8	22.8	2.0	19.2	19.2	0.1	26.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	17.3	30.8	22.8	2.0	19.2	19.2	0.1	26.5	12.4
LOS	C	B	C	C	A	B	B	A	C	B
Approach Delay		18.7		21.2			16.2			16.9
Approach LOS		B		C			B			B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 58.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 19.6	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	177	90	53	454	65	57	9	12	45	18	78
Future Volume (veh/h)	26	177	90	53	454	65	57	9	12	45	18	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	192	98	58	493	71	69	0	13	49	20	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	323	158	163	742	331	1283	0	571	174	30	129
Arrive On Green	0.03	0.14	0.14	0.09	0.21	0.21	0.36	0.00	0.36	0.10	0.10	0.10
Sat Flow, veh/h	1781	2312	1131	1781	3554	1585	3563	0	1585	1781	311	1322
Grp Volume(v), veh/h	28	146	144	58	493	71	69	0	13	49	0	105
Grp Sat Flow(s),veh/h/ln	1781	1777	1667	1781	1777	1585	1781	0	1585	1781	0	1632
Q Serve(g_s), s	0.8	4.2	4.5	1.7	7.0	2.0	0.7	0.0	0.3	1.4	0.0	3.4
Cycle Q Clear(g_c), s	0.8	4.2	4.5	1.7	7.0	2.0	0.7	0.0	0.3	1.4	0.0	3.4
Prop In Lane	1.00		0.68	1.00		1.00	1.00		1.00	1.00		0.81
Lane Grp Cap(c), veh/h	56	248	233	163	742	331	1283	0	571	174	0	160
V/C Ratio(X)	0.50	0.59	0.62	0.36	0.66	0.21	0.05	0.00	0.02	0.28	0.00	0.66
Avail Cap(c_a), veh/h	179	601	564	221	1286	574	1283	0	571	602	0	552
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.1	22.1	22.2	23.3	19.9	17.9	11.4	0.0	11.3	22.9	0.0	23.8
Incr Delay (d2), s/veh	6.6	2.2	2.7	1.3	1.0	0.3	0.1	0.0	0.1	0.9	0.0	4.5
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	0.4	1.7	1.7	0.7	2.6	0.7	0.3	0.0	0.1	0.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	24.3	24.8	24.6	20.9	18.2	11.5	0.0	11.4	23.8	0.0	28.3
LnGrp LOS	C	C	C	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h		318			622			82			154	
Approach Delay, s/veh		25.3			21.0			11.5			26.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.7	9.5	12.1		9.3	5.7	15.9				
Change Period (Y+Rc), s		4.0	4.5	* 4.5		4.0	4.0	4.5				
Max Green Setting (Gmax), s		19.7	6.8	* 19		18.5	5.5	19.8				
Max Q Clear Time (g_c+I1), s		2.7	3.7	6.5		5.4	2.8	9.0				
Green Ext Time (p_c), s		0.2	0.0	1.2		0.5	0.0	2.4				

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

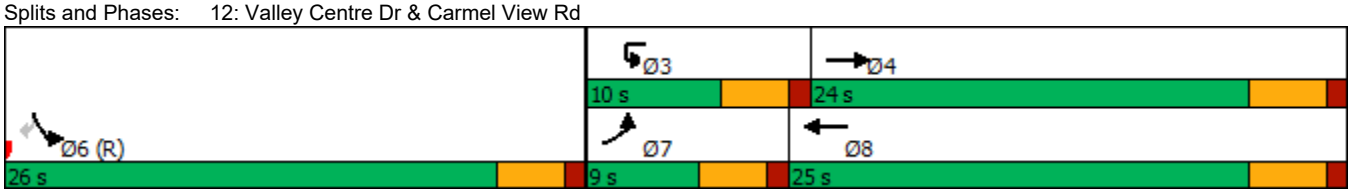
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	18	209	2	438	89	132
Future Volume (vph)	18	209	2	438	89	132
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	9.0	24.0	10.0	25.0	26.0	26.0
Total Split (%)	15.0%	40.0%	16.7%	41.7%	43.3%	43.3%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	5.0	14.0	5.6	14.2	35.5	35.5
Actuated g/C Ratio	0.08	0.23	0.09	0.24	0.59	0.59
v/c Ratio	0.14	0.28	0.01	0.60	0.09	0.15
Control Delay	27.8	18.9	24.5	22.7	8.0	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	18.9	24.5	22.7	8.0	2.7
LOS	C	B	C	C	A	A
Approach Delay		19.6		22.7	4.8	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 2 (3%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 17.6	Intersection LOS: B
Intersection Capacity Utilization 37.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	18	209	2	438	25	89	132
Future Volume (veh/h)	18	209	2	438	25	89	132
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	20	227		476	27	97	143
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	42	1050		701	40	1003	892
Arrive On Green	0.02	0.30		0.21	0.21	0.56	0.56
Sat Flow, veh/h	1781	3647		3510	193	1781	1585
Grp Volume(v), veh/h	20	227		247	256	97	143
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1833	1781	1585
Q Serve(g_s), s	0.7	2.9		7.7	7.7	1.5	2.6
Cycle Q Clear(g_c), s	0.7	2.9		7.7	7.7	1.5	2.6
Prop In Lane	1.00				0.11	1.00	1.00
Lane Grp Cap(c), veh/h	42	1050		364	376	1003	892
V/C Ratio(X)	0.48	0.22		0.68	0.68	0.10	0.16
Avail Cap(c_a), veh/h	148	1155		607	626	1003	892
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	15.9		22.0	22.0	6.1	6.3
Incr Delay (d2), s/veh	7.7	0.1		2.2	2.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0		3.1	3.2	0.5	3.5
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	36.6	16.0		24.2	24.2	6.3	6.7
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		247		503		240	
Approach Delay, s/veh		17.7		24.2		6.5	
Approach LOS		B		C		A	

Timer - Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				22.2		37.8	5.4	16.8
Change Period (Y+Rc), s				4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s				19.5		22.0	5.0	20.5
Max Q Clear Time (g_c+I1), s				4.9		4.6	2.7	9.7
Green Ext Time (p_c), s				1.0		0.7	0.0	2.1

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

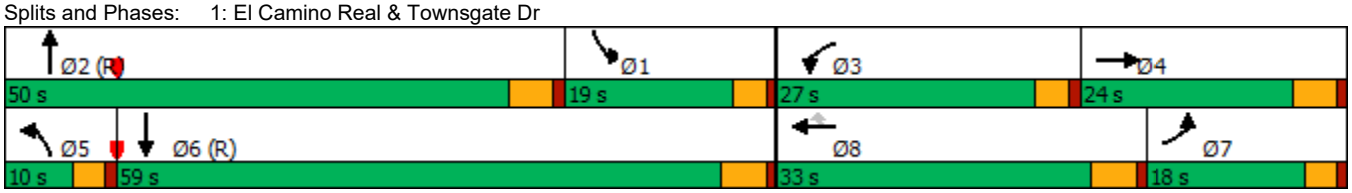
Notes

User approved ignoring U-Turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	75	24	158	2	103	10	1008	125	435
Future Volume (vph)	75	24	158	2	103	10	1008	125	435
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	18.0	24.0	27.0	33.0	33.0	10.0	50.0	19.0	59.0
Total Split (%)	15.0%	20.0%	22.5%	27.5%	27.5%	8.3%	41.7%	15.8%	49.2%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	14.0	19.0	23.0	28.0	28.0	6.0	45.0	15.0	54.0
Actuated g/C Ratio	0.12	0.16	0.19	0.23	0.23	0.05	0.38	0.12	0.45
v/c Ratio	0.40	0.20	0.51	0.00	0.23	0.12	0.71	0.62	0.21
Control Delay	55.4	24.7	49.4	35.5	3.8	57.4	21.7	62.7	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	24.7	49.4	35.5	3.8	57.4	21.7	62.7	20.3
LOS	E	C	D	D	A	E	C	E	C
Approach Delay		42.5		31.5			22.0		29.7
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 16 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 58.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	24	31	158	2	103	10	1008	231	125	435	4
Future Volume (veh/h)	75	24	31	158	2	103	10	1008	231	125	435	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	26	34	172	2	112	11	1096	251	136	473	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	121	158	336	429	364	88	1532	351	219	2354	20
Arrive On Green	0.11	0.16	0.16	0.19	0.23	0.23	0.10	0.74	0.74	0.12	0.45	0.45
Sat Flow, veh/h	1781	735	962	1781	1870	1585	1781	4153	951	1781	5222	44
Grp Volume(v), veh/h	82	0	60	172	2	112	11	898	449	136	308	169
Grp Sat Flow(s),veh/h/ln	1781	0	1697	1781	1870	1585	1781	1702	1699	1781	1702	1862
Q Serve(g_s), s	5.2	0.0	3.7	10.6	0.1	7.1	0.7	17.9	17.9	8.8	6.7	6.7
Cycle Q Clear(g_c), s	5.2	0.0	3.7	10.6	0.1	7.1	0.7	17.9	17.9	8.8	6.7	6.7
Prop In Lane	1.00		0.57	1.00		1.00	1.00		0.56	1.00		0.02
Lane Grp Cap(c), veh/h	204	0	278	336	429	364	88	1256	627	219	1535	840
V/C Ratio(X)	0.40	0.00	0.22	0.51	0.00	0.31	0.13	0.72	0.72	0.62	0.20	0.20
Avail Cap(c_a), veh/h	204	0	278	336	429	364	88	1256	627	219	1535	840
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	0.0	44.2	44.5	36.3	39.0	52.6	12.4	12.4	50.8	20.2	20.2
Incr Delay (d2), s/veh	5.8	0.0	1.8	5.5	0.0	2.2	2.9	3.5	6.9	12.5	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	1.7	5.2	0.0	3.0	0.4	4.4	4.9	4.6	2.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	0.0	46.0	50.0	36.3	41.2	55.5	16.0	19.3	63.3	20.5	20.8
LnGrp LOS	E	A	D	D	D	D	E	B	B	E	C	C
Approach Vol, veh/h		142			286			1358			613	
Approach Delay, s/veh		51.7			46.4			17.4			30.1	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	50.0	27.0	25.0	10.0	60.0	19.0	33.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	15.0	* 45	23.0	19.0	6.0	54.0	14.0	* 28
Max Q Clear Time (g_c+I1), s	10.8	19.9	12.6	5.7	2.7	8.7	7.2	9.1
Green Ext Time (p_c), s	0.1	9.6	0.3	0.2	0.0	2.9	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

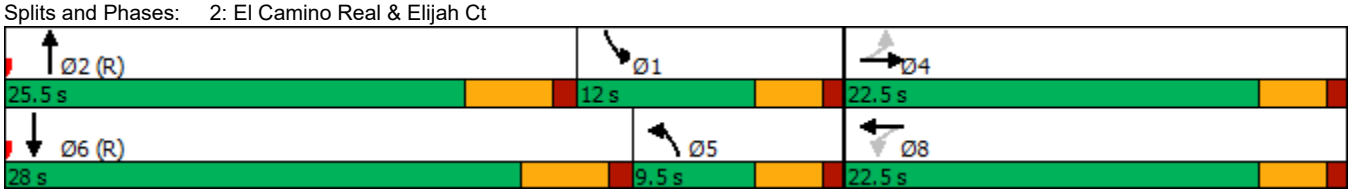
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	0	34	1	13	1185	100	557
Future Volume (vph)	10	0	34	1	13	1185	100	557
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	9.5	25.5	12.0	28.0
Total Split (%)	37.5%	37.5%	37.5%	37.5%	15.8%	42.5%	20.0%	46.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	18.5	18.5	18.5	18.5	5.5	20.5	8.0	23.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.09	0.34	0.13	0.38
v/c Ratio	0.03	0.01	0.09	0.11	0.09	0.79	0.46	0.31
Control Delay	14.8	0.0	15.5	5.7	27.9	24.9	22.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	0.0	15.5	5.7	27.9	24.9	22.4	8.1
LOS	B	A	B	A	C	C	C	A
Approach Delay		10.9		9.4		24.9		10.3
Approach LOS		B		A		C		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 49.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	4	34	1	54	13	1185	80	100	557	4
Future Volume (veh/h)	10	0	4	34	1	54	13	1185	80	100	557	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	0	4	37	1	59	14	1288	87	109	605	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	498	0	489	553	8	482	163	1669	113	238	2006	13
Arrive On Green	0.31	0.00	0.31	0.31	0.31	0.31	0.03	0.11	0.11	0.27	0.77	0.77
Sat Flow, veh/h	1343	0	1585	1412	26	1563	1781	4885	330	1781	5234	35
Grp Volume(v), veh/h	11	0	4	37	0	60	14	897	478	109	393	216
Grp Sat Flow(s),veh/h/ln	1343	0	1585	1412	0	1589	1781	1702	1811	1781	1702	1864
Q Serve(g_s), s	0.4	0.0	0.1	1.1	0.0	1.6	0.5	15.4	15.4	3.1	2.1	2.1
Cycle Q Clear(g_c), s	2.0	0.0	0.1	1.2	0.0	1.6	0.5	15.4	15.4	3.1	2.1	2.1
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.18	1.00		0.02
Lane Grp Cap(c), veh/h	498	0	489	553	0	490	163	1163	619	238	1305	715
V/C Ratio(X)	0.02	0.00	0.01	0.07	0.00	0.12	0.09	0.77	0.77	0.46	0.30	0.30
Avail Cap(c_a), veh/h	498	0	489	553	0	490	163	1163	619	238	1305	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	14.4	14.8	0.0	14.9	26.6	24.3	24.3	20.2	4.6	4.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.5	1.0	5.0	9.0	6.3	0.6	1.1
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	0.1	0.0	0.0	0.4	0.0	0.6	0.2	7.5	8.7	1.5	0.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	14.4	15.0	0.0	15.4	27.7	29.3	33.4	26.5	5.2	5.6
LnGrp LOS	B	A	B	B	A	B	C	C	C	C	A	A
Approach Vol, veh/h		15			97			1389			718	
Approach Delay, s/veh		15.4			15.3			30.7			8.5	
Approach LOS		B			B			C			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	25.5		22.5	9.5	28.0		22.5
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	8.0	20.5		18.5	5.5	23.0		18.5
Max Q Clear Time (g_c+I1), s	5.1	17.4		4.0	2.5	4.1		3.6
Green Ext Time (p_c), s	0.1	2.2		0.0	0.0	3.3		0.3

Intersection Summary			
HCM 6th Ctrl Delay			22.8
HCM 6th LOS			C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	60	172	354	56	102	184	1102	102	476
Future Volume (vph)	60	172	354	56	102	184	1102	102	476
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	18.0	33.0	35.0	13.0	28.0	35.0	55.0	19.0	39.0
Total Split (%)	15.0%	27.5%	29.2%	10.8%	23.3%	29.2%	45.8%	15.8%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.8	17.3	29.8	22.5	15.6	12.5	66.8	12.8	67.1
Actuated g/C Ratio	0.08	0.14	0.25	0.19	0.13	0.10	0.56	0.11	0.56
v/c Ratio	0.45	0.70	0.73	0.30	0.50	0.56	0.44	0.59	0.19
Control Delay	61.8	62.1	26.2	37.6	21.6	53.2	12.7	56.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	62.1	26.2	37.6	21.6	53.2	12.7	56.1	9.7
LOS	E	E	C	D	C	D	B	E	A
Approach Delay		40.4			24.4		18.3		17.5
Approach LOS		D			C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 24 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 23.4	Intersection LOS: C
Intersection Capacity Utilization 56.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	172	354	56	102	158	184	1102	47	102	476	26
Future Volume (veh/h)	60	172	354	56	102	158	184	1102	47	102	476	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	187	385	61	111	172	200	1198	51	111	517	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	447	499	256	407	361	266	2541	108	135	2504	135
Arrive On Green	0.05	0.24	0.24	0.04	0.23	0.23	0.15	1.00	1.00	0.15	1.00	1.00
Sat Flow, veh/h	1781	1870	1575	1781	1777	1575	3456	5021	214	1781	4959	267
Grp Volume(v), veh/h	65	187	385	61	111	172	200	812	437	111	354	191
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1777	1575	1728	1702	1831	1781	1702	1821
Q Serve(g_s), s	4.3	10.1	26.6	3.1	6.2	11.3	6.6	0.0	0.0	7.2	0.0	0.0
Cycle Q Clear(g_c), s	4.3	10.1	26.6	3.1	6.2	11.3	6.6	0.0	0.0	7.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.15
Lane Grp Cap(c), veh/h	84	447	499	256	407	361	266	1722	926	135	1719	920
V/C Ratio(X)	0.77	0.42	0.77	0.24	0.27	0.48	0.75	0.47	0.47	0.82	0.21	0.21
Avail Cap(c_a), veh/h	208	452	503	323	407	361	893	1722	926	223	1719	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.96	0.96	0.96
Uniform Delay (d), s/veh	56.5	38.6	37.1	33.8	38.0	40.0	49.7	0.0	0.0	50.1	0.0	0.0
Incr Delay (d2), s/veh	13.9	0.6	7.2	0.5	0.4	1.0	4.0	0.9	1.6	11.1	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	4.7	10.9	1.4	2.7	4.4	2.8	0.2	0.4	3.4	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	39.2	44.4	34.3	38.4	41.0	53.6	0.9	1.6	61.1	0.3	0.5
LnGrp LOS	E	D	D	C	D	D	D	A	A	E	A	A
Approach Vol, veh/h		637			344			1449			656	
Approach Delay, s/veh		45.5			39.0			8.4			10.6	
Approach LOS		D			D			A			B	

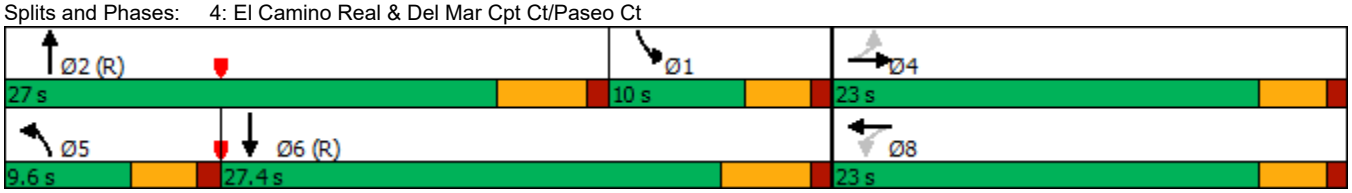
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	65.7	8.5	32.7	13.2	65.6	9.7	31.5
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	50.0	9.0	29.0	31.0	34.0	14.0	24.0
Max Q Clear Time (g_c+I1), s	9.2	2.0	5.1	28.6	8.6	2.0	6.3	13.3
Green Ext Time (p_c), s	0.1	9.9	0.0	0.1	0.6	3.3	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	0	53	2	14	1260	6	873
Future Volume (vph)	32	0	53	2	14	1260	6	873
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	9.6	27.0	10.0	27.4
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.0%	45.0%	16.7%	45.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.5	9.5	9.5	9.5	6.0	42.4	5.7	42.3
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.10	0.71	0.10	0.70
v/c Ratio	0.17	0.16	0.28	0.18	0.09	0.39	0.04	0.27
Control Delay	21.1	0.7	23.6	8.0	34.6	4.6	27.2	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	0.7	23.6	8.0	34.6	4.6	27.2	5.3
LOS	C	A	C	A	C	A	C	A
Approach Delay		7.1		16.1		4.9		5.5
Approach LOS		A		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 30 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 5.7	Intersection LOS: A
Intersection Capacity Utilization 42.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	71	53	2	48	14	1260	13	6	873	4
Future Volume (veh/h)	32	0	71	53	2	48	14	1260	13	6	873	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	0	77	58	2	52	15	1370	14	7	949	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	0	214	241	8	207	33	1911	20	469	3298	14
Arrive On Green	0.14	0.00	0.14	0.14	0.14	0.14	0.04	0.73	0.73	0.53	1.00	1.00
Sat Flow, veh/h	1338	0	1568	1311	58	1519	1781	5211	53	1781	5248	22
Grp Volume(v), veh/h	35	0	77	58	0	54	15	895	489	7	615	338
Grp Sat Flow(s),veh/h/ln	1338	0	1568	1311	0	1577	1781	1702	1860	1781	1702	1866
Q Serve(g_s), s	1.4	0.0	2.7	2.5	0.0	1.8	0.5	8.9	8.9	0.1	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	2.7	5.2	0.0	1.8	0.5	8.9	8.9	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		0.03	1.00		0.01
Lane Grp Cap(c), veh/h	262	0	214	241	0	215	33	1248	682	469	2139	1173
V/C Ratio(X)	0.13	0.00	0.36	0.24	0.00	0.25	0.46	0.72	0.72	0.01	0.29	0.29
Avail Cap(c_a), veh/h	503	0	496	477	0	499	166	1248	682	469	2139	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.87	0.87	0.87	0.92	0.92	0.92
Uniform Delay (d), s/veh	24.6	0.0	23.5	25.9	0.0	23.2	28.6	6.2	6.2	10.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.0	0.5	0.0	0.6	8.4	3.1	5.6	0.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.0	0.8	0.0	0.7	0.3	2.0	2.7	0.0	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	0.0	24.5	26.4	0.0	23.8	37.0	9.4	11.8	10.5	0.3	0.6
LnGrp LOS	C	A	C	C	A	C	D	A	B	B	A	A
Approach Vol, veh/h		112			112			1399			960	
Approach Delay, s/veh		24.6			25.1			10.5			0.5	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	27.0		12.2	5.1	42.7		12.2
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	6.0	* 22		19.0	5.6	22.4		19.0
Max Q Clear Time (g_c+I1), s	2.1	10.9		5.3	2.5	2.0		7.2
Green Ext Time (p_c), s	0.0	6.2		0.4	0.0	5.7		0.3

Intersection Summary		
HCM 6th Ctrl Delay		8.0
HCM 6th LOS		A

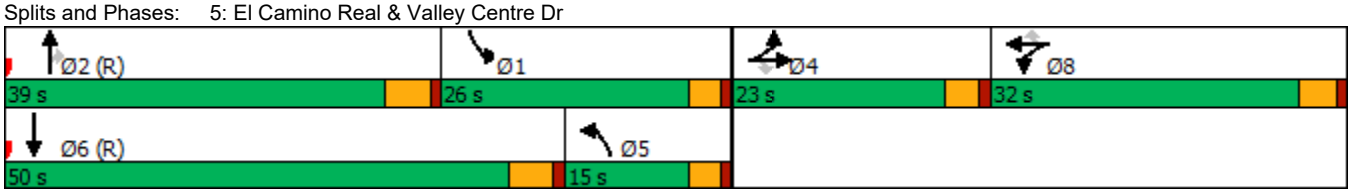
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	97	53	84	364	21	182	93	916	305	197	1021
Future Volume (vph)	97	53	84	364	21	182	93	916	305	197	1021
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	32.0	32.0	32.0	15.0	39.0	39.0	26.0	50.0
Total Split (%)	19.2%	19.2%	19.2%	26.7%	26.7%	26.7%	12.5%	32.5%	32.5%	21.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	11.9	11.9	11.9	21.6	21.6	21.6	10.2	47.8	47.8	21.2	58.8
Actuated g/C Ratio	0.10	0.10	0.10	0.18	0.18	0.18	0.08	0.40	0.40	0.18	0.49
v/c Ratio	0.52	0.53	0.29	0.73	0.74	0.43	0.67	0.49	0.43	0.69	0.47
Control Delay	61.5	58.4	2.6	60.2	60.5	8.9	68.5	16.8	4.0	54.2	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	58.4	2.6	60.2	60.5	8.9	68.5	16.8	4.0	54.2	24.4
LOS	E	E	A	E	E	A	E	B	A	D	C
Approach Delay		42.3			45.5			17.5			29.0
Approach LOS		D			D			B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 114 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 28.2	Intersection LOS: C
Intersection Capacity Utilization 59.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	53	84	364	21	182	93	916	305	197	1021	53
Future Volume (veh/h)	97	53	84	364	21	182	93	916	305	197	1021	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	93	80	467	0	140	101	996	332	214	1110	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	148	123	561	0	247	432	1447	447	595	1862	97
Arrive On Green	0.08	0.08	0.08	0.16	0.00	0.16	0.48	0.57	0.57	0.67	0.75	0.75
Sat Flow, veh/h	1781	1870	1555	3563	0	1570	1781	5106	1577	1781	4966	259
Grp Volume(v), veh/h	87	93	80	467	0	140	101	996	332	214	761	407
Grp Sat Flow(s),veh/h/ln	1781	1870	1555	1781	0	1570	1781	1702	1577	1781	1702	1822
Q Serve(g_s), s	5.7	5.8	6.0	15.3	0.0	9.9	4.0	16.6	18.9	6.3	12.1	12.1
Cycle Q Clear(g_c), s	5.7	5.8	6.0	15.3	0.0	9.9	4.0	16.6	18.9	6.3	12.1	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	141	148	123	561	0	247	432	1447	447	595	1277	683
V/C Ratio(X)	0.62	0.63	0.65	0.83	0.00	0.57	0.23	0.69	0.74	0.36	0.60	0.60
Avail Cap(c_a), veh/h	282	296	246	816	0	360	432	1447	447	595	1277	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.00	0.92	0.83	0.83	0.83	0.97	0.97	0.97
Uniform Delay (d), s/veh	53.5	53.5	53.6	49.0	0.0	46.8	24.4	22.2	22.7	14.3	10.9	10.9
Incr Delay (d2), s/veh	4.3	4.3	5.7	4.5	0.0	1.9	0.2	2.2	9.0	0.4	2.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.9	2.5	7.0	0.0	3.9	1.6	4.9	5.8	2.2	3.2	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	57.9	59.3	53.6	0.0	48.6	24.7	24.5	31.7	14.7	12.9	14.6
LnGrp LOS	E	E	E	D	A	D	C	C	C	B	B	B
Approach Vol, veh/h		260			607			1429			1382	
Approach Delay, s/veh		58.3			52.4			26.2			13.7	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	44.1	39.0		13.5	33.1	50.0		23.4
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	22.0	34.0		19.0	11.0	45.0		27.5
Max Q Clear Time (g_c+I1), s	8.3	20.9		8.0	6.0	14.1		17.3
Green Ext Time (p_c), s	0.5	6.2		0.8	0.1	8.4		1.6

Intersection Summary		
HCM 6th Ctrl Delay		28.1
HCM 6th LOS		C

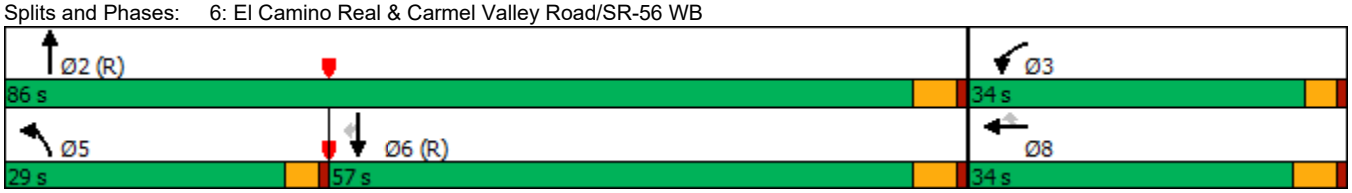
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	191	698	231	365	1185	769	643
Future Volume (vph)	191	698	231	365	1185	769	643
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	34.0	34.0	34.0	29.0	86.0	57.0	57.0
Total Split (%)	28.3%	28.3%	28.3%	24.2%	71.7%	47.5%	47.5%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.0	25.0	25.0	19.1	85.0	61.9	61.9
Actuated g/C Ratio	0.22	0.21	0.21	0.16	0.71	0.52	0.52
v/c Ratio	0.28	0.72	0.64	0.73	0.51	0.50	0.49
Control Delay	39.4	48.0	35.8	62.0	1.1	6.6	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	39.4	48.0	35.8	62.0	1.4	6.6	5.9
LOS	D	D	D	E	A	A	A
Approach Delay		44.0			15.7	6.4	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 71.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	191	698	231	365	1185	0	0	769	643
Future Volume (veh/h)	0	0	0	191	698	231	365	1185	0	0	769	643
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				208	759	251	397	1288	0	0	836	699
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				706	1043	322	463	2561	0	0	2069	1749
Arrive On Green				0.20	0.20	0.20	0.27	1.00	0.00	0.00	1.00	1.00
Sat Flow, veh/h				3456	5106	1573	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				208	759	251	397	1288	0	0	836	699
Grp Sat Flow(s),veh/h/ln				1728	1702	1573	1728	1777	0	0	1870	1581
Q Serve(g_s), s				6.1	16.7	18.1	13.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				6.1	16.7	18.1	13.1	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				706	1043	322	463	2561	0	0	2069	1749
V/C Ratio(X)				0.29	0.73	0.78	0.86	0.50	0.00	0.00	0.40	0.40
Avail Cap(c_a), veh/h				864	1277	393	720	2561	0	0	2069	1749
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.53	0.53	0.00	0.00	0.86	0.86
Uniform Delay (d), s/veh				40.4	44.6	45.2	42.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.2	1.7	8.0	3.5	0.4	0.0	0.0	0.5	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.5	6.9	7.5	4.9	0.1	0.0	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.6	46.3	53.2	46.3	0.4	0.0	0.0	0.5	0.6
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1218			1685			1535	
Approach Delay, s/veh					46.7			11.2			0.5	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	91.5		20.1	71.4		28.5
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	81.0		25.0	52.0		30.0
Max Q Clear Time (g_c+I1), s	2.0		15.1	2.0		20.1
Green Ext Time (p_c), s	12.4		1.0	11.1		4.4

Intersection Summary	
HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

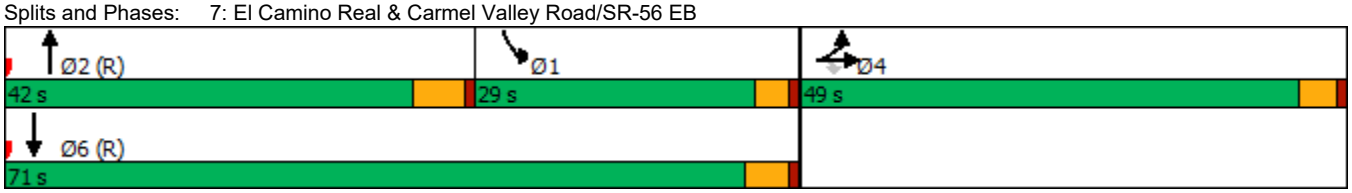
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	466	779	152	1087	248	667
Future Volume (vph)	466	779	152	1087	248	667
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	49.0	49.0	49.0	42.0	29.0	71.0
Total Split (%)	40.8%	40.8%	40.8%	35.0%	24.2%	59.2%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	42.2	42.2	42.2	38.8	25.0	68.3
Actuated g/C Ratio	0.35	0.35	0.35	0.32	0.21	0.57
v/c Ratio	0.79	0.83	0.26	0.78	0.73	0.25
Control Delay	45.8	42.5	7.9	38.5	39.9	3.3
Queue Delay	0.0	0.0	0.0	0.0	1.9	0.2
Total Delay	45.8	42.5	7.9	38.5	41.8	3.4
LOS	D	D	A	D	D	A
Approach Delay		40.1		38.5		13.8
Approach LOS		D		D		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 33.1	Intersection LOS: C
Intersection Capacity Utilization 71.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	466	779	152	0	0	0	0	1087	366	248	667	0
Future Volume (veh/h)	466	779	152	0	0	0	0	1087	366	248	667	0
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	338	1084	165				0	1182	398	270	725	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	601	1262	532				0	1468	480	416	2980	0
Arrive On Green	0.34	0.34	0.34				0.00	0.30	0.30	0.08	0.19	0.00
Sat Flow, veh/h	1781	3741	1578				0	5087	1577	1781	5274	0
Grp Volume(v), veh/h	338	1084	165				0	1182	398	270	725	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1578				0	1609	1577	1781	1702	0
Q Serve(g_s), s	18.6	32.4	9.3				0.0	27.1	28.2	17.7	14.4	0.0
Cycle Q Clear(g_c), s	18.6	32.4	9.3				0.0	27.1	28.2	17.7	14.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	601	1262	532				0	1468	480	416	2980	0
V/C Ratio(X)	0.56	0.86	0.31				0.00	0.81	0.83	0.65	0.24	0.00
Avail Cap(c_a), veh/h	661	1387	585				0	1468	480	416	2980	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.88	0.88	0.00
Uniform Delay (d), s/veh	32.5	37.1	29.4				0.0	38.5	38.9	50.6	26.0	0.0
Incr Delay (d2), s/veh	0.9	5.3	0.3				0.0	4.8	15.2	3.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	15.2	3.5				0.0	10.8	12.4	8.8	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	42.4	29.8				0.0	43.3	54.1	53.7	26.2	0.0
LnGrp LOS	C	D	C				A	D	D	D	C	A
Approach Vol, veh/h		1587						1580			995	
Approach Delay, s/veh		39.2						46.0			33.6	
Approach LOS		D						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	33.0	42.0		45.0		75.0
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	25.0	* 37		44.5		66.0
Max Q Clear Time (g_c+I1), s	19.7	30.2		34.4		16.4
Green Ext Time (p_c), s	0.4	4.4		6.0		5.2

Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

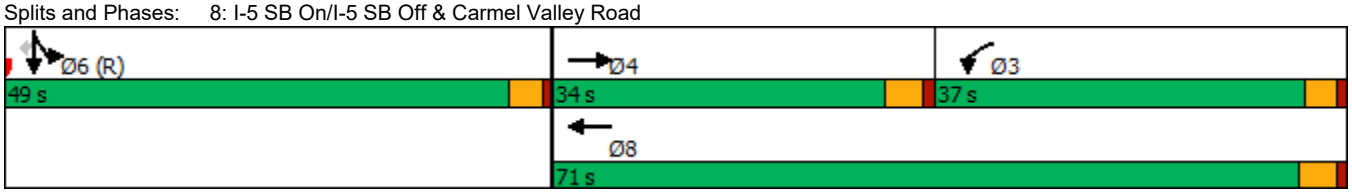
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	442	637	684	644	1	92
Future Volume (vph)	442	637	684	644	1	92
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	34.0	37.0	71.0	49.0	49.0	49.0
Total Split (%)	28.3%	30.8%	59.2%	40.8%	40.8%	40.8%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	25.6	28.9	58.5	53.0	53.0	53.0
Actuated g/C Ratio	0.21	0.24	0.49	0.44	0.44	0.44
v/c Ratio	0.80	0.84	0.43	0.48	0.50	0.13
Control Delay	51.5	38.8	7.9	28.4	28.8	5.4
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	38.8	7.9	28.4	28.8	5.4
LOS	D	D	A	C	C	A
Approach Delay	51.7		22.8		26.0	
Approach LOS	D		C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 29.8	Intersection LOS: C
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	442	111	637	684	0	0	0	0	644	1	92
Future Volume (veh/h)	0	442	111	637	684	0	0	0	0	644	1	92
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	480	121	692	743	0				732	0	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	562	141	777	1644	0				1662	0	737
Arrive On Green	0.00	0.20	0.20	0.22	0.46	0.00				0.47	0.00	0.47
Sat Flow, veh/h	0	2904	704	3456	3647	0				3563	0	1580
Grp Volume(v), veh/h	0	302	299	692	743	0				732	0	67
Grp Sat Flow(s),veh/h/ln	0	1777	1737	1728	1777	0				1781	0	1580
Q Serve(g_s), s	0.0	19.7	19.9	23.3	17.0	0.0				16.6	0.0	2.8
Cycle Q Clear(g_c), s	0.0	19.7	19.9	23.3	17.0	0.0				16.6	0.0	2.8
Prop In Lane	0.00		0.41	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	355	348	777	1644	0				1662	0	737
V/C Ratio(X)	0.00	0.85	0.86	0.89	0.45	0.00				0.44	0.00	0.09
Avail Cap(c_a), veh/h	0	437	427	950	1969	0				1662	0	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.73	0.73	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.3	46.4	45.1	21.9	0.0				21.5	0.0	17.8
Incr Delay (d2), s/veh	0.0	12.5	13.7	6.9	0.1	0.0				0.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.7	9.7	10.5	6.9	0.0				7.1	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	58.8	60.1	52.0	22.1	0.0				22.3	0.0	18.1
LnGrp LOS	A	E	E	D	C	A				C	A	B
Approach Vol, veh/h		601			1435						799	
Approach Delay, s/veh		59.5			36.5						22.0	
Approach LOS		E			D						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		31.5	28.5		60.0		60.0					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		33.0	* 30		45.0		66.5					
Max Q Clear Time (g_c+I1), s		25.3	21.9		18.6		19.0					
Green Ext Time (p_c), s		1.7	2.1		3.2		5.6					

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

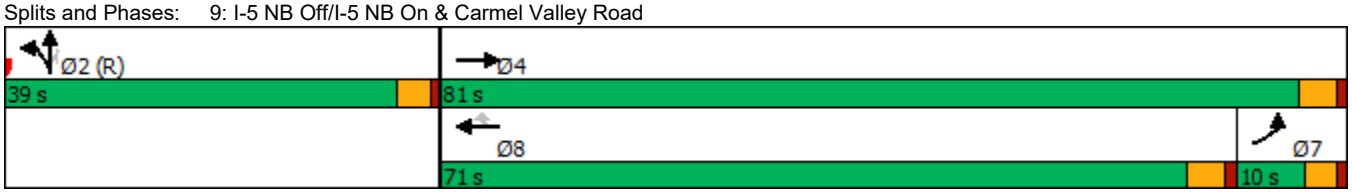
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	39	1048	1075	699	246	7	431
Future Volume (vph)	39	1048	1075	699	246	7	431
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	81.0	71.0	71.0	39.0	39.0	39.0
Total Split (%)	8.3%	67.5%	59.2%	59.2%	32.5%	32.5%	32.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.4	65.8	57.3	57.3	45.7	45.7	45.7
Actuated g/C Ratio	0.05	0.55	0.48	0.48	0.38	0.38	0.38
v/c Ratio	0.23	0.59	0.69	0.67	0.38	0.42	0.40
Control Delay	67.1	20.1	6.8	6.5	32.2	21.2	20.5
Queue Delay	0.0	0.9	0.2	1.6	0.0	0.0	0.0
Total Delay	67.1	21.0	7.0	8.1	32.2	21.2	20.5
LOS	E	C	A	A	C	C	C
Approach Delay		22.6	7.4			24.5	
Approach LOS		C	A			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 15.4	Intersection LOS: B
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1048	0	0	1075	699	246	7	431	0	0	0
Future Volume (veh/h)	39	1048	0	0	1075	699	246	7	431	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	42	1139	0	0	1168	760	181	0	566			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	108	2106	0	0	1862	828	599	0	1062			
Arrive On Green	0.03	0.59	0.00	0.00	0.52	0.52	0.34	0.00	0.34			
Sat Flow, veh/h	3456	3647	0	0	3647	1581	1781	0	3156			
Grp Volume(v), veh/h	42	1139	0	0	1168	760	181	0	566			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1581	1781	0	1578			
Q Serve(g_s), s	1.4	23.1	0.0	0.0	28.0	52.9	9.0	0.0	17.4			
Cycle Q Clear(g_c), s	1.4	23.1	0.0	0.0	28.0	52.9	9.0	0.0	17.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	108	2106	0	0	1862	828	599	0	1062			
V/C Ratio(X)	0.39	0.54	0.00	0.00	0.63	0.92	0.30	0.00	0.53			
Avail Cap(c_a), veh/h	173	2265	0	0	1969	876	599	0	1062			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	57.0	14.6	0.0	0.0	20.3	26.2	29.4	0.0	32.2			
Incr Delay (d2), s/veh	1.5	0.1	0.0	0.0	0.4	9.9	1.3	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			
%ile BackOfQ(50%),veh/ln	0.6	8.6	0.0	0.0	11.0	20.6	4.1	0.0	6.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	14.8	0.0	0.0	20.6	36.1	30.7	0.0	34.1			
LnGrp LOS	E	B	A	A	C	D	C	A	C			
Approach Vol, veh/h		1181			1928			747				
Approach Delay, s/veh		16.3			26.7			33.3				
Approach LOS		B			C			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		44.4		75.6			8.3	67.4				
Change Period (Y+Rc), s		4.0		4.5			4.5	* 4.5				
Max Green Setting (Gmax), s		35.0		76.5			6.0	* 67				
Max Q Clear Time (g_c+I1), s		19.4		25.1			3.4	54.9				
Green Ext Time (p_c), s		2.7		10.3			0.0	7.9				

Intersection Summary												
HCM 6th Ctrl Delay			24.8									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	47	65	1405	1651
Future Volume (vph)	47	65	1405	1651
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	15.0	93.0	78.0
Total Split (%)	22.5%	12.5%	77.5%	65.0%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	37.4	10.0	74.1	62.2
Actuated g/C Ratio	0.31	0.08	0.62	0.52
v/c Ratio	0.28	0.48	0.49	0.70
Control Delay	20.7	63.9	6.8	14.3
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	20.7	63.9	6.9	14.3
LOS	C	E	A	B
Approach Delay	20.7		9.4	14.3
Approach LOS	C		A	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 62.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	47	98	65	1405	1651	42
Future Volume (veh/h)	47	98	65	1405	1651	42
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	107	71	1527	1795	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	205	431	91	2784	2337	60
Arrive On Green	0.38	0.38	0.05	0.55	0.46	0.46
Sat Flow, veh/h	534	1121	1781	5274	5287	131
Grp Volume(v), veh/h	159	0	71	1527	1193	648
Grp Sat Flow(s),veh/h/ln	1666	0	1781	1702	1702	1846
Q Serve(g_s), s	7.8	0.0	4.7	23.3	35.2	35.2
Cycle Q Clear(g_c), s	7.8	0.0	4.7	23.3	35.2	35.2
Prop In Lane	0.32	0.67	1.00			0.07
Lane Grp Cap(c), veh/h	640	0	91	2784	1554	843
V/C Ratio(X)	0.25	0.00	0.78	0.55	0.77	0.77
Avail Cap(c_a), veh/h	640	0	163	3766	2085	1131
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.81	0.81	1.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	56.3	17.7	27.3	27.3
Incr Delay (d2), s/veh	0.9	0.0	11.0	0.1	1.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	2.4	8.6	13.9	15.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.1	0.0	67.3	17.8	28.5	29.6
LnGrp LOS	C	A	E	B	C	C
Approach Vol, veh/h	159			1598	1841	
Approach Delay, s/veh	26.1			20.0	28.9	
Approach LOS	C			C	C	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		69.9		50.1	10.6	59.3
Change Period (Y+Rc), s		4.5		4.0	4.5	* 4.5
Max Green Setting (Gmax), s		88.5		23.0	11.0	* 74
Max Q Clear Time (g_c+I1), s		25.3		9.8	6.7	37.2
Green Ext Time (p_c), s		16.4		0.4	0.0	17.5

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

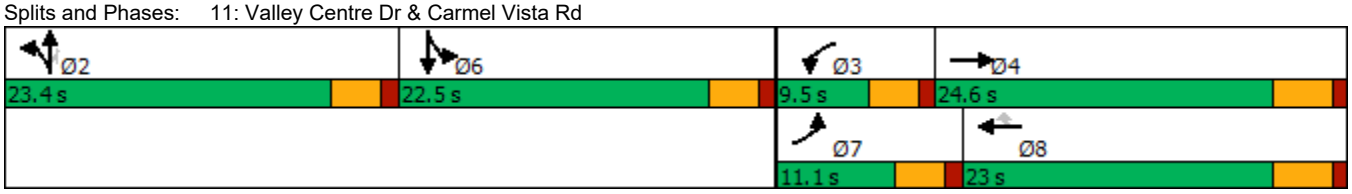
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	62	419	5	320	59	156	52	116	83	3
Future Volume (vph)	62	419	5	320	59	156	52	116	83	3
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.1	24.6	9.5	23.0	23.0	23.4	23.4	23.4	22.5	22.5
Total Split (%)	13.9%	30.8%	11.9%	28.8%	28.8%	29.3%	29.3%	29.3%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	7.0	16.6	5.9	12.3	12.3	20.9	20.9	20.9	9.6	9.6
Actuated g/C Ratio	0.12	0.28	0.10	0.21	0.21	0.36	0.36	0.36	0.16	0.16
v/c Ratio	0.32	0.47	0.03	0.47	0.15	0.19	0.19	0.20	0.31	0.11
Control Delay	33.8	20.2	31.8	25.0	1.5	20.3	20.2	5.6	27.7	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	20.2	31.8	25.0	1.5	20.3	20.2	5.6	27.7	12.2
LOS	C	C	C	C	A	C	C	A	C	B
Approach Delay		21.9		21.4			15.0			23.9
Approach LOS		C		C			B			C

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 58.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 39.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	419	15	5	320	59	156	52	116	83	3	25
Future Volume (veh/h)	62	419	15	5	320	59	156	52	116	83	3	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	455	16	5	348	64	114	136	126	90	3	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	760	27	12	582	260	671	704	597	142	13	115
Arrive On Green	0.06	0.22	0.22	0.01	0.16	0.16	0.38	0.38	0.38	0.08	0.08	0.08
Sat Flow, veh/h	1781	3502	123	1781	3554	1585	1781	1870	1585	1781	161	1449
Grp Volume(v), veh/h	67	230	241	5	348	64	114	136	126	90	0	30
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1585	1781	1870	1585	1781	0	1610
Q Serve(g_s), s	1.9	6.0	6.0	0.1	4.7	1.8	2.2	2.5	2.8	2.5	0.0	0.9
Cycle Q Clear(g_c), s	1.9	6.0	6.0	0.1	4.7	1.8	2.2	2.5	2.8	2.5	0.0	0.9
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	107	385	401	12	582	260	671	704	597	142	0	128
V/C Ratio(X)	0.63	0.60	0.60	0.42	0.60	0.25	0.17	0.19	0.21	0.63	0.00	0.23
Avail Cap(c_a), veh/h	245	693	721	190	1276	569	671	704	597	640	0	578
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	23.7	18.2	18.2	25.5	20.0	18.8	10.7	10.8	10.9	23.0	0.0	22.2
Incr Delay (d2), s/veh	6.0	1.5	1.4	21.7	1.0	0.5	0.5	0.6	0.8	4.6	0.0	0.9
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	0.9	2.2	2.3	0.1	1.7	0.6	0.8	1.0	0.9	1.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	19.6	19.6	47.2	21.0	19.3	11.2	11.4	11.7	27.6	0.0	23.2
LnGrp LOS	C	B	B	D	C	B	B	B	B	C	A	C
Approach Vol, veh/h		538			417			376			120	
Approach Delay, s/veh		20.9			21.0			11.5			26.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.4	4.3	15.7		8.1	7.1	12.9
Change Period (Y+Rc), s		4.0	4.0	4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		19.4	5.5	20.1		18.5	7.1	18.5
Max Q Clear Time (g_c+I1), s		4.8	2.1	8.0		4.5	3.9	6.7
Green Ext Time (p_c), s		1.3	0.0	2.0		0.3	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

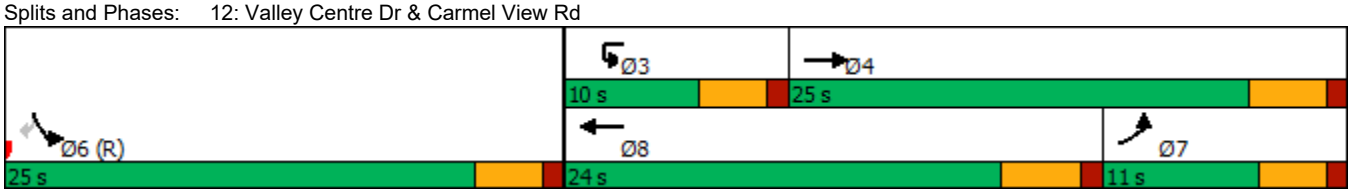
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	99	524	16	338	30	48
Future Volume (vph)	99	524	16	338	30	48
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	11.0	25.0	10.0	24.0	25.0	25.0
Total Split (%)	18.3%	41.7%	16.7%	40.0%	41.7%	41.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	8.2	21.7	5.8	13.4	27.8	27.8
Actuated g/C Ratio	0.14	0.36	0.10	0.22	0.46	0.46
v/c Ratio	0.45	0.45	0.10	0.57	0.04	0.07
Control Delay	29.6	15.4	26.1	20.6	12.2	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	15.4	26.1	20.6	12.2	4.8
LOS	C	B	C	C	B	A
Approach Delay		17.7		20.8	7.7	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 44.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	99	524	16	338	85	30	48
Future Volume (veh/h)	99	524	16	338	85	30	48
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	108	570		367	92	33	52
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	139	1238		550	136	908	808
Arrive On Green	0.08	0.35		0.20	0.20	0.51	0.51
Sat Flow, veh/h	1781	3647		2908	697	1781	1585
Grp Volume(v), veh/h	108	570		230	229	33	52
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1734	1781	1585
Q Serve(g_s), s	3.6	7.5		7.2	7.3	0.6	1.0
Cycle Q Clear(g_c), s	3.6	7.5		7.2	7.3	0.6	1.0
Prop In Lane	1.00				0.40	1.00	1.00
Lane Grp Cap(c), veh/h	139	1238		347	339	908	808
V/C Ratio(X)	0.78	0.46		0.66	0.68	0.04	0.06
Avail Cap(c_a), veh/h	208	1238		577	564	908	808
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	15.2		22.3	22.4	7.3	7.4
Incr Delay (d2), s/veh	9.4	0.2		2.2	2.4	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.6		2.9	2.9	0.2	1.3
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	36.6	15.4		24.5	24.7	7.4	7.6
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		678		459		85	
Approach Delay, s/veh		18.8		24.6		7.5	
Approach LOS		B		C		A	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			25.4		34.6	9.2	16.2
Change Period (Y+Rc), s			4.5		4.0	4.5	* 4.5
Max Green Setting (Gmax), s			20.5		21.0	7.0	* 20
Max Q Clear Time (g_c+I1), s			9.5		3.0	5.6	9.3
Green Ext Time (p_c), s			2.7		0.2	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

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

APPENDIX G

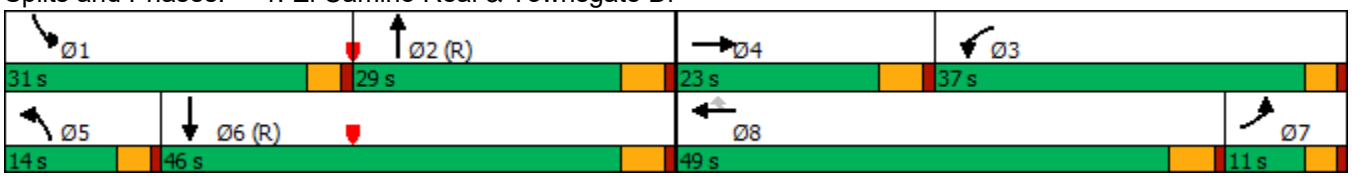
LONG TERM CUMULATIVE WITHOUT PROJECT HCM ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	10	224	29	143	37	309	183	692
Future Volume (vph)	10	10	224	29	143	37	309	183	692
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	11.0	23.0	37.0	49.0	49.0	14.0	29.0	31.0	46.0
Total Split (%)	9.2%	19.2%	30.8%	40.8%	40.8%	11.7%	24.2%	25.8%	38.3%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	7.0	18.0	33.0	44.0	44.0	10.0	24.0	27.0	41.0
Actuated g/C Ratio	0.06	0.15	0.28	0.37	0.37	0.08	0.20	0.22	0.34
v/c Ratio	0.11	0.08	0.50	0.05	0.23	0.27	0.43	0.50	0.51
Control Delay	56.0	29.4	40.8	24.9	4.8	75.9	12.0	45.7	31.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	29.4	40.8	24.9	4.8	75.9	12.0	45.7	31.6
LOS	E	C	D	C	A	E	B	D	C
Approach Delay		38.3		26.7			17.3		34.2
Approach LOS		D		C			B		C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 14 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 28.6 Intersection LOS: C
Intersection Capacity Utilization 50.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	224	29	143	37	309	98	183	692	113
Future Volume (veh/h)	10	10	10	224	29	143	37	309	98	183	692	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	11	243	32	155	40	336	107	199	752	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	129	129	490	686	581	148	777	236	401	1513	245
Arrive On Green	0.06	0.15	0.15	0.28	0.37	0.37	0.17	0.40	0.40	0.22	0.34	0.34
Sat Flow, veh/h	1781	858	858	1781	1870	1585	1781	3885	1178	1781	4427	718
Grp Volume(v), veh/h	11	0	22	243	32	155	40	292	151	199	577	298
Grp Sat Flow(s),veh/h/ln	1781	0	1716	1781	1870	1585	1781	1702	1658	1781	1702	1741
Q Serve(g_s), s	0.7	0.0	1.3	13.7	1.3	4.3	2.4	7.5	8.0	11.7	16.1	16.3
Cycle Q Clear(g_c), s	0.7	0.0	1.3	13.7	1.3	4.3	2.4	7.5	8.0	11.7	16.1	16.3
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.71	1.00		0.41
Lane Grp Cap(c), veh/h	104	0	257	490	686	581	148	681	332	401	1163	595
V/C Ratio(X)	0.11	0.00	0.09	0.50	0.05	0.27	0.27	0.43	0.45	0.50	0.50	0.50
Avail Cap(c_a), veh/h	104	0	257	490	686	581	148	681	332	401	1163	595
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	43.9	36.5	24.5	7.4	46.8	31.0	31.2	40.6	31.3	31.4
Incr Delay (d2), s/veh	2.0	0.0	0.7	3.6	0.1	1.1	4.4	2.0	4.4	4.3	1.5	3.0
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	0.4	0.0	0.6	6.5	0.6	3.1	1.2	2.9	3.2	5.5	6.6	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.0	44.6	40.1	24.6	8.5	51.2	33.0	35.6	44.9	32.8	34.4
LnGrp LOS	E	A	D	D	C	A	D	C	D	D	C	C
Approach Vol, veh/h		33			430			483			1074	
Approach Delay, s/veh		48.2			27.6			35.3			35.5	
Approach LOS		D			C			D			D	

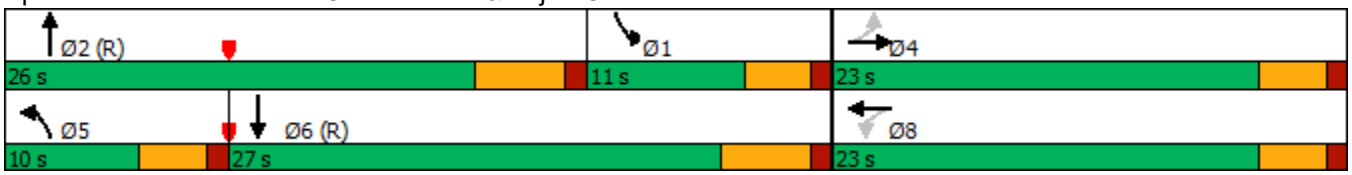
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	29.0	37.0	23.0	14.0	46.0	11.0	49.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	27.0	24.0	33.0	18.0	10.0	41.0	7.0	44.0
Max Q Clear Time (g_c+I1), s	13.7	10.0	15.7	3.3	4.4	18.3	2.7	6.3
Green Ext Time (p_c), s	0.4	2.1	0.6	0.0	0.0	5.4	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	10	125	10	24	352	70	861
Future Volume (vph)	10	10	125	10	24	352	70	861
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	10.0	26.0	11.0	27.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.7%	43.3%	18.3%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	19.0	19.0	19.0	6.0	21.0	7.0	22.0
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.10	0.35	0.12	0.37
v/c Ratio	0.03	0.04	0.31	0.15	0.15	0.23	0.37	0.51
Control Delay	14.5	10.7	18.0	6.1	19.4	14.8	19.6	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	10.7	18.0	6.1	19.4	14.8	19.6	7.2
LOS	B	B	B	A	B	B	B	A
Approach Delay		11.9		13.4		15.0		8.1
Approach LOS		B		B		B		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 12 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 10.6	Intersection LOS: B
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	125	10	68	24	352	19	70	861	10
Future Volume (veh/h)	10	10	10	125	10	68	24	352	19	70	861	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	11	136	11	74	26	383	21	76	936	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	477	267	267	538	65	438	175	1706	93	204	1962	23
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.03	0.11	0.11	0.11	0.38	0.38
Sat Flow, veh/h	1313	858	858	1390	209	1408	1781	4957	269	1781	5202	61
Grp Volume(v), veh/h	11	0	22	136	0	85	26	262	142	76	612	335
Grp Sat Flow(s),veh/h/ln	1313	0	1716	1390	0	1617	1781	1702	1822	1781	1702	1859
Q Serve(g_s), s	0.4	0.0	0.5	4.6	0.0	2.3	0.9	4.3	4.3	2.4	8.3	8.3
Cycle Q Clear(g_c), s	2.7	0.0	0.5	5.2	0.0	2.3	0.9	4.3	4.3	2.4	8.3	8.3
Prop In Lane	1.00		0.50	1.00		0.87	1.00		0.15	1.00		0.03
Lane Grp Cap(c), veh/h	477	0	534	538	0	504	175	1172	627	204	1283	701
V/C Ratio(X)	0.02	0.00	0.04	0.25	0.00	0.17	0.15	0.22	0.23	0.37	0.48	0.48
Avail Cap(c_a), veh/h	477	0	534	538	0	504	175	1172	627	204	1283	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	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	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	0.0	14.6	16.4	0.0	15.3	27.0	19.6	19.6	25.0	14.4	14.4
Incr Delay (d2), s/veh	0.1	0.0	0.1	1.1	0.0	0.7	1.8	0.4	0.8	5.1	1.3	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	0.1	0.0	0.2	1.5	0.0	0.9	0.4	1.6	1.8	1.2	2.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	0.0	14.8	17.6	0.0	16.0	28.8	20.1	20.5	30.1	15.7	16.8
LnGrp LOS	B	A	B	B	A	B	C	C	C	C	B	B
Approach Vol, veh/h		33			221			430			1023	
Approach Delay, s/veh		15.3			17.0			20.7			17.1	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	26.0		23.0	10.0	28.0		23.0
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	7.0	* 21		19.0	6.0	22.0		19.0
Max Q Clear Time (g_c+I1), s	4.4	6.3		4.7	2.9	10.3		7.2
Green Ext Time (p_c), s	0.0	1.9		0.1	0.0	4.4		0.6

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

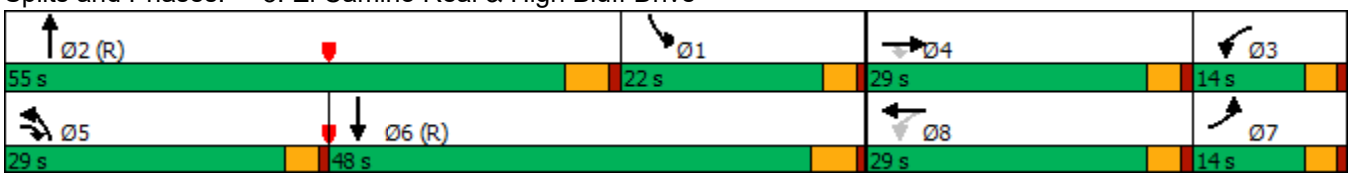
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	24	88	250	76	210	191	277	91	840
Future Volume (vph)	24	88	250	76	210	191	277	91	840
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	14.0	29.0	29.0	14.0	29.0	29.0	55.0	22.0	48.0
Total Split (%)	11.7%	24.2%	24.2%	11.7%	24.2%	24.2%	45.8%	18.3%	40.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	7.3	12.6	25.2	24.2	16.3	12.6	65.3	18.0	70.7
Actuated g/C Ratio	0.06	0.10	0.21	0.20	0.14	0.10	0.54	0.15	0.59
v/c Ratio	0.24	0.49	0.61	0.30	0.64	0.58	0.12	0.37	0.34
Control Delay	58.4	58.6	19.0	41.7	48.0	32.6	9.1	30.9	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	58.6	19.0	41.7	48.0	32.6	9.1	30.9	7.4
LOS	E	E	B	D	D	C	A	C	A
Approach Delay		31.2			46.7		18.3		9.5
Approach LOS		C			D		B		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 51.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	88	250	76	210	84	191	277	25	91	840	96
Future Volume (veh/h)	24	88	250	76	210	84	191	277	25	91	840	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	96	272	83	228	91	208	301	27	99	913	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	290	369	208	309	119	273	1990	175	426	2721	309
Arrive On Green	0.07	0.16	0.16	0.04	0.12	0.12	0.16	0.83	0.83	0.48	1.00	1.00
Sat Flow, veh/h	1781	1870	1570	1781	2496	964	3456	4775	421	1781	4650	528
Grp Volume(v), veh/h	26	96	272	83	160	159	208	213	115	99	668	349
Grp Sat Flow(s),veh/h/ln	1781	1870	1570	1781	1777	1683	1728	1702	1792	1781	1702	1774
Q Serve(g_s), s	1.7	5.5	15.8	0.0	10.4	11.0	6.9	1.4	1.5	3.9	0.0	0.0
Cycle Q Clear(g_c), s	1.7	5.5	15.8	0.0	10.4	11.0	6.9	1.4	1.5	3.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.57	1.00		0.23	1.00		0.30
Lane Grp Cap(c), veh/h	125	290	369	208	220	208	273	1418	747	426	1992	1038
V/C Ratio(X)	0.21	0.33	0.74	0.40	0.73	0.76	0.76	0.15	0.15	0.23	0.34	0.34
Avail Cap(c_a), veh/h	148	390	452	287	370	351	720	1418	747	426	1992	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.87	0.87	0.87
Uniform Delay (d), s/veh	52.6	45.1	28.9	51.0	50.6	50.9	49.5	6.0	6.0	24.8	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.7	4.9	1.2	4.6	5.7	4.4	0.2	0.4	0.2	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.6	6.3	2.4	4.8	4.9	2.9	0.5	0.6	1.6	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.4	45.8	33.8	52.2	55.2	56.5	53.8	6.2	6.4	25.1	0.4	0.8
LnGrp LOS	D	D	C	D	E	E	D	A	A	C	A	A
Approach Vol, veh/h		394			402			536			1116	
Approach Delay, s/veh		38.0			55.1			24.7			2.7	
Approach LOS		D			E			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.7	55.0	8.7	22.6	13.5	75.2	12.5	18.9
Change Period (Y+Rc), s	5.0	* 5	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	* 50	10.0	25.0	25.0	43.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	5.9	3.5	2.0	17.8	8.9	2.0	3.7	13.0
Green Ext Time (p_c), s	0.2	2.0	0.1	0.9	0.6	7.3	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

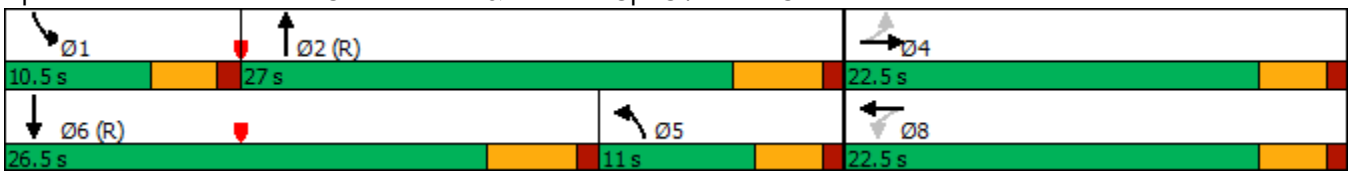
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	10	10	10	61	500	63	1086
Future Volume (vph)	17	10	10	10	61	500	63	1086
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	11.0	27.0	10.5	26.5
Total Split (%)	37.5%	37.5%	37.5%	37.5%	18.3%	45.0%	17.5%	44.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.4	8.4	8.4	8.4	6.6	41.3	7.1	41.8
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.11	0.69	0.12	0.70
v/c Ratio	0.09	0.13	0.06	0.09	0.34	0.17	0.33	0.35
Control Delay	20.5	12.5	19.7	14.5	30.9	6.0	34.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	12.5	19.7	14.5	30.9	6.0	34.0	2.8
LOS	C	B	B	B	C	A	C	A
Approach Delay		15.4		16.2		8.5		4.5
Approach LOS		B		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 13 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.35	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 45.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	10	19	10	10	10	61	500	45	63	1086	48
Future Volume (veh/h)	17	10	19	10	10	10	61	500	45	63	1086	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	11	21	11	11	11	66	543	49	68	1180	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	46	89	206	69	69	582	3077	275	101	1796	79
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.22	0.43	0.43	0.06	0.36	0.36
Sat Flow, veh/h	1367	568	1084	1356	850	850	1781	4770	426	1781	5012	221
Grp Volume(v), veh/h	18	0	32	11	0	22	66	386	206	68	801	431
Grp Sat Flow(s),veh/h/ln	1367	0	1652	1356	0	1699	1781	1702	1792	1781	1702	1829
Q Serve(g_s), s	0.7	0.0	1.1	0.5	0.0	0.7	1.8	4.2	4.2	2.2	11.9	11.9
Cycle Q Clear(g_c), s	1.5	0.0	1.1	1.5	0.0	0.7	1.8	4.2	4.2	2.2	11.9	11.9
Prop In Lane	1.00		0.66	1.00		0.50	1.00		0.24	1.00		0.12
Lane Grp Cap(c), veh/h	215	0	135	206	0	139	582	2196	1156	101	1220	655
V/C Ratio(X)	0.08	0.00	0.24	0.05	0.00	0.16	0.11	0.18	0.18	0.68	0.66	0.66
Avail Cap(c_a), veh/h	525	0	509	513	0	524	582	2196	1156	193	1220	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.93	0.93	0.93	0.92	0.92	0.92
Uniform Delay (d), s/veh	26.3	0.0	25.8	26.5	0.0	25.6	16.5	7.2	7.3	27.8	16.2	16.2
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.1	0.0	0.5	0.1	0.2	0.3	7.1	2.6	4.7
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	0.2	0.0	0.4	0.1	0.0	0.3	0.6	0.9	1.1	1.1	4.2	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	0.0	26.7	26.6	0.0	26.2	16.6	7.4	7.6	34.8	18.7	20.9
LnGrp LOS	C	A	C	C	A	C	B	A	A	C	B	C
Approach Vol, veh/h		50			33			658			1300	
Approach Delay, s/veh		26.6			26.3			8.4			20.3	
Approach LOS		C			C			A			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	43.7		8.9	24.6	26.5		8.9
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0
Max Green Setting (Gmax), s	6.5	22.0		18.5	7.0	* 22		18.5
Max Q Clear Time (g_c+I1), s	3.5	6.2		3.5	3.8	13.9		3.5
Green Ext Time (p_c), s	0.0	3.0		0.1	0.0	4.3		0.1

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

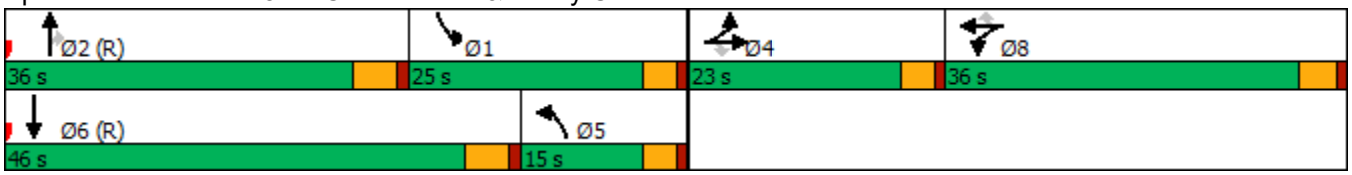
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	30	10	39	427	10	151	53	792	154	149	800
Future Volume (vph)	30	10	39	427	10	151	53	792	154	149	800
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	36.0	36.0	36.0	15.0	36.0	36.0	25.0	46.0
Total Split (%)	19.2%	19.2%	19.2%	30.0%	30.0%	30.0%	12.5%	30.0%	30.0%	20.8%	38.3%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.2	9.2	9.2	24.0	24.0	24.0	8.9	53.3	53.3	17.8	64.2
Actuated g/C Ratio	0.08	0.08	0.08	0.20	0.20	0.20	0.07	0.44	0.44	0.15	0.54
v/c Ratio	0.23	0.22	0.11	0.73	0.76	0.36	0.44	0.38	0.22	0.62	0.33
Control Delay	54.1	33.7	0.9	57.1	59.0	8.0	62.8	18.4	5.7	68.1	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	33.7	0.9	57.1	59.0	8.0	62.8	18.4	5.7	68.1	25.7
LOS	D	C	A	E	E	A	E	B	A	E	C
Approach Delay		30.5			46.4			18.8			32.2
Approach LOS		C			D			B			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 30.2 Intersection LOS: C
Intersection Capacity Utilization 55.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	10	39	427	10	151	53	792	154	149	800	24
Future Volume (veh/h)	30	10	39	427	10	151	53	792	154	149	800	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	32	30	519	0	113	58	861	167	162	870	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	91	74	618	0	272	518	1319	407	666	1740	52
Arrive On Green	0.05	0.05	0.05	0.17	0.00	0.17	0.29	0.26	0.26	0.75	0.68	0.68
Sat Flow, veh/h	1781	1870	1536	3563	0	1571	1781	5106	1576	1781	5094	152
Grp Volume(v), veh/h	26	32	30	519	0	113	58	861	167	162	581	315
Grp Sat Flow(s),veh/h/ln	1781	1870	1536	1781	0	1571	1781	1702	1576	1781	1702	1842
Q Serve(g_s), s	1.7	2.0	2.3	16.9	0.0	7.7	2.9	18.1	10.5	3.4	9.8	9.9
Cycle Q Clear(g_c), s	1.7	2.0	2.3	16.9	0.0	7.7	2.9	18.1	10.5	3.4	9.8	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	86	91	74	618	0	272	518	1319	407	666	1163	629
V/C Ratio(X)	0.30	0.35	0.40	0.84	0.00	0.41	0.11	0.65	0.41	0.24	0.50	0.50
Avail Cap(c_a), veh/h	282	296	243	935	0	412	518	1319	407	666	1163	629
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	1.00	1.00	0.84	0.00	0.84	0.93	0.93	0.93	0.95	0.95	0.95
Uniform Delay (d), s/veh	55.1	55.3	55.4	48.0	0.0	44.2	31.2	39.7	36.9	9.9	14.1	14.1
Incr Delay (d2), s/veh	1.9	2.3	3.5	3.7	0.0	0.8	0.1	2.4	2.8	0.2	1.5	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	0.8	1.0	0.9	7.7	0.0	3.0	1.2	7.6	4.3	1.2	3.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	57.6	58.9	51.7	0.0	45.0	31.3	42.0	39.7	10.1	15.5	16.8
LnGrp LOS	E	E	E	D	A	D	C	D	D	B	B	B
Approach Vol, veh/h		88			632			1086			1058	
Approach Delay, s/veh		57.9			50.5			41.1			15.1	
Approach LOS		E			D			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.9	36.0		9.8	38.9	46.0		25.3
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	21.0	31.0		19.0	11.0	41.0		31.5
Max Q Clear Time (g_c+I1), s	5.4	20.1		4.3	4.9	11.9		18.9
Green Ext Time (p_c), s	0.3	4.5		0.2	0.0	5.8		1.9

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

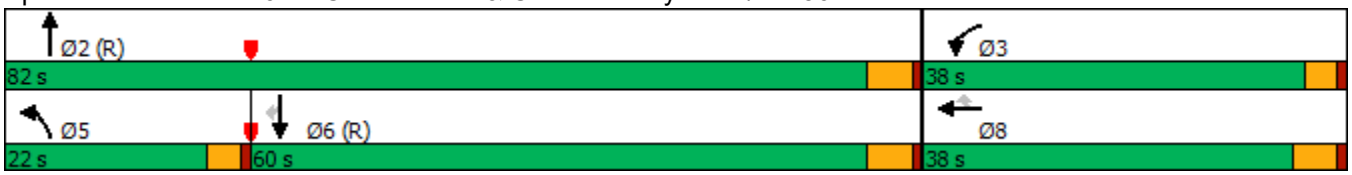
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	332	860	243	240	782	562	670
Future Volume (vph)	332	860	243	240	782	562	670
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	38.0	38.0	38.0	22.0	82.0	60.0	60.0
Total Split (%)	31.7%	31.7%	31.7%	18.3%	68.3%	50.0%	50.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	30.6	29.6	29.6	14.3	80.4	62.1	62.1
Actuated g/C Ratio	0.26	0.25	0.25	0.12	0.67	0.52	0.52
v/c Ratio	0.41	0.75	0.50	0.64	0.36	0.41	0.51
Control Delay	38.2	45.5	14.8	59.7	1.7	5.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	38.2	45.5	14.8	59.7	1.9	5.0	7.0
LOS	D	D	B	E	A	A	A
Approach Delay		38.6			15.5	5.6	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 7 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 21.2	Intersection LOS: C
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	332	860	243	240	782	0	0	562	670
Future Volume (veh/h)	0	0	0	332	860	243	240	782	0	0	562	670
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				361	935	264	261	850	0	0	611	728
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				822	1215	375	325	2442	0	0	2093	1769
Arrive On Green				0.24	0.24	0.24	0.13	0.91	0.00	0.00	0.93	0.93
Sat Flow, veh/h				3456	5106	1575	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				361	935	264	261	850	0	0	611	728
Grp Sat Flow(s),veh/h/ln				1728	1702	1575	1728	1777	0	0	1870	1581
Q Serve(g_s), s				10.7	20.5	18.4	8.8	3.6	0.0	0.0	1.8	2.9
Cycle Q Clear(g_c), s				10.7	20.5	18.4	8.8	3.6	0.0	0.0	1.8	2.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				822	1215	375	325	2442	0	0	2093	1769
V/C Ratio(X)				0.44	0.77	0.70	0.80	0.35	0.00	0.00	0.29	0.41
Avail Cap(c_a), veh/h				979	1447	446	518	2442	0	0	2093	1769
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	1.00	1.00	0.81	0.81	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh				38.9	42.7	41.9	51.4	1.8	0.0	0.0	1.8	1.8
Incr Delay (d2), s/veh				0.4	2.2	4.0	3.9	0.3	0.0	0.0	0.3	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	8.5	7.3	3.8	1.0	0.0	0.0	0.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.3	44.8	45.9	55.3	2.1	0.0	0.0	2.1	2.5
LnGrp LOS				D	D	D	E	A	A	A	A	A
Approach Vol, veh/h					1560			1111			1339	
Approach Delay, s/veh					43.7			14.6			2.3	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	87.4		15.3	72.1		32.6
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	77.0		18.0	55.0		34.0
Max Q Clear Time (g_c+I1), s	5.6		10.8	4.9		22.5
Green Ext Time (p_c), s	6.5		0.5	8.5		6.1

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

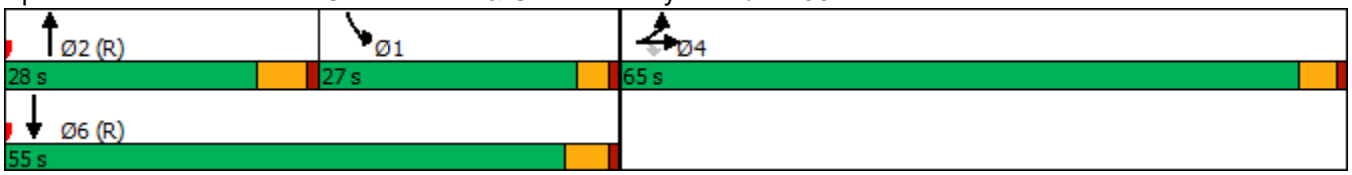
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	646	799	235	384	164	729
Future Volume (vph)	646	799	235	384	164	729
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	65.0	65.0	65.0	28.0	27.0	55.0
Total Split (%)	54.2%	54.2%	54.2%	23.3%	22.5%	45.8%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	54.5	54.5	54.5	28.5	23.0	56.0
Actuated g/C Ratio	0.45	0.45	0.45	0.24	0.19	0.47
v/c Ratio	0.71	0.75	0.33	0.44	0.53	0.33
Control Delay	31.8	30.3	13.3	34.3	33.6	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	31.8	30.3	13.3	34.3	33.6	11.3
LOS	C	C	B	C	C	B
Approach Delay		28.6		34.3		15.4
Approach LOS		C		C		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 26.0	Intersection LOS: C
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	646	799	235	0	0	0	0	384	231	164	729	0
Future Volume (veh/h)	646	799	235	0	0	0	0	384	231	164	729	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	468	1196	255				0	417	251	178	792	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	715	1501	634				0	905	295	510	2653	0
Arrive On Green	0.40	0.40	0.40				0.00	0.19	0.19	0.09	0.17	0.00
Sat Flow, veh/h	1781	3741	1579				0	5087	1572	1781	5274	0
Grp Volume(v), veh/h	468	1196	255				0	417	251	178	792	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1579				0	1609	1572	1781	1702	0
Q Serve(g_s), s	25.6	33.8	13.8				0.0	9.2	18.5	11.2	16.3	0.0
Cycle Q Clear(g_c), s	25.6	33.8	13.8				0.0	9.2	18.5	11.2	16.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	715	1501	634				0	905	295	510	2653	0
V/C Ratio(X)	0.65	0.80	0.40				0.00	0.46	0.85	0.35	0.30	0.00
Avail Cap(c_a), veh/h	898	1886	796				0	905	295	510	2653	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	29.2	31.6	25.6				0.0	43.4	47.1	43.9	30.6	0.0
Incr Delay (d2), s/veh	1.2	2.0	0.4				0.0	1.7	25.4	0.4	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
%ile BackOfQ(50%),veh/ln	10.8	15.0	5.1				0.0	3.7	9.0	5.3	7.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	33.6	26.1				0.0	45.0	72.5	44.2	30.9	0.0
LnGrp LOS	C	C	C				A	D	E	D	C	A
Approach Vol, veh/h		1919						668			970	
Approach Delay, s/veh		31.8						55.4			33.3	
Approach LOS		C						E			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	39.3	28.0		52.7		67.3
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	23.0	* 23		60.5		50.0
Max Q Clear Time (g_c+I1), s	13.2	20.5		35.8		18.3
Green Ext Time (p_c), s	0.3	0.8		12.4		5.6

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

Notes

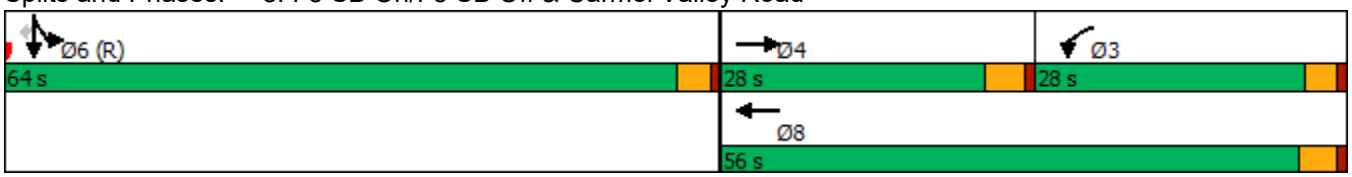
User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	288	415	640	960	3	124
Future Volume (vph)	288	415	640	960	3	124
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	56.0	64.0	64.0	64.0
Total Split (%)	23.3%	23.3%	46.7%	53.3%	53.3%	53.3%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	20.0	20.5	44.5	67.0	67.0	67.0
Actuated g/C Ratio	0.17	0.17	0.37	0.56	0.56	0.56
v/c Ratio	0.80	0.77	0.53	0.57	0.59	0.14
Control Delay	48.2	33.7	10.2	21.5	22.1	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	33.7	10.2	21.5	22.2	3.1
LOS	D	C	B	C	C	A
Approach Delay	48.2		19.4		19.9	
Approach LOS	D		B		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 24.8	Intersection LOS: C
Intersection Capacity Utilization 81.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	288	178	415	640	0	0	0	0	960	3	124
Future Volume (veh/h)	0	288	178	415	640	0	0	0	0	960	3	124
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	313	193	451	696	0				1086	0	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	367	221	525	1286	0				2021	0	897
Arrive On Green	0.00	0.17	0.17	0.15	0.36	0.00				0.57	0.00	0.57
Sat Flow, veh/h	0	2219	1278	3456	3647	0				3563	0	1581
Grp Volume(v), veh/h	0	260	246	451	696	0				1086	0	91
Grp Sat Flow(s),veh/h/ln	0	1777	1627	1728	1777	0				1781	0	1581
Q Serve(g_s), s	0.0	17.0	17.7	15.3	18.6	0.0				22.8	0.0	3.2
Cycle Q Clear(g_c), s	0.0	17.0	17.7	15.3	18.6	0.0				22.8	0.0	3.2
Prop In Lane	0.00		0.79	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	307	281	525	1286	0				2021	0	897
V/C Ratio(X)	0.00	0.85	0.87	0.86	0.54	0.00				0.54	0.00	0.10
Avail Cap(c_a), veh/h	0	348	319	691	1525	0				2021	0	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.76	0.76	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	48.1	48.4	49.6	30.4	0.0				16.2	0.0	11.9
Incr Delay (d2), s/veh	0.0	16.1	21.0	6.6	0.3	0.0				1.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.8	8.7	6.9	7.8	0.0				9.3	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	64.2	69.3	56.2	30.6	0.0				17.2	0.0	12.2
LnGrp LOS	A	E	E	E	C	A				B	A	B
Approach Vol, veh/h		506			1147						1177	
Approach Delay, s/veh		66.7			40.7						16.8	
Approach LOS		E			D						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		22.7	25.2		72.1		47.9					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		24.0	* 24		60.0		51.5					
Max Q Clear Time (g_c+I1), s		17.3	19.7		24.8		20.6					
Green Ext Time (p_c), s		0.9	1.1		5.4		4.9					

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

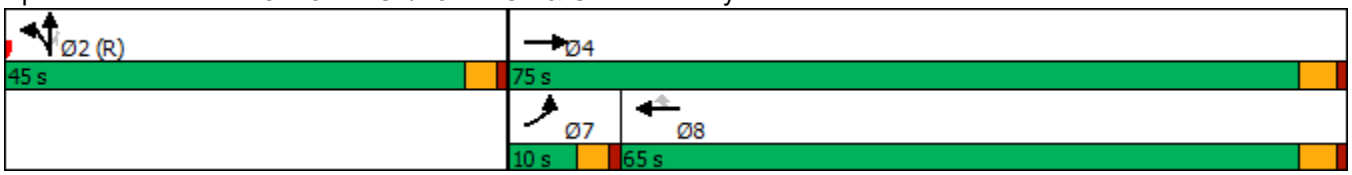
User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	72	1179	947	822	105	0	646
Future Volume (vph)	72	1179	947	822	105	0	646
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	75.0	65.0	65.0	45.0	45.0	45.0
Total Split (%)	8.3%	62.5%	54.2%	54.2%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.0	61.2	53.2	53.2	50.3	50.3	50.3
Actuated g/C Ratio	0.05	0.51	0.44	0.44	0.42	0.42	0.42
v/c Ratio	0.46	0.71	0.66	0.75	0.15	0.57	0.55
Control Delay	59.3	19.1	15.3	18.3	25.1	28.4	27.8
Queue Delay	0.0	0.6	0.3	4.3	0.0	0.0	0.0
Total Delay	59.3	19.7	15.6	22.5	25.1	28.4	27.8
LOS	E	B	B	C	C	C	C
Approach Delay		21.9	18.8			27.7	
Approach LOS		C	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 21.6	Intersection LOS: C
Intersection Capacity Utilization 81.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1179	0	0	947	822	105	0	646	0	0	0
Future Volume (veh/h)	72	1179	0	0	947	822	105	0	646	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	78	1282	0	0	1029	893	76	0	743			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	133	2047	0	0	1792	797	629	0	1115			
Arrive On Green	0.04	0.58	0.00	0.00	0.50	0.50	0.35	0.00	0.35			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3157			
Grp Volume(v), veh/h	78	1282	0	0	1029	893	76	0	743			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	2.7	28.7	0.0	0.0	24.3	60.5	3.5	0.0	23.9			
Cycle Q Clear(g_c), s	2.7	28.7	0.0	0.0	24.3	60.5	3.5	0.0	23.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	133	2047	0	0	1792	797	629	0	1115			
V/C Ratio(X)	0.59	0.63	0.00	0.00	0.57	1.12	0.12	0.00	0.67			
Avail Cap(c_a), veh/h	173	2088	0	0	1792	797	629	0	1115			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.68	0.68	0.00	0.00	0.66	0.66	1.00	0.00	1.00			
Uniform Delay (d), s/veh	56.7	16.9	0.0	0.0	20.8	29.8	26.2	0.0	32.8			
Incr Delay (d2), s/veh	2.8	0.4	0.0	0.0	0.3	65.8	0.4	0.0	3.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	10.9	0.0	0.0	9.6	35.7	1.6	0.0	9.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	17.3	0.0	0.0	21.1	95.5	26.6	0.0	36.0			
LnGrp LOS	E	B	A	A	C	F	C	A	D			
Approach Vol, veh/h		1360			1922			819				
Approach Delay, s/veh		19.7			55.7			35.1				
Approach LOS		B			E			D				

Timer - Assigned Phs	2	4	7	8
Phs Duration (G+Y+Rc), s	46.4	73.6	8.6	65.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	41.0	70.5	6.0	60.5
Max Q Clear Time (g_c+I1), s	25.9	30.7	4.7	62.5
Green Ext Time (p_c), s	3.2	11.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

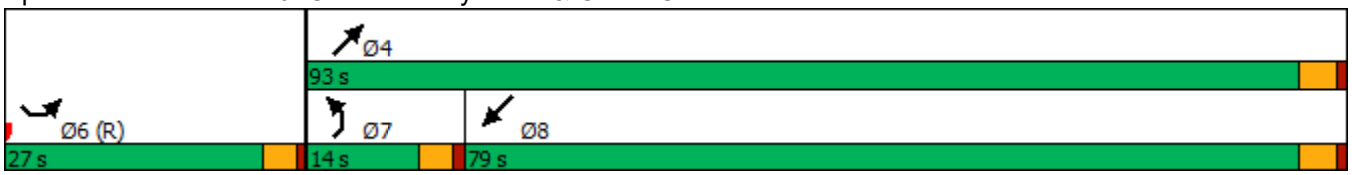
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	11	23	1791	1741
Future Volume (vph)	11	23	1791	1741
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	14.0	93.0	79.0
Total Split (%)	22.5%	11.7%	77.5%	65.8%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	38.8	7.2	72.7	65.4
Actuated g/C Ratio	0.32	0.06	0.61	0.54
v/c Ratio	0.05	0.24	0.63	0.69
Control Delay	23.0	62.7	12.0	16.5
Queue Delay	0.0	0.0	0.3	0.1
Total Delay	23.0	62.7	12.3	16.6
LOS	C	E	B	B
Approach Delay	23.0		13.0	16.6
Approach LOS	C		B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 14.8	Intersection LOS: B
Intersection Capacity Utilization 56.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	11	12	23	1791	1741	28
Future Volume (veh/h)	11	12	23	1791	1741	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	13	25	1947	1892	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	313	339	42	2714	2458	39
Arrive On Green	0.40	0.40	0.02	0.53	0.47	0.47
Sat Flow, veh/h	786	852	1781	5274	5345	82
Grp Volume(v), veh/h	26	0	25	1947	1244	678
Grp Sat Flow(s),veh/h/ln	1704	0	1781	1702	1702	1855
Q Serve(g_s), s	1.1	0.0	1.7	34.6	36.3	36.3
Cycle Q Clear(g_c), s	1.1	0.0	1.7	34.6	36.3	36.3
Prop In Lane	0.46	0.50	1.00			0.04
Lane Grp Cap(c), veh/h	677	0	42	2714	1616	881
V/C Ratio(X)	0.04	0.00	0.60	0.72	0.77	0.77
Avail Cap(c_a), veh/h	677	0	148	3766	2113	1152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.68	0.68	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	58.0	21.3	26.1	26.1
Incr Delay (d2), s/veh	0.1	0.0	8.9	0.3	1.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.8	13.0	14.2	15.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.2	0.0	66.9	21.6	27.4	28.5
LnGrp LOS	C	A	E	C	C	C
Approach Vol, veh/h	26			1972	1922	
Approach Delay, s/veh	22.2			22.1	27.8	
Approach LOS	C			C	C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	68.3	51.7	6.8	61.5
Change Period (Y+Rc), s	4.5	4.0	4.0	4.5
Max Green Setting (Gmax), s	88.5	23.0	10.0	74.5
Max Q Clear Time (g_c+I1), s	36.6	3.1	3.7	38.3
Green Ext Time (p_c), s	24.0	0.0	0.0	18.6

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	26	181	56	463	69	54	10	13	48	19
Future Volume (vph)	26	181	56	463	69	54	10	13	48	19
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	23.0	10.8	24.3	24.3	23.7	23.7	23.7	22.5	22.5
Total Split (%)	11.9%	28.8%	13.5%	30.4%	30.4%	29.6%	29.6%	29.6%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.9	11.5	7.7	15.0	15.0	21.1	21.1	21.1	8.7	8.7
Actuated g/C Ratio	0.10	0.20	0.13	0.26	0.26	0.36	0.36	0.36	0.15	0.15
v/c Ratio	0.16	0.40	0.26	0.55	0.15	0.06	0.06	0.02	0.20	0.34
Control Delay	33.1	17.3	30.9	23.0	2.3	19.3	19.2	0.1	26.6	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	17.3	30.9	23.0	2.3	19.3	19.2	0.1	26.6	12.4
LOS	C	B	C	C	A	B	B	A	C	B
Approach Delay		18.6		21.3			16.1			17.0
Approach LOS		B		C			B			B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 58.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 19.6	Intersection LOS: B
Intersection Capacity Utilization 36.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	181	94	56	463	69	54	10	13	48	19	81
Future Volume (veh/h)	26	181	94	56	463	69	54	10	13	48	19	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	197	102	61	503	75	67	0	14	52	21	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	327	163	163	751	335	1272	0	566	180	32	133
Arrive On Green	0.03	0.14	0.14	0.09	0.21	0.21	0.36	0.00	0.36	0.10	0.10	0.10
Sat Flow, veh/h	1781	2300	1142	1781	3554	1585	3563	0	1585	1781	315	1318
Grp Volume(v), veh/h	28	150	149	61	503	75	67	0	14	52	0	109
Grp Sat Flow(s),veh/h/ln	1781	1777	1665	1781	1777	1585	1781	0	1585	1781	0	1633
Q Serve(g_s), s	0.9	4.4	4.6	1.8	7.2	2.2	0.7	0.0	0.3	1.5	0.0	3.5
Cycle Q Clear(g_c), s	0.9	4.4	4.6	1.8	7.2	2.2	0.7	0.0	0.3	1.5	0.0	3.5
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.81
Lane Grp Cap(c), veh/h	56	253	237	163	751	335	1272	0	566	180	0	165
V/C Ratio(X)	0.50	0.59	0.63	0.37	0.67	0.22	0.05	0.00	0.02	0.29	0.00	0.66
Avail Cap(c_a), veh/h	178	596	558	219	1275	569	1272	0	566	597	0	547
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	22.2	22.3	23.6	20.0	18.0	11.6	0.0	11.5	23.0	0.0	23.9
Incr Delay (d2), s/veh	6.6	2.2	2.7	1.4	1.0	0.3	0.1	0.0	0.1	0.9	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	0.4	1.8	1.8	0.7	2.7	0.7	0.3	0.0	0.1	0.6	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	24.4	25.0	25.0	21.0	18.4	11.7	0.0	11.6	23.8	0.0	28.3
LnGrp LOS	C	C	C	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h		327			639			81			161	
Approach Delay, s/veh		25.4			21.1			11.7			26.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.7	9.6	12.4	9.6	5.7	16.2
Change Period (Y+Rc), s	4.0	4.5	* 4.5	4.0	4.0	4.5
Max Green Setting (Gmax), s	19.7	6.8	* 19	18.5	5.5	19.8
Max Q Clear Time (g_c+I1), s	2.7	3.8	6.6	5.5	2.9	9.2
Green Ext Time (p_c), s	0.2	0.0	1.2	0.6	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

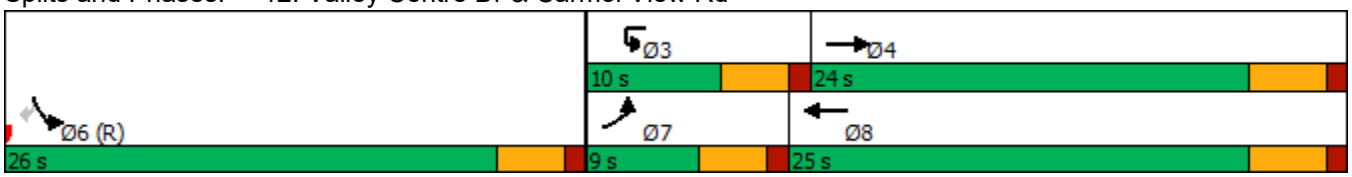
User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	222	2	467	95	123
Future Volume (vph)	13	222	2	467	95	123
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	9.0	24.0	10.0	25.0	26.0	26.0
Total Split (%)	15.0%	40.0%	16.7%	41.7%	43.3%	43.3%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	5.0	14.7	5.6	14.9	34.8	34.8
Actuated g/C Ratio	0.08	0.24	0.09	0.25	0.58	0.58
v/c Ratio	0.10	0.28	0.01	0.61	0.10	0.14
Control Delay	27.1	18.4	24.5	22.3	8.4	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	18.4	24.5	22.3	8.4	2.8
LOS	C	B	C	C	A	A
Approach Delay		18.9		22.3	5.2	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 2 (3%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 17.5	Intersection LOS: B
Intersection Capacity Utilization 36.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	13	222	2	467	26	95	123
Future Volume (veh/h)	13	222	2	467	26	95	123
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	14	241		508	28	103	134
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	31	1060		733	40	998	888
Arrive On Green	0.02	0.30		0.21	0.21	0.56	0.56
Sat Flow, veh/h	1781	3647		3516	188	1781	1585
Grp Volume(v), veh/h	14	241		263	273	103	134
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1834	1781	1585
Q Serve(g_s), s	0.5	3.1		8.2	8.2	1.6	2.4
Cycle Q Clear(g_c), s	0.5	3.1		8.2	8.2	1.6	2.4
Prop In Lane	1.00				0.10	1.00	1.00
Lane Grp Cap(c), veh/h	31	1060		381	393	998	888
V/C Ratio(X)	0.45	0.23		0.69	0.69	0.10	0.15
Avail Cap(c_a), veh/h	148	1155		607	627	998	888
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	15.8		21.7	21.8	6.2	6.3
Incr Delay (d2), s/veh	9.4	0.1		2.3	2.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1		3.3	3.4	0.5	3.3
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	38.6	16.0		24.0	24.0	6.4	6.7
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		255		536		237	
Approach Delay, s/veh		17.2		24.0		6.6	
Approach LOS		B		C		A	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	22.4	37.6	5.0	17.4
Change Period (Y+Rc), s	4.5	4.0	4.0	4.5
Max Green Setting (Gmax), s	19.5	22.0	5.0	20.5
Max Q Clear Time (g_c+I1), s	5.1	4.4	2.5	10.2
Green Ext Time (p_c), s	1.1	0.6	0.0	2.2

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

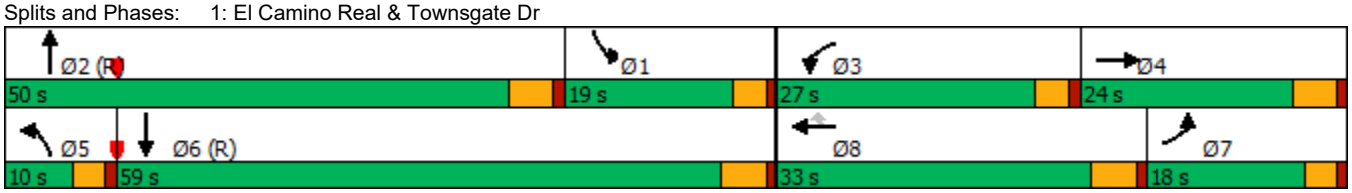
Notes

User approved ignoring U-Turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	80	25	165	10	109	10	1048	131	446
Future Volume (vph)	80	25	165	10	109	10	1048	131	446
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	18.0	24.0	27.0	33.0	33.0	10.0	50.0	19.0	59.0
Total Split (%)	15.0%	20.0%	22.5%	27.5%	27.5%	8.3%	41.7%	15.8%	49.2%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	14.0	19.0	23.0	28.0	28.0	6.0	45.0	15.0	54.0
Actuated g/C Ratio	0.12	0.16	0.19	0.23	0.23	0.05	0.38	0.12	0.45
v/c Ratio	0.42	0.21	0.53	0.03	0.25	0.12	0.74	0.64	0.22
Control Delay	56.1	24.8	50.1	35.9	4.5	59.0	21.0	64.2	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	24.8	50.1	35.9	4.5	59.0	21.0	64.2	20.2
LOS	E	C	D	D	A	E	C	E	C
Approach Delay		43.1		32.1			21.3		30.0
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 16 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 60.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	25	32	165	10	109	10	1048	239	131	446	10
Future Volume (veh/h)	80	25	32	165	10	109	10	1048	239	131	446	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	27	35	179	11	118	11	1139	260	142	485	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	121	157	336	429	364	88	1533	350	219	2316	52
Arrive On Green	0.11	0.16	0.16	0.19	0.23	0.23	0.10	0.74	0.74	0.12	0.45	0.45
Sat Flow, veh/h	1781	739	958	1781	1870	1585	1781	4155	948	1781	5137	116
Grp Volume(v), veh/h	87	0	62	179	11	118	11	933	466	142	321	175
Grp Sat Flow(s),veh/h/ln	1781	0	1698	1781	1870	1585	1781	1702	1700	1781	1702	1849
Q Serve(g_s), s	5.5	0.0	3.9	11.1	0.6	7.6	0.7	19.4	19.4	9.3	7.0	7.0
Cycle Q Clear(g_c), s	5.5	0.0	3.9	11.1	0.6	7.6	0.7	19.4	19.4	9.3	7.0	7.0
Prop In Lane	1.00		0.56	1.00		1.00	1.00		0.56	1.00		0.06
Lane Grp Cap(c), veh/h	204	0	278	336	429	364	88	1256	627	219	1535	834
V/C Ratio(X)	0.43	0.00	0.22	0.53	0.03	0.32	0.13	0.74	0.74	0.65	0.21	0.21
Avail Cap(c_a), veh/h	204	0	278	336	429	364	88	1256	627	219	1535	834
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	0.0	44.3	44.7	36.4	39.1	52.6	12.6	12.6	51.0	20.3	20.3
Incr Delay (d2), s/veh	6.4	0.0	1.8	5.9	0.1	2.4	2.9	4.0	7.8	13.9	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	1.8	5.4	0.3	3.2	0.4	4.6	5.2	4.9	2.7	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	0.0	46.1	50.6	36.5	41.5	55.5	16.7	20.4	64.9	20.6	20.9
LnGrp LOS	E	A	D	D	D	D	E	B	C	E	C	C
Approach Vol, veh/h		149			308			1410			638	
Approach Delay, s/veh		52.2			46.6			18.2			30.6	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	50.0	27.0	25.0	10.0	60.0	19.0	33.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	15.0	* 45	23.0	19.0	6.0	54.0	14.0	* 28
Max Q Clear Time (g_c+I1), s	11.3	21.4	13.1	5.9	2.7	9.0	7.5	9.6
Green Ext Time (p_c), s	0.1	9.8	0.3	0.2	0.0	3.0	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

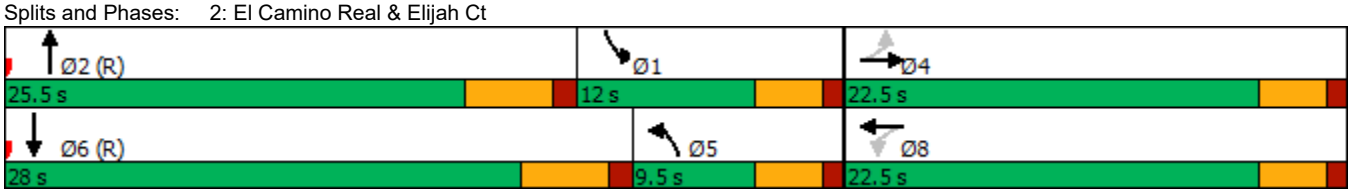
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	11	10	36	10	14	1226	107	572
Future Volume (vph)	11	10	36	10	14	1226	107	572
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	9.5	25.5	12.0	28.0
Total Split (%)	37.5%	37.5%	37.5%	37.5%	15.8%	42.5%	20.0%	46.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	18.5	18.5	18.5	18.5	5.5	20.5	8.0	23.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.09	0.34	0.13	0.38
v/c Ratio	0.03	0.04	0.09	0.13	0.09	0.82	0.49	0.33
Control Delay	14.8	10.9	15.6	6.6	28.0	27.2	23.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	10.9	15.6	6.6	28.0	27.2	23.3	8.4
LOS	B	B	B	A	C	C	C	A
Approach Delay		12.3		9.7		27.2		10.8
Approach LOS		B		A		C		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 51.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	10	10	36	10	57	14	1226	86	107	572	10
Future Volume (veh/h)	11	10	10	36	10	57	14	1226	86	107	572	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	11	11	39	11	62	15	1333	93	116	622	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	486	265	265	536	75	425	163	1665	116	238	1981	35
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.03	0.11	0.11	0.27	0.77	0.77
Sat Flow, veh/h	1327	858	858	1390	244	1378	1781	4873	340	1781	5167	91
Grp Volume(v), veh/h	12	0	22	39	0	73	15	931	495	116	409	224
Grp Sat Flow(s),veh/h/ln	1327	0	1716	1390	0	1622	1781	1702	1809	1781	1702	1854
Q Serve(g_s), s	0.4	0.0	0.5	1.2	0.0	2.0	0.5	16.0	16.0	3.3	2.2	2.2
Cycle Q Clear(g_c), s	2.4	0.0	0.5	1.8	0.0	2.0	0.5	16.0	16.0	3.3	2.2	2.2
Prop In Lane	1.00		0.50	1.00		0.85	1.00		0.19	1.00		0.05
Lane Grp Cap(c), veh/h	486	0	529	536	0	500	163	1163	618	238	1305	711
V/C Ratio(X)	0.02	0.00	0.04	0.07	0.00	0.15	0.09	0.80	0.80	0.49	0.31	0.31
Avail Cap(c_a), veh/h	486	0	529	536	0	500	163	1163	618	238	1305	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	0.0	14.5	15.2	0.0	15.0	26.7	24.6	24.6	20.3	4.6	4.6
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.3	0.0	0.6	1.1	5.8	10.5	7.0	0.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.4	0.0	0.7	0.2	7.9	9.2	1.6	0.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	14.7	15.4	0.0	15.6	27.8	30.5	35.1	27.3	5.2	5.7
LnGrp LOS	B	A	B	B	A	B	C	C	D	C	A	A
Approach Vol, veh/h		34			112			1441			749	
Approach Delay, s/veh		15.1			15.6			32.0			8.8	
Approach LOS		B			B			C			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	25.5		22.5	9.5	28.0		22.5
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	8.0	20.5		18.5	5.5	23.0		18.5
Max Q Clear Time (g_c+I1), s	5.3	18.0		4.4	2.5	4.2		4.0
Green Ext Time (p_c), s	0.1	1.8		0.1	0.0	3.5		0.4

Intersection Summary			
HCM 6th Ctrl Delay			23.5
HCM 6th LOS			C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	64	184	371	59	109	180	1139	106	488
Future Volume (vph)	64	184	371	59	109	180	1139	106	488
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	18.0	33.0	35.0	13.0	28.0	35.0	55.0	19.0	39.0
Total Split (%)	15.0%	27.5%	29.2%	10.8%	23.3%	29.2%	45.8%	15.8%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	10.1	18.2	30.6	23.2	16.2	12.4	65.6	13.1	66.3
Actuated g/C Ratio	0.08	0.15	0.26	0.19	0.14	0.10	0.55	0.11	0.55
v/c Ratio	0.47	0.71	0.76	0.31	0.51	0.55	0.47	0.60	0.20
Control Delay	62.0	61.8	29.3	37.2	21.4	53.3	13.7	56.3	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	61.8	29.3	37.2	21.4	53.3	13.7	56.3	10.4
LOS	E	E	C	D	C	D	B	E	B
Approach Delay		42.3			24.2		18.9		18.2
Approach LOS		D			C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 24 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 24.3	Intersection LOS: C
Intersection Capacity Utilization 57.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	184	371	59	109	167	180	1139	51	106	488	28
Future Volume (veh/h)	64	184	371	59	109	167	180	1139	51	106	488	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	200	403	64	118	182	196	1238	55	115	530	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	452	501	252	409	362	262	2502	111	140	2483	140
Arrive On Green	0.05	0.24	0.24	0.04	0.23	0.23	0.15	1.00	1.00	0.16	1.00	1.00
Sat Flow, veh/h	1781	1870	1575	1781	1777	1575	3456	5010	223	1781	4945	278
Grp Volume(v), veh/h	70	200	403	64	118	182	196	841	452	115	364	196
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1777	1575	1728	1702	1829	1781	1702	1819
Q Serve(g_s), s	4.7	10.9	28.2	3.3	6.6	12.1	6.5	0.1	0.1	7.5	0.0	0.0
Cycle Q Clear(g_c), s	4.7	10.9	28.2	3.3	6.6	12.1	6.5	0.1	0.1	7.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.15
Lane Grp Cap(c), veh/h	90	452	501	252	409	362	262	1700	913	140	1709	913
V/C Ratio(X)	0.78	0.44	0.80	0.25	0.29	0.50	0.75	0.49	0.49	0.82	0.21	0.22
Avail Cap(c_a), veh/h	208	452	501	317	409	362	893	1700	913	223	1709	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.96	0.96	0.96
Uniform Delay (d), s/veh	56.3	38.6	37.6	33.7	38.1	40.2	49.8	0.0	0.0	49.8	0.0	0.0
Incr Delay (d2), s/veh	13.2	0.7	9.3	0.5	0.4	1.1	4.0	1.0	1.8	12.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.0	11.8	1.4	2.9	4.7	2.7	0.2	0.5	3.5	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	39.3	46.9	34.2	38.5	41.3	53.8	1.0	1.8	62.0	0.3	0.5
LnGrp LOS	E	D	D	C	D	D	D	A	A	E	A	A
Approach Vol, veh/h		673			364			1489			675	
Approach Delay, s/veh		47.0			39.2			8.2			10.9	
Approach LOS		D			D			A			B	

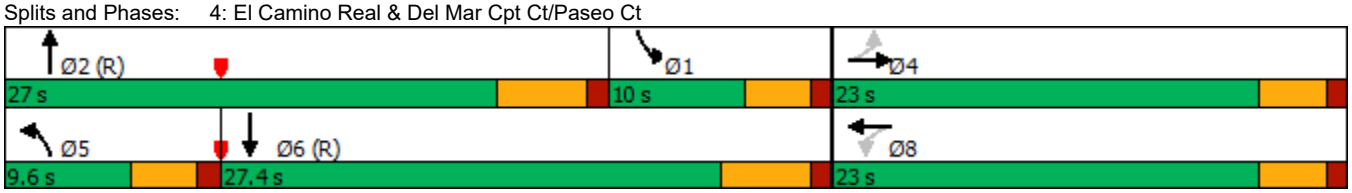
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	64.9	8.7	33.0	13.1	65.2	10.1	31.6
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	50.0	9.0	29.0	31.0	34.0	14.0	24.0
Max Q Clear Time (g_c+I1), s	9.5	2.1	5.3	30.2	8.5	2.0	6.7	14.1
Green Ext Time (p_c), s	0.1	10.5	0.0	0.0	0.6	3.4	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	10	54	10	10	1292	10	905
Future Volume (vph)	34	10	54	10	10	1292	10	905
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	9.6	27.0	10.0	27.4
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.0%	45.0%	16.7%	45.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.6	9.6	9.6	9.6	5.9	42.3	5.8	42.2
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.10	0.70	0.10	0.70
v/c Ratio	0.18	0.28	0.29	0.22	0.06	0.39	0.06	0.28
Control Delay	21.3	8.8	23.8	9.3	32.7	5.7	28.2	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	8.8	23.8	9.3	32.7	5.7	28.2	5.5
LOS	C	A	C	A	C	A	C	A
Approach Delay		12.5		16.0		5.9		5.7
Approach LOS		B		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 30 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 6.6	Intersection LOS: A
Intersection Capacity Utilization 43.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	10	73	54	10	52	10	1292	10	10	905	10
Future Volume (veh/h)	34	10	73	54	10	52	10	1292	10	10	905	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	11	79	59	11	57	11	1404	11	11	984	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	28	204	242	38	196	25	1916	15	454	3249	36
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.73	0.73	0.51	1.00	1.00
Sat Flow, veh/h	1322	196	1405	1297	261	1350	1781	5226	41	1781	5205	58
Grp Volume(v), veh/h	37	0	90	59	0	68	11	915	500	11	643	352
Grp Sat Flow(s),veh/h/ln	1322	0	1600	1297	0	1611	1781	1702	1863	1781	1702	1860
Q Serve(g_s), s	1.5	0.0	3.1	2.6	0.0	2.3	0.4	9.3	9.3	0.2	0.0	0.0
Cycle Q Clear(g_c), s	3.8	0.0	3.1	5.6	0.0	2.3	0.4	9.3	9.3	0.2	0.0	0.0
Prop In Lane	1.00		0.88	1.00		0.84	1.00		0.02	1.00		0.03
Lane Grp Cap(c), veh/h	262	0	232	242	0	234	25	1248	683	454	2124	1161
V/C Ratio(X)	0.14	0.00	0.39	0.24	0.00	0.29	0.44	0.73	0.73	0.02	0.30	0.30
Avail Cap(c_a), veh/h	489	0	507	465	0	510	166	1248	683	454	2124	1161
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.88	0.88	0.88	0.91	0.91	0.91
Uniform Delay (d), s/veh	24.6	0.0	23.2	25.8	0.0	22.9	28.9	6.3	6.3	11.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.1	0.5	0.0	0.7	10.5	3.4	6.1	0.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.2	0.8	0.0	0.9	0.2	2.1	2.8	0.1	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	0.0	24.3	26.3	0.0	23.6	39.4	9.7	12.4	11.0	0.3	0.6
LnGrp LOS	C	A	C	C	A	C	D	A	B	B	A	A
Approach Vol, veh/h		127			127			1426			1006	
Approach Delay, s/veh		24.4			24.8			10.9			0.5	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.3	27.0		12.7	4.8	42.4		12.7
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	6.0	* 22		19.0	5.6	22.4		19.0
Max Q Clear Time (g_c+I1), s	2.2	11.3		5.8	2.4	2.0		7.6
Green Ext Time (p_c), s	0.0	6.2		0.4	0.0	6.0		0.4

Intersection Summary		
HCM 6th Ctrl Delay		8.3
HCM 6th LOS		A

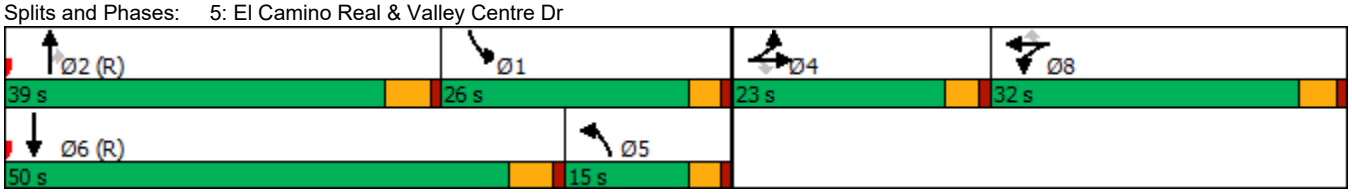
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	39	28	34	386	10	193	74	976	321	209	1089
Future Volume (vph)	39	28	34	386	10	193	74	976	321	209	1089
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	32.0	32.0	32.0	15.0	39.0	39.0	26.0	50.0
Total Split (%)	19.2%	19.2%	19.2%	26.7%	26.7%	26.7%	12.5%	32.5%	32.5%	21.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.5	9.5	9.5	22.1	22.1	22.1	9.7	53.0	53.0	19.9	65.3
Actuated g/C Ratio	0.08	0.08	0.08	0.18	0.18	0.18	0.08	0.44	0.44	0.17	0.54
v/c Ratio	0.28	0.29	0.13	0.73	0.76	0.45	0.56	0.47	0.42	0.77	0.44
Control Delay	55.1	51.3	1.1	59.8	61.2	8.8	61.2	15.9	3.9	61.1	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	51.3	1.1	59.8	61.2	8.8	61.2	15.9	3.9	61.1	21.9
LOS	E	D	A	E	E	A	E	B	A	E	C
Approach Delay		37.4			45.3			15.5			28.1
Approach LOS		D			D			B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 114 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 61.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	28	34	386	10	193	74	976	321	209	1089	25
Future Volume (veh/h)	39	28	34	386	10	193	74	976	321	209	1089	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	39	35	490	0	144	80	1061	349	227	1184	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	93	76	584	0	257	473	1447	447	637	1926	44
Arrive On Green	0.05	0.05	0.05	0.16	0.00	0.16	0.53	0.57	0.57	0.71	0.75	0.75
Sat Flow, veh/h	1781	1870	1537	3563	0	1571	1781	5106	1577	1781	5135	117
Grp Volume(v), veh/h	37	39	35	490	0	144	80	1061	349	227	785	426
Grp Sat Flow(s),veh/h/ln	1781	1870	1537	1781	0	1571	1781	1702	1577	1781	1702	1848
Q Serve(g_s), s	2.4	2.4	2.7	16.0	0.0	10.1	2.8	18.5	20.7	5.9	12.8	12.8
Cycle Q Clear(g_c), s	2.4	2.4	2.7	16.0	0.0	10.1	2.8	18.5	20.7	5.9	12.8	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	88	93	76	584	0	257	473	1447	447	637	1277	693
V/C Ratio(X)	0.42	0.42	0.46	0.84	0.00	0.56	0.17	0.73	0.78	0.36	0.61	0.61
Avail Cap(c_a), veh/h	282	296	243	816	0	360	473	1447	447	637	1277	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.00	0.92	0.80	0.80	0.80	0.97	0.97	0.97
Uniform Delay (d), s/veh	55.4	55.4	55.5	48.6	0.0	46.2	21.3	22.6	23.1	11.8	11.0	11.0
Incr Delay (d2), s/veh	3.1	3.0	4.3	5.1	0.0	1.7	0.1	2.7	10.4	0.3	2.2	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	1.2	1.2	1.1	7.4	0.0	4.0	1.1	5.3	6.2	2.0	3.4	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	58.4	59.7	53.8	0.0	47.9	21.4	25.3	33.5	12.2	13.1	14.9
LnGrp LOS	E	E	E	D	A	D	C	C	C	B	B	B
Approach Vol, veh/h		111			634			1490			1438	
Approach Delay, s/veh		58.8			52.4			27.0			13.5	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	46.9	39.0		9.9	35.9	50.0		24.2
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	22.0	34.0		19.0	11.0	45.0		27.5
Max Q Clear Time (g_c+I1), s	7.9	22.7		4.7	4.8	14.8		18.0
Green Ext Time (p_c), s	0.5	6.0		0.3	0.1	8.7		1.7

Intersection Summary		
HCM 6th Ctrl Delay		27.1
HCM 6th LOS		C

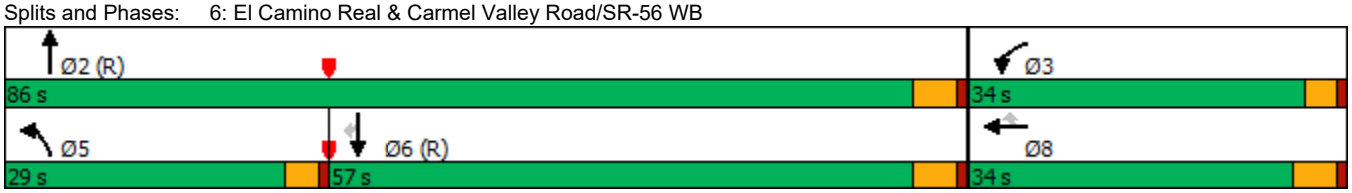
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	204	736	240	387	1240	785	663
Future Volume (vph)	204	736	240	387	1240	785	663
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	34.0	34.0	34.0	29.0	86.0	57.0	57.0
Total Split (%)	28.3%	28.3%	28.3%	24.2%	71.7%	47.5%	47.5%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.7	25.7	25.7	19.9	84.3	60.4	60.4
Actuated g/C Ratio	0.22	0.21	0.21	0.17	0.70	0.50	0.50
v/c Ratio	0.29	0.73	0.67	0.74	0.54	0.52	0.51
Control Delay	39.1	48.0	38.9	61.3	1.2	8.9	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	39.1	48.0	38.9	61.3	1.6	8.9	8.0
LOS	D	D	D	E	A	A	A
Approach Delay		44.6			15.8	8.7	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 74.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	204	736	240	387	1240	0	0	785	663
Future Volume (veh/h)	0	0	0	204	736	240	387	1240	0	0	785	663
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				222	800	261	421	1348	0	0	853	721
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				727	1074	331	487	2540	0	0	2022	1708
Arrive On Green				0.21	0.21	0.21	0.28	1.00	0.00	0.00	1.00	1.00
Sat Flow, veh/h				3456	5106	1574	3456	3647	0	0	3741	3161
Grp Volume(v), veh/h				222	800	261	421	1348	0	0	853	721
Grp Sat Flow(s),veh/h/ln				1728	1702	1574	1728	1777	0	0	1870	1581
Q Serve(g_s), s				6.5	17.6	18.8	13.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				6.5	17.6	18.8	13.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				727	1074	331	487	2540	0	0	2022	1708
V/C Ratio(X)				0.31	0.74	0.79	0.86	0.53	0.00	0.00	0.42	0.42
Avail Cap(c_a), veh/h				864	1277	393	720	2540	0	0	2022	1708
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.45	0.45	0.00	0.00	0.87	0.87
Uniform Delay (d), s/veh				40.0	44.4	44.9	42.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.2	2.0	8.8	3.5	0.4	0.0	0.0	0.6	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.7	7.3	7.9	5.1	0.1	0.0	0.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.2	46.4	53.6	45.5	0.4	0.0	0.0	0.6	0.7
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1283			1769			1574	
Approach Delay, s/veh					46.8			11.1			0.6	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	90.8		20.9	69.9		29.2
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	81.0		25.0	52.0		30.0
Max Q Clear Time (g_c+I1), s	2.0		15.9	2.0		20.8
Green Ext Time (p_c), s	13.5		1.0	11.5		4.4

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

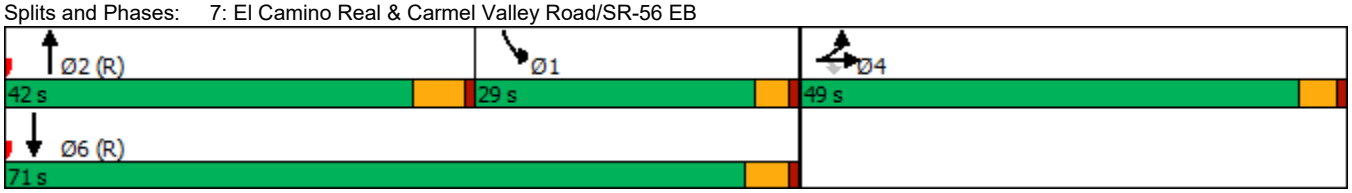
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	483	812	157	1148	250	690
Future Volume (vph)	483	812	157	1148	250	690
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	49.0	49.0	49.0	42.0	29.0	71.0
Total Split (%)	40.8%	40.8%	40.8%	35.0%	24.2%	59.2%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	42.6	42.6	42.6	38.4	25.0	67.9
Actuated g/C Ratio	0.36	0.36	0.36	0.32	0.21	0.57
v/c Ratio	0.81	0.85	0.27	0.83	0.74	0.26
Control Delay	47.0	43.9	8.4	40.8	40.8	3.3
Queue Delay	0.0	0.0	0.0	0.0	1.9	0.2
Total Delay	47.0	43.9	8.4	40.8	42.7	3.5
LOS	D	D	A	D	D	A
Approach Delay		41.4		40.8		13.9
Approach LOS		D		D		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 34.6	Intersection LOS: C
Intersection Capacity Utilization 74.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	483	812	157	0	0	0	0	1148	391	250	690	0
Future Volume (veh/h)	483	812	157	0	0	0	0	1148	391	250	690	0
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	350	1128	171				0	1248	425	272	750	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	615	1292	545				0	1468	480	401	2938	0
Arrive On Green	0.35	0.35	0.35				0.00	0.30	0.30	0.07	0.19	0.00
Sat Flow, veh/h	1781	3741	1578				0	5087	1577	1781	5274	0
Grp Volume(v), veh/h	350	1128	171				0	1248	425	272	750	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1578				0	1609	1577	1781	1702	0
Q Serve(g_s), s	19.2	33.9	9.5				0.0	29.1	30.8	17.9	15.0	0.0
Cycle Q Clear(g_c), s	19.2	33.9	9.5				0.0	29.1	30.8	17.9	15.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	615	1292	545				0	1468	480	401	2938	0
V/C Ratio(X)	0.57	0.87	0.31				0.00	0.85	0.89	0.68	0.26	0.00
Avail Cap(c_a), veh/h	661	1387	585				0	1468	480	401	2938	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	32.0	36.8	28.8				0.0	39.2	39.8	51.3	26.7	0.0
Incr Delay (d2), s/veh	1.0	6.1	0.3				0.0	6.4	20.7	3.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	16.0	3.6				0.0	11.8	14.0	8.9	6.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	42.9	29.2				0.0	45.5	60.5	55.2	26.9	0.0
LnGrp LOS	C	D	C				A	D	E	E	C	A
Approach Vol, veh/h		1649						1673			1022	
Approach Delay, s/veh		39.4						49.4			34.4	
Approach LOS		D						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	32.0	42.0		46.0		74.0
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	25.0	* 37		44.5		66.0
Max Q Clear Time (g_c+I1), s	19.9	32.8		35.9		17.0
Green Ext Time (p_c), s	0.4	2.9		5.5		5.4

Intersection Summary	
HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

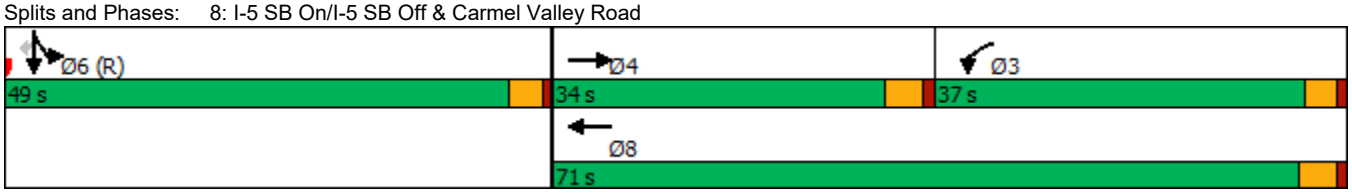
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	466	617	717	677	1	98
Future Volume (vph)	466	617	717	677	1	98
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	34.0	37.0	71.0	49.0	49.0	49.0
Total Split (%)	28.3%	30.8%	59.2%	40.8%	40.8%	40.8%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.4	28.2	58.6	52.9	52.9	52.9
Actuated g/C Ratio	0.22	0.24	0.49	0.44	0.44	0.44
v/c Ratio	0.82	0.83	0.45	0.51	0.53	0.14
Control Delay	52.3	39.6	8.5	29.0	29.6	5.3
Queue Delay	0.5	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	39.6	8.5	29.0	29.6	5.3
LOS	D	D	A	C	C	A
Approach Delay	52.8		22.9		26.5	
Approach LOS	D		C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 30.4	Intersection LOS: C
Intersection Capacity Utilization 74.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	466	119	617	717	0	0	0	0	677	1	98
Future Volume (veh/h)	0	466	119	617	717	0	0	0	0	677	1	98
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	507	129	671	779	0				770	0	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	586	148	758	1655	0				1651	0	732
Arrive On Green	0.00	0.21	0.21	0.22	0.47	0.00				0.46	0.00	0.46
Sat Flow, veh/h	0	2897	710	3456	3647	0				3563	0	1580
Grp Volume(v), veh/h	0	320	316	671	779	0				770	0	72
Grp Sat Flow(s),veh/h/ln	0	1777	1737	1728	1777	0				1781	0	1580
Q Serve(g_s), s	0.0	20.9	21.1	22.6	18.0	0.0				17.8	0.0	3.1
Cycle Q Clear(g_c), s	0.0	20.9	21.1	22.6	18.0	0.0				17.8	0.0	3.1
Prop In Lane	0.00		0.41	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	371	363	758	1655	0				1651	0	732
V/C Ratio(X)	0.00	0.86	0.87	0.89	0.47	0.00				0.47	0.00	0.10
Avail Cap(c_a), veh/h	0	437	427	950	1969	0				1651	0	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.73	0.73	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	45.8	45.9	45.4	21.9	0.0				22.0	0.0	18.1
Incr Delay (d2), s/veh	0.0	14.4	15.6	6.4	0.2	0.0				0.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.5	10.5	10.1	7.3	0.0				7.6	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	60.2	61.4	51.8	22.1	0.0				23.0	0.0	18.4
LnGrp LOS	A	E	E	D	C	A				C	A	B
Approach Vol, veh/h		636			1450						842	
Approach Delay, s/veh		60.8			35.9						22.6	
Approach LOS		E			D						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		30.8	29.6		59.6		60.4					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		33.0	* 30		45.0		66.5					
Max Q Clear Time (g_c+I1), s		24.6	23.1		19.8		20.0					
Green Ext Time (p_c), s		1.7	2.0		3.3		5.9					

Intersection Summary	
HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

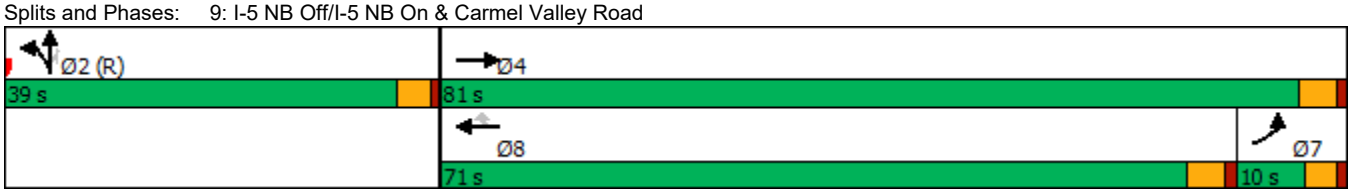
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	42	1101	1071	721	263	8	432
Future Volume (vph)	42	1101	1071	721	263	8	432
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	81.0	71.0	71.0	39.0	39.0	39.0
Total Split (%)	8.3%	67.5%	59.2%	59.2%	32.5%	32.5%	32.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.5	65.8	57.2	57.2	45.7	45.7	45.7
Actuated g/C Ratio	0.05	0.55	0.48	0.48	0.38	0.38	0.38
v/c Ratio	0.25	0.62	0.69	0.68	0.40	0.42	0.41
Control Delay	66.6	20.5	7.3	7.7	32.7	22.6	22.4
Queue Delay	0.0	1.1	0.2	3.0	0.0	0.0	0.0
Total Delay	66.6	21.6	7.4	10.7	32.7	22.6	22.4
LOS	E	C	A	B	C	C	C
Approach Delay		23.2	8.7			25.9	
Approach LOS		C	A			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 74.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1101	0	0	1071	721	263	8	432	0	0	0
Future Volume (veh/h)	42	1101	0	0	1071	721	263	8	432	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	46	1197	0	0	1164	784	194	0	575			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	113	2142	0	0	1893	842	581	0	1030			
Arrive On Green	0.03	0.60	0.00	0.00	0.53	0.53	0.33	0.00	0.33			
Sat Flow, veh/h	3456	3647	0	0	3647	1581	1781	0	3156			
Grp Volume(v), veh/h	46	1197	0	0	1164	784	194	0	575			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1581	1781	0	1578			
Q Serve(g_s), s	1.6	24.2	0.0	0.0	27.3	55.2	9.9	0.0	18.0			
Cycle Q Clear(g_c), s	1.6	24.2	0.0	0.0	27.3	55.2	9.9	0.0	18.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	113	2142	0	0	1893	842	581	0	1030			
V/C Ratio(X)	0.41	0.56	0.00	0.00	0.61	0.93	0.33	0.00	0.56			
Avail Cap(c_a), veh/h	173	2265	0	0	1969	876	581	0	1030			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.64	0.64	0.00	0.00	0.64	0.64	1.00	0.00	1.00			
Uniform Delay (d), s/veh	56.9	14.3	0.0	0.0	19.5	26.0	30.6	0.0	33.3			
Incr Delay (d2), s/veh	1.5	0.2	0.0	0.0	0.3	11.3	1.5	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			
%ile BackOfQ(50%),veh/ln	0.7	9.0	0.0	0.0	10.7	21.7	4.5	0.0	7.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	14.4	0.0	0.0	19.8	37.3	32.1	0.0	35.5			
LnGrp LOS	E	B	A	A	B	D	C	A	D			
Approach Vol, veh/h		1243			1948			769				
Approach Delay, s/veh		16.1			26.9			34.6				
Approach LOS		B			C			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		43.2		76.8			8.4	68.4				
Change Period (Y+Rc), s		4.0		4.5			4.5	* 4.5				
Max Green Setting (Gmax), s		35.0		76.5			6.0	* 67				
Max Q Clear Time (g_c+I1), s		20.0		26.2			3.6	57.2				
Green Ext Time (p_c), s		2.8		11.1			0.0	6.7				

Intersection Summary												
HCM 6th Ctrl Delay			25.0									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	20	33	1490	1742
Future Volume (vph)	20	33	1490	1742
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	15.0	93.0	78.0
Total Split (%)	22.5%	12.5%	77.5%	65.0%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	39.0	7.9	72.5	64.6
Actuated g/C Ratio	0.32	0.07	0.60	0.54
v/c Ratio	0.08	0.31	0.53	0.71
Control Delay	21.4	61.4	7.1	14.2
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	21.4	61.4	7.2	14.2
LOS	C	E	A	B
Approach Delay	21.4		8.4	14.2
Approach LOS	C		A	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 11.6	Intersection LOS: B
Intersection Capacity Utilization 56.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	20	23	33	1490	1742	31
Future Volume (veh/h)	20	23	33	1490	1742	31
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	25	36	1620	1893	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	302	343	52	2762	2450	44
Arrive On Green	0.39	0.39	0.03	0.54	0.47	0.47
Sat Flow, veh/h	778	884	1781	5274	5333	93
Grp Volume(v), veh/h	48	0	36	1620	1247	680
Grp Sat Flow(s),veh/h/ln	1698	0	1781	1702	1702	1853
Q Serve(g_s), s	2.1	0.0	2.4	25.6	36.5	36.5
Cycle Q Clear(g_c), s	2.1	0.0	2.4	25.6	36.5	36.5
Prop In Lane	0.46	0.52	1.00			0.05
Lane Grp Cap(c), veh/h	659	0	52	2762	1615	879
V/C Ratio(X)	0.07	0.00	0.69	0.59	0.77	0.77
Avail Cap(c_a), veh/h	659	0	163	3766	2085	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	57.7	18.5	26.2	26.2
Incr Delay (d2), s/veh	0.2	0.0	12.3	0.2	1.4	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	0.9	0.0	1.2	9.5	14.3	15.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.3	0.0	70.1	18.7	27.5	28.7
LnGrp LOS	C	A	E	B	C	C
Approach Vol, veh/h	48			1656	1927	
Approach Delay, s/veh	23.3			19.8	28.0	
Approach LOS	C			B	C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	69.4	50.6	8.0	61.4
Change Period (Y+Rc), s	4.5	4.0	4.5	* 4.5
Max Green Setting (Gmax), s	88.5	23.0	11.0	* 74
Max Q Clear Time (g_c+I1), s	27.6	4.1	4.4	38.5
Green Ext Time (p_c), s	18.1	0.1	0.0	18.4

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

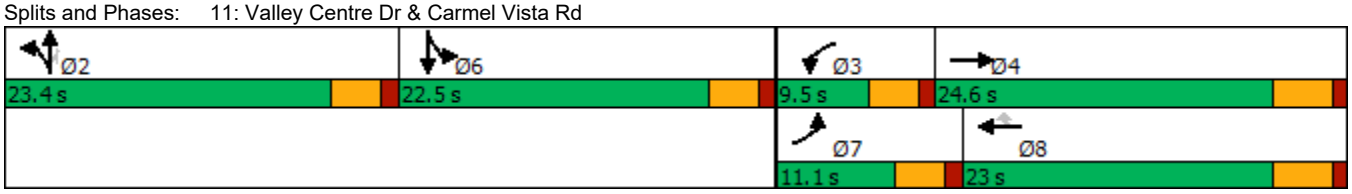
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	64	424	6	330	63	164	55	124	89	10
Future Volume (vph)	64	424	6	330	63	164	55	124	89	10
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.1	24.6	9.5	23.0	23.0	23.4	23.4	23.4	22.5	22.5
Total Split (%)	13.9%	30.8%	11.9%	28.8%	28.8%	29.3%	29.3%	29.3%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	7.1	16.7	5.9	12.4	12.4	20.9	20.9	20.9	9.8	9.8
Actuated g/C Ratio	0.12	0.28	0.10	0.21	0.21	0.35	0.35	0.35	0.17	0.17
v/c Ratio	0.33	0.47	0.04	0.48	0.16	0.20	0.20	0.21	0.33	0.13
Control Delay	34.2	20.3	32.2	25.2	1.9	20.5	20.5	5.8	28.0	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	20.3	32.2	25.2	1.9	20.5	20.5	5.8	28.0	14.2
LOS	C	C	C	C	A	C	C	A	C	B
Approach Delay		22.1		21.6			15.2			24.1
Approach LOS		C		C			B			C

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 59.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 39.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	424	9	6	330	63	164	55	124	89	10	25
Future Volume (veh/h)	64	424	9	6	330	63	164	55	124	89	10	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	461	10	7	359	68	119	143	135	97	11	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	778	17	16	593	264	663	696	590	149	40	99
Arrive On Green	0.06	0.22	0.22	0.01	0.17	0.17	0.37	0.37	0.37	0.08	0.08	0.08
Sat Flow, veh/h	1781	3556	77	1781	3554	1585	1781	1870	1585	1781	480	1178
Grp Volume(v), veh/h	70	230	241	7	359	68	119	143	135	97	0	38
Grp Sat Flow(s),veh/h/ln	1781	1777	1856	1781	1777	1585	1781	1870	1585	1781	0	1658
Q Serve(g_s), s	2.0	6.1	6.1	0.2	4.9	1.9	2.3	2.7	3.0	2.8	0.0	1.1
Cycle Q Clear(g_c), s	2.0	6.1	6.1	0.2	4.9	1.9	2.3	2.7	3.0	2.8	0.0	1.1
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		0.71
Lane Grp Cap(c), veh/h	109	389	406	16	593	264	663	696	590	149	0	139
V/C Ratio(X)	0.64	0.59	0.59	0.43	0.61	0.26	0.18	0.21	0.23	0.65	0.00	0.27
Avail Cap(c_a), veh/h	242	685	715	188	1260	562	663	696	590	632	0	588
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	23.9	18.3	18.3	25.7	20.1	18.9	11.0	11.1	11.2	23.2	0.0	22.4
Incr Delay (d2), s/veh	6.2	1.4	1.4	16.4	1.0	0.5	0.6	0.7	0.9	4.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.3	2.4	0.2	1.8	0.7	0.9	1.1	1.0	1.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	19.7	19.7	42.1	21.1	19.4	11.6	11.8	12.1	27.9	0.0	23.5
LnGrp LOS	C	B	B	D	C	B	B	B	B	C	A	C
Approach Vol, veh/h		541			434			397			135	
Approach Delay, s/veh		21.1			21.2			11.9			26.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.4	4.5	15.9		8.4	7.2	13.2
Change Period (Y+Rc), s		4.0	4.0	4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		19.4	5.5	20.1		18.5	7.1	18.5
Max Q Clear Time (g_c+I1), s		5.0	2.2	8.1		4.8	4.0	6.9
Green Ext Time (p_c), s		1.4	0.0	2.0		0.3	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

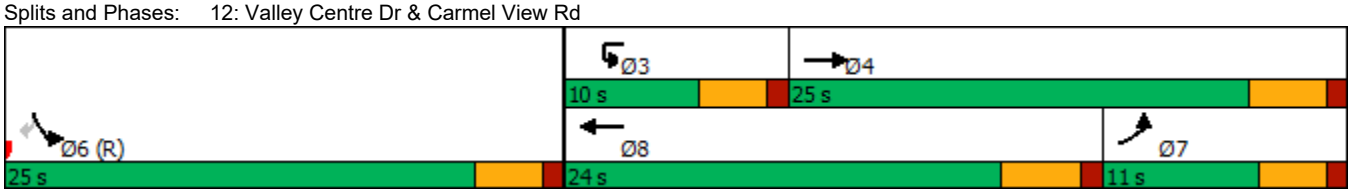
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	85	557	18	359	32	42
Future Volume (vph)	85	557	18	359	32	42
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	11.0	25.0	10.0	24.0	25.0	25.0
Total Split (%)	18.3%	41.7%	16.7%	40.0%	41.7%	41.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	7.9	21.8	5.8	13.8	27.7	27.7
Actuated g/C Ratio	0.13	0.36	0.10	0.23	0.46	0.46
v/c Ratio	0.40	0.47	0.12	0.59	0.04	0.06
Control Delay	28.8	15.7	26.3	20.8	12.2	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	15.7	26.3	20.8	12.2	5.0
LOS	C	B	C	C	B	A
Approach Delay		17.4		21.0	8.1	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	85	557	18	359	91	32	42
Future Volume (veh/h)	85	557	18	359	91	32	42
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	92	605		390	99	35	46
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	118	1227		572	144	914	813
Arrive On Green	0.07	0.35		0.20	0.20	0.51	0.51
Sat Flow, veh/h	1781	3647		2900	704	1781	1585
Grp Volume(v), veh/h	92	605		245	244	35	46
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1733	1781	1585
Q Serve(g_s), s	3.1	8.1		7.6	7.8	0.6	0.9
Cycle Q Clear(g_c), s	3.1	8.1		7.6	7.8	0.6	0.9
Prop In Lane	1.00				0.41	1.00	1.00
Lane Grp Cap(c), veh/h	118	1227		362	354	914	813
V/C Ratio(X)	0.78	0.49		0.68	0.69	0.04	0.06
Avail Cap(c_a), veh/h	208	1227		577	563	914	813
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	15.5		22.1	22.1	7.3	7.3
Incr Delay (d2), s/veh	9.6	0.3		2.2	2.4	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.8		3.1	3.1	0.2	1.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	37.2	15.8		24.3	24.5	7.3	7.5
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		697		489		81	
Approach Delay, s/veh		18.6		24.4		7.4	
Approach LOS		B		C		A	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			25.2		34.8	8.5	16.7
Change Period (Y+Rc), s			4.5		4.0	4.5	* 4.5
Max Green Setting (Gmax), s			20.5		21.0	7.0	* 20
Max Q Clear Time (g_c+I1), s			10.1		2.9	5.1	9.8
Green Ext Time (p_c), s			2.8		0.2	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

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

APPENDIX H

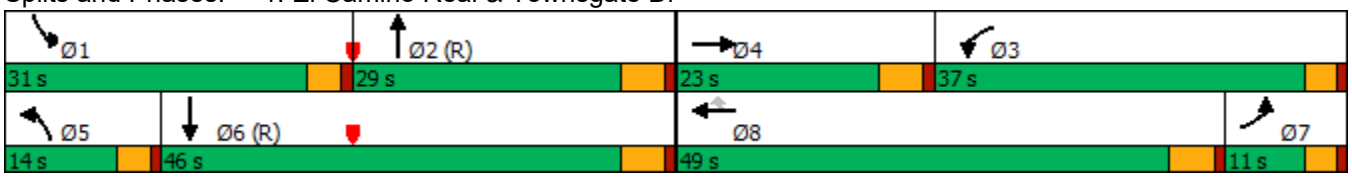
LONG TERM CUMULATIVE WITH PROJECT HCM ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	10	231	29	143	38	316	183	712
Future Volume (vph)	10	10	231	29	143	38	316	183	712
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	11.0	23.0	37.0	49.0	49.0	14.0	29.0	31.0	46.0
Total Split (%)	9.2%	19.2%	30.8%	40.8%	40.8%	11.7%	24.2%	25.8%	38.3%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	7.0	18.0	33.0	44.0	44.0	10.0	24.0	27.0	41.0
Actuated g/C Ratio	0.06	0.15	0.28	0.37	0.37	0.08	0.20	0.22	0.34
v/c Ratio	0.11	0.09	0.52	0.05	0.23	0.28	0.44	0.50	0.52
Control Delay	56.0	28.2	41.3	24.9	4.8	76.3	12.1	45.7	31.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	28.2	41.3	24.9	4.8	76.3	12.1	45.7	31.9
LOS	E	C	D	C	A	E	B	D	C
Approach Delay		37.0		27.2			17.4		34.4
Approach LOS		D		C			B		C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 14 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 28.9 Intersection LOS: C
Intersection Capacity Utilization 51.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	12	231	29	143	38	316	100	183	712	113
Future Volume (veh/h)	10	10	12	231	29	143	38	316	100	183	712	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	13	251	32	155	41	343	109	199	774	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	117	138	490	686	581	148	777	235	401	1519	240
Arrive On Green	0.06	0.15	0.15	0.28	0.37	0.37	0.17	0.40	0.40	0.22	0.34	0.34
Sat Flow, veh/h	1781	781	923	1781	1870	1585	1781	3886	1177	1781	4447	701
Grp Volume(v), veh/h	11	0	24	251	32	155	41	298	154	199	591	306
Grp Sat Flow(s),veh/h/ln	1781	0	1704	1781	1870	1585	1781	1702	1659	1781	1702	1744
Q Serve(g_s), s	0.7	0.0	1.5	14.3	1.3	4.3	2.4	7.7	8.2	11.7	16.6	16.8
Cycle Q Clear(g_c), s	0.7	0.0	1.5	14.3	1.3	4.3	2.4	7.7	8.2	11.7	16.6	16.8
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.71	1.00		0.40
Lane Grp Cap(c), veh/h	104	0	256	490	686	581	148	681	332	401	1163	596
V/C Ratio(X)	0.11	0.00	0.09	0.51	0.05	0.27	0.28	0.44	0.46	0.50	0.51	0.51
Avail Cap(c_a), veh/h	104	0	256	490	686	581	148	681	332	401	1163	596
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	44.0	36.7	24.5	7.4	46.8	31.1	31.3	40.6	31.5	31.5
Incr Delay (d2), s/veh	2.0	0.0	0.7	3.8	0.1	1.1	4.6	2.0	4.6	4.3	1.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.7	6.7	0.6	3.1	1.2	3.0	3.3	5.5	6.8	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.0	44.7	40.5	24.6	8.5	51.4	33.1	35.9	44.9	33.1	34.7
LnGrp LOS	E	A	D	D	C	A	D	C	D	D	C	C
Approach Vol, veh/h		35			438			493			1096	
Approach Delay, s/veh		48.1			28.0			35.5			35.7	
Approach LOS		D			C			D			D	

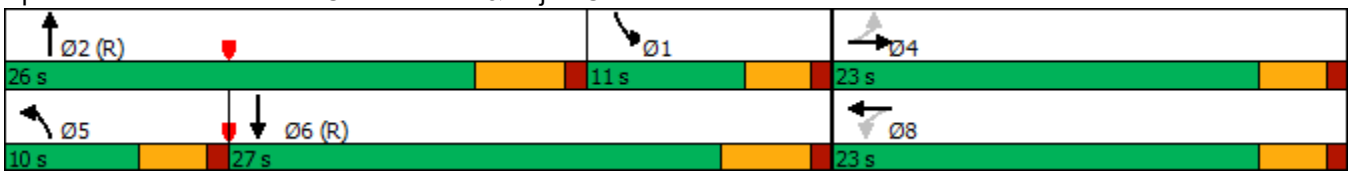
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	29.0	37.0	23.0	14.0	46.0	11.0	49.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	27.0	24.0	33.0	18.0	10.0	41.0	7.0	44.0
Max Q Clear Time (g_c+I1), s	13.7	10.2	16.3	3.5	4.4	18.8	2.7	6.3
Green Ext Time (p_c), s	0.4	2.2	0.6	0.0	0.0	5.5	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	10	125	10	24	362	70	889
Future Volume (vph)	10	10	125	10	24	362	70	889
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	10.0	26.0	11.0	27.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.7%	43.3%	18.3%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	19.0	19.0	19.0	6.0	21.0	7.0	22.0
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.10	0.35	0.12	0.37
v/c Ratio	0.03	0.04	0.31	0.15	0.15	0.23	0.37	0.52
Control Delay	14.5	10.7	18.0	6.1	19.3	14.9	19.6	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	10.7	18.0	6.1	19.3	14.9	19.6	7.4
LOS	B	B	B	A	B	B	B	A
Approach Delay		11.9		13.4		15.1		8.3
Approach LOS		B		B		B		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 12 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 10.7	Intersection LOS: B
Intersection Capacity Utilization 46.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	125	10	68	24	362	19	70	889	10
Future Volume (veh/h)	10	10	10	125	10	68	24	362	19	70	889	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	11	136	11	74	26	393	21	76	966	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	477	267	267	538	65	438	175	1709	91	204	1962	22
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.03	0.11	0.11	0.11	0.38	0.38
Sat Flow, veh/h	1313	858	858	1390	209	1408	1781	4964	263	1781	5205	59
Grp Volume(v), veh/h	11	0	22	136	0	85	26	268	146	76	632	345
Grp Sat Flow(s),veh/h/ln	1313	0	1716	1390	0	1617	1781	1702	1823	1781	1702	1860
Q Serve(g_s), s	0.4	0.0	0.5	4.6	0.0	2.3	0.9	4.4	4.4	2.4	8.7	8.7
Cycle Q Clear(g_c), s	2.7	0.0	0.5	5.2	0.0	2.3	0.9	4.4	4.4	2.4	8.7	8.7
Prop In Lane	1.00		0.50	1.00		0.87	1.00		0.14	1.00		0.03
Lane Grp Cap(c), veh/h	477	0	534	538	0	504	175	1172	628	204	1283	701
V/C Ratio(X)	0.02	0.00	0.04	0.25	0.00	0.17	0.15	0.23	0.23	0.37	0.49	0.49
Avail Cap(c_a), veh/h	477	0	534	538	0	504	175	1172	628	204	1283	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	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	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	0.0	14.6	16.4	0.0	15.3	27.0	19.7	19.7	25.0	14.5	14.5
Incr Delay (d2), s/veh	0.1	0.0	0.1	1.1	0.0	0.7	1.8	0.5	0.9	5.1	1.4	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	0.1	0.0	0.2	1.5	0.0	0.9	0.4	1.6	1.8	1.2	2.9	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	0.0	14.8	17.6	0.0	16.0	28.8	20.1	20.6	30.1	15.9	17.0
LnGrp LOS	B	A	B	B	A	B	C	C	C	C	B	B
Approach Vol, veh/h		33			221			440			1053	
Approach Delay, s/veh		15.3			17.0			20.8			17.3	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	26.0		23.0	10.0	28.0		23.0
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	7.0	* 21		19.0	6.0	22.0		19.0
Max Q Clear Time (g_c+I1), s	4.4	6.4		4.7	2.9	10.7		7.2
Green Ext Time (p_c), s	0.0	2.0		0.1	0.0	4.4		0.6

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

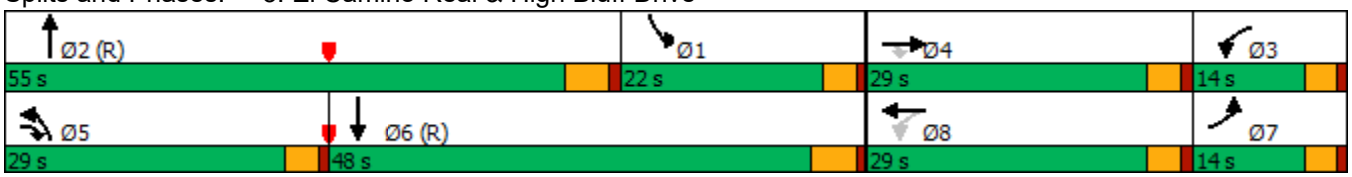
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	24	88	263	76	210	196	287	91	868
Future Volume (vph)	24	88	263	76	210	196	287	91	868
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	14.0	29.0	29.0	14.0	29.0	29.0	55.0	22.0	48.0
Total Split (%)	11.7%	24.2%	24.2%	11.7%	24.2%	24.2%	45.8%	18.3%	40.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	7.3	12.6	25.4	24.2	16.3	12.8	65.3	18.0	70.5
Actuated g/C Ratio	0.06	0.10	0.21	0.20	0.14	0.11	0.54	0.15	0.59
v/c Ratio	0.24	0.49	0.65	0.30	0.64	0.58	0.12	0.37	0.36
Control Delay	58.4	58.6	21.1	41.7	48.0	33.4	8.9	31.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	58.6	21.1	41.7	48.0	33.4	8.9	31.0	7.8
LOS	E	E	C	D	D	C	A	C	A
Approach Delay		32.3			46.7		18.3		9.8
Approach LOS		C			D		B		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 21.2	Intersection LOS: C
Intersection Capacity Utilization 52.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	88	263	76	210	84	196	287	25	91	868	96
Future Volume (veh/h)	24	88	263	76	210	84	196	287	25	91	868	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	96	286	83	228	91	213	312	27	99	943	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	302	381	208	309	119	278	1996	170	415	2695	296
Arrive On Green	0.08	0.16	0.16	0.04	0.12	0.12	0.16	0.83	0.83	0.47	1.00	1.00
Sat Flow, veh/h	1781	1870	1570	1781	2496	964	3456	4791	407	1781	4667	513
Grp Volume(v), veh/h	26	96	286	83	160	159	213	220	119	99	687	360
Grp Sat Flow(s),veh/h/ln	1781	1870	1570	1781	1777	1683	1728	1702	1794	1781	1702	1776
Q Serve(g_s), s	1.6	5.4	16.5	0.0	10.4	11.0	7.1	1.5	1.5	4.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	5.4	16.5	0.0	10.4	11.0	7.1	1.5	1.5	4.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.57	1.00		0.23	1.00		0.29
Lane Grp Cap(c), veh/h	137	302	381	208	220	208	278	1418	748	415	1966	1026
V/C Ratio(X)	0.19	0.32	0.75	0.40	0.73	0.76	0.77	0.16	0.16	0.24	0.35	0.35
Avail Cap(c_a), veh/h	148	390	455	287	370	351	720	1418	748	415	1966	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.86	0.86	0.86
Uniform Delay (d), s/veh	51.9	44.5	28.5	51.0	50.6	50.9	49.3	6.0	6.0	25.7	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.6	5.7	1.2	4.6	5.7	4.4	0.2	0.5	0.3	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.6	6.6	2.4	4.8	4.9	3.0	0.6	0.6	1.6	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	45.1	34.2	52.2	55.2	56.5	53.6	6.2	6.4	25.9	0.4	0.8
LnGrp LOS	D	D	C	D	E	E	D	A	A	C	A	A
Approach Vol, veh/h		408			402			552			1146	
Approach Delay, s/veh		37.9			55.1			24.5			2.7	
Approach LOS		D			E			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.9	55.0	8.7	23.4	13.6	74.3	13.2	18.9
Change Period (Y+Rc), s	5.0	* 5	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	* 50	10.0	25.0	25.0	43.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	6.0	3.5	2.0	18.5	9.1	2.0	3.6	13.0
Green Ext Time (p_c), s	0.2	2.0	0.1	0.8	0.6	7.6	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

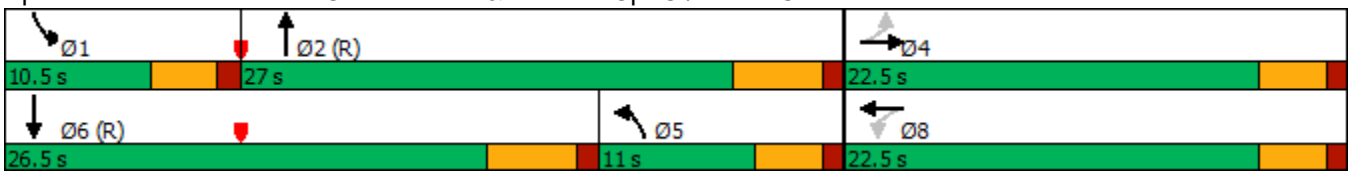
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	10	17	10	63	515	63	1127
Future Volume (vph)	17	10	17	10	63	515	63	1127
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	11.0	27.0	10.5	26.5
Total Split (%)	37.5%	37.5%	37.5%	37.5%	18.3%	45.0%	17.5%	44.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.4	8.4	8.4	8.4	6.6	41.3	7.1	41.8
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.11	0.69	0.12	0.70
v/c Ratio	0.09	0.15	0.09	0.09	0.35	0.18	0.33	0.36
Control Delay	20.5	11.6	20.5	14.5	30.1	5.3	34.0	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	11.6	20.5	14.5	30.1	5.3	34.0	3.1
LOS	C	B	C	B	C	A	C	A
Approach Delay		14.4		17.2		7.7		4.7
Approach LOS		B		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 13 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.36	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 46.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	10	26	17	10	10	63	515	47	63	1127	48
Future Volume (veh/h)	17	10	26	17	10	10	63	515	47	63	1127	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	11	28	18	11	11	68	560	51	68	1225	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	40	101	206	73	73	575	3055	275	101	1799	76
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.22	0.43	0.43	0.06	0.36	0.36
Sat Flow, veh/h	1368	461	1173	1349	850	850	1781	4766	430	1781	5021	213
Grp Volume(v), veh/h	18	0	39	18	0	22	68	398	213	68	830	447
Grp Sat Flow(s),veh/h/ln	1368	0	1634	1349	0	1700	1781	1702	1791	1781	1702	1830
Q Serve(g_s), s	0.7	0.0	1.3	0.8	0.0	0.7	1.8	4.3	4.4	2.2	12.4	12.4
Cycle Q Clear(g_c), s	1.5	0.0	1.3	2.1	0.0	0.7	1.8	4.3	4.4	2.2	12.4	12.4
Prop In Lane	1.00		0.72	1.00		0.50	1.00		0.24	1.00		0.12
Lane Grp Cap(c), veh/h	221	0	140	206	0	146	575	2182	1148	101	1220	656
V/C Ratio(X)	0.08	0.00	0.28	0.09	0.00	0.15	0.12	0.18	0.19	0.68	0.68	0.68
Avail Cap(c_a), veh/h	525	0	504	506	0	524	575	2182	1148	193	1220	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Uniform Delay (d), s/veh	26.1	0.0	25.7	26.7	0.0	25.4	16.7	7.4	7.4	27.8	16.3	16.3
Incr Delay (d2), s/veh	0.2	0.0	1.1	0.2	0.0	0.5	0.1	0.2	0.3	7.1	2.8	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.2	0.0	0.3	0.6	1.0	1.1	1.1	4.4	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	0.0	26.8	26.9	0.0	25.9	16.7	7.6	7.7	34.8	19.2	21.5
LnGrp LOS	C	A	C	C	A	C	B	A	A	C	B	C
Approach Vol, veh/h		57			40			679			1345	
Approach Delay, s/veh		26.6			26.3			8.5			20.8	
Approach LOS		C			C			A			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	43.5		9.1	24.4	26.5		9.1
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0
Max Green Setting (Gmax), s	6.5	22.0		18.5	7.0	* 22		18.5
Max Q Clear Time (g_c+I1), s	3.5	6.4		3.5	3.8	14.4		4.1
Green Ext Time (p_c), s	0.0	3.1		0.2	0.0	4.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

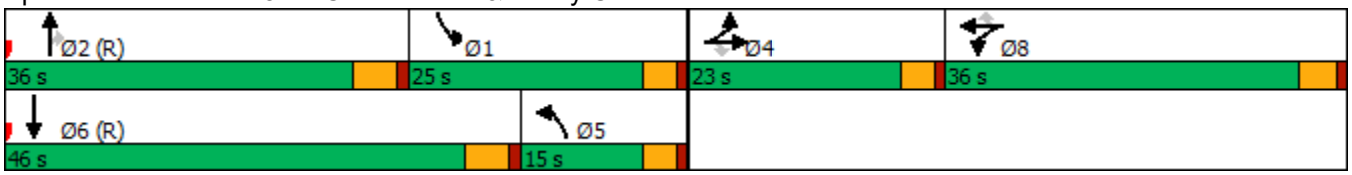
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	49	19	55	431	34	151	99	792	155	149	800
Future Volume (vph)	49	19	55	431	34	151	99	792	155	149	800
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	36.0	36.0	36.0	15.0	36.0	36.0	25.0	46.0
Total Split (%)	19.2%	19.2%	19.2%	30.0%	30.0%	30.0%	12.5%	30.0%	30.0%	20.8%	38.3%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.9	9.9	9.9	24.9	24.9	24.9	10.4	49.2	49.2	20.4	59.2
Actuated g/C Ratio	0.08	0.08	0.08	0.21	0.21	0.21	0.09	0.41	0.41	0.17	0.49
v/c Ratio	0.33	0.32	0.17	0.75	0.77	0.35	0.71	0.41	0.23	0.54	0.39
Control Delay	56.3	39.4	1.4	57.6	58.8	7.9	76.6	20.8	6.1	60.3	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	39.4	1.4	57.6	58.8	7.9	76.6	20.8	6.1	60.3	28.1
LOS	E	D	A	E	E	A	E	C	A	E	C
Approach Delay		33.3			47.1			23.9			32.8
Approach LOS		C			D			C			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 32.6 Intersection LOS: C
Intersection Capacity Utilization 55.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	19	55	431	34	151	99	792	155	149	800	79
Future Volume (veh/h)	49	19	55	431	34	151	99	792	155	149	800	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	49	46	534	0	122	108	861	168	162	870	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	106	87	634	0	280	495	1319	407	644	1613	159
Arrive On Green	0.06	0.06	0.06	0.18	0.00	0.18	0.28	0.26	0.26	0.72	0.68	0.68
Sat Flow, veh/h	1781	1870	1543	3563	0	1572	1781	5106	1576	1781	4722	465
Grp Volume(v), veh/h	42	49	46	534	0	122	108	861	168	162	626	330
Grp Sat Flow(s),veh/h/ln	1781	1870	1543	1781	0	1572	1781	1702	1576	1781	1702	1783
Q Serve(g_s), s	2.7	3.0	3.5	17.4	0.0	8.3	5.6	18.1	10.6	3.7	11.1	11.2
Cycle Q Clear(g_c), s	2.7	3.0	3.5	17.4	0.0	8.3	5.6	18.1	10.6	3.7	11.1	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	101	106	87	634	0	280	495	1319	407	644	1163	609
V/C Ratio(X)	0.42	0.46	0.53	0.84	0.00	0.44	0.22	0.65	0.41	0.25	0.54	0.54
Avail Cap(c_a), veh/h	282	296	244	935	0	413	495	1319	407	644	1163	609
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	1.00	1.00	0.83	0.00	0.83	0.91	0.91	0.91	0.94	0.94	0.94
Uniform Delay (d), s/veh	54.7	54.8	55.0	47.7	0.0	44.0	33.3	39.7	36.9	11.1	14.3	14.3
Incr Delay (d2), s/veh	2.7	3.1	4.9	3.9	0.0	0.9	0.2	2.3	2.8	0.2	1.7	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.5	1.5	7.9	0.0	3.2	2.4	7.6	4.3	1.3	3.3	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	58.0	59.9	51.6	0.0	44.9	33.5	42.0	39.7	11.3	15.9	17.5
LnGrp LOS	E	E	E	D	A	D	C	D	D	B	B	B
Approach Vol, veh/h		137			656			1137			1118	
Approach Delay, s/veh		58.5			50.4			40.9			15.7	
Approach LOS		E			D			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	47.4	36.0		10.8	37.4	46.0		25.8
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	21.0	31.0		19.0	11.0	41.0		31.5
Max Q Clear Time (g_c+I1), s	5.7	20.1		5.5	7.6	13.2		19.4
Green Ext Time (p_c), s	0.3	4.5		0.4	0.1	6.3		1.9

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

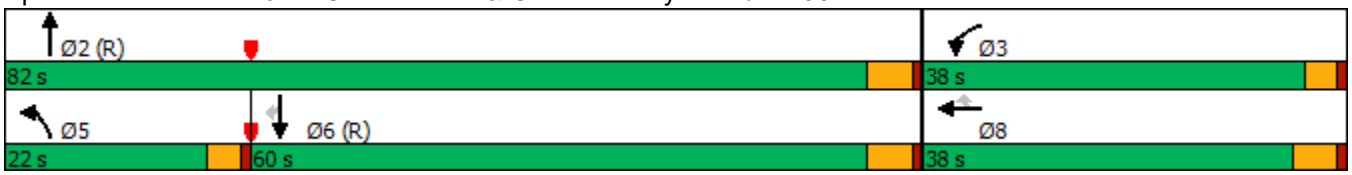
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	332	877	254	244	818	572	680
Future Volume (vph)	332	877	254	244	818	572	680
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	38.0	38.0	38.0	22.0	82.0	60.0	60.0
Total Split (%)	31.7%	31.7%	31.7%	18.3%	68.3%	50.0%	50.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	31.0	30.0	30.0	14.4	80.0	61.6	61.6
Actuated g/C Ratio	0.26	0.25	0.25	0.12	0.67	0.51	0.51
v/c Ratio	0.41	0.75	0.53	0.64	0.38	0.43	0.52
Control Delay	37.9	45.4	17.9	59.6	1.7	4.7	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	37.9	45.4	17.9	59.6	1.9	4.7	5.9
LOS	D	D	B	E	A	A	A
Approach Delay		39.0			15.2	5.1	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 7 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 92.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	332	877	254	244	818	0	0	572	680
Future Volume (veh/h)	0	0	0	332	877	254	244	818	0	0	572	680
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				361	953	276	265	889	0	0	622	739
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				833	1231	380	329	2431	0	0	2077	1756
Arrive On Green				0.24	0.24	0.24	0.13	0.91	0.00	0.00	0.93	0.93
Sat Flow, veh/h				3456	5106	1575	3456	3647	0	0	3741	3162
Grp Volume(v), veh/h				361	953	276	265	889	0	0	622	739
Grp Sat Flow(s),veh/h/ln				1728	1702	1575	1728	1777	0	0	1870	1581
Q Serve(g_s), s				10.6	20.9	19.3	8.9	4.1	0.0	0.0	2.0	3.3
Cycle Q Clear(g_c), s				10.6	20.9	19.3	8.9	4.1	0.0	0.0	2.0	3.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				833	1231	380	329	2431	0	0	2077	1756
V/C Ratio(X)				0.43	0.77	0.73	0.80	0.37	0.00	0.00	0.30	0.42
Avail Cap(c_a), veh/h				979	1447	446	518	2431	0	0	2077	1756
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	1.00	1.00	0.79	0.79	0.00	0.00	0.89	0.89
Uniform Delay (d), s/veh				38.6	42.5	41.9	51.3	1.9	0.0	0.0	2.0	2.1
Incr Delay (d2), s/veh				0.4	2.3	4.9	4.0	0.3	0.0	0.0	0.3	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	8.7	7.7	3.9	1.1	0.0	0.0	0.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.9	44.8	46.8	55.3	2.2	0.0	0.0	2.3	2.7
LnGrp LOS				D	D	D	E	A	A	A	A	A
Approach Vol, veh/h					1590			1154			1361	
Approach Delay, s/veh					43.8			14.4			2.5	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	87.1		15.4	71.6		32.9
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	77.0		18.0	55.0		34.0
Max Q Clear Time (g_c+I1), s	6.1		10.9	5.3		22.9
Green Ext Time (p_c), s	6.9		0.5	8.7		6.0

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

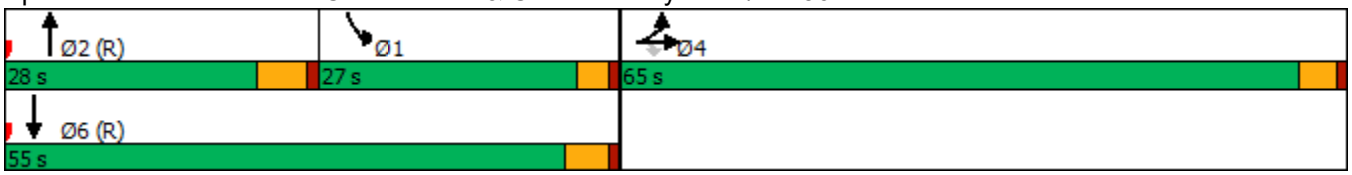
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	664	805	237	406	168	735
Future Volume (vph)	664	805	237	406	168	735
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	65.0	65.0	65.0	28.0	27.0	55.0
Total Split (%)	54.2%	54.2%	54.2%	23.3%	22.5%	45.8%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	55.1	55.1	55.1	27.9	23.0	55.4
Actuated g/C Ratio	0.46	0.46	0.46	0.23	0.19	0.46
v/c Ratio	0.71	0.75	0.34	0.47	0.54	0.34
Control Delay	31.6	30.1	13.4	35.6	34.0	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	31.6	30.1	13.4	35.6	34.0	11.3
LOS	C	C	B	D	C	B
Approach Delay		28.5		35.6		15.6
Approach LOS		C		D		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 92.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	664	805	237	0	0	0	0	406	231	168	735	0
Future Volume (veh/h)	664	805	237	0	0	0	0	406	231	168	735	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	481	1212	258				0	441	251	183	799	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	723	1518	641				0	905	295	502	2630	0
Arrive On Green	0.41	0.41	0.41				0.00	0.19	0.19	0.09	0.17	0.00
Sat Flow, veh/h	1781	3741	1579				0	5087	1572	1781	5274	0
Grp Volume(v), veh/h	481	1212	258				0	441	251	183	799	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1579				0	1609	1572	1781	1702	0
Q Serve(g_s), s	26.4	34.2	13.9				0.0	9.8	18.5	11.6	16.4	0.0
Cycle Q Clear(g_c), s	26.4	34.2	13.9				0.0	9.8	18.5	11.6	16.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	723	1518	641				0	905	295	502	2630	0
V/C Ratio(X)	0.67	0.80	0.40				0.00	0.49	0.85	0.36	0.30	0.00
Avail Cap(c_a), veh/h	898	1886	796				0	905	295	502	2630	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	29.0	31.3	25.3				0.0	43.6	47.1	44.3	31.0	0.0
Incr Delay (d2), s/veh	1.3	2.0	0.4				0.0	1.9	25.4	0.4	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
%ile BackOfQ(50%),veh/ln	11.1	15.2	5.2				0.0	3.9	9.0	5.5	7.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	33.4	25.7				0.0	45.5	72.5	44.7	31.2	0.0
LnGrp LOS	C	C	C				A	D	E	D	C	A
Approach Vol, veh/h		1951						692			982	
Approach Delay, s/veh		31.6						55.3			33.8	
Approach LOS		C						E			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	38.8	28.0		53.2		66.8
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	23.0	* 23		60.5		50.0
Max Q Clear Time (g_c+I1), s	13.6	20.5		36.2		18.4
Green Ext Time (p_c), s	0.3	0.8		12.5		5.6

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

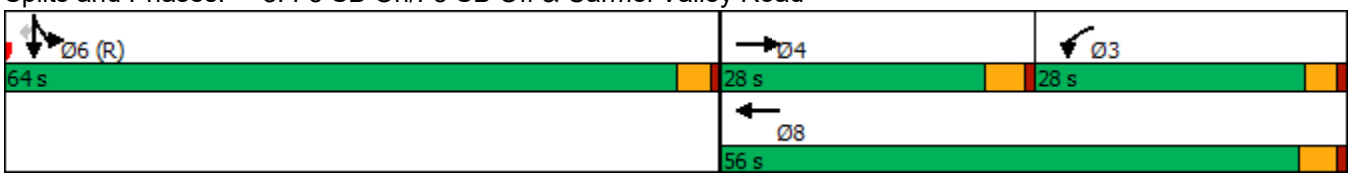
User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	299	433	644	982	3	124
Future Volume (vph)	299	433	644	982	3	124
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	56.0	64.0	64.0	64.0
Total Split (%)	23.3%	23.3%	46.7%	53.3%	53.3%	53.3%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	20.4	21.0	45.4	66.1	66.1	66.1
Actuated g/C Ratio	0.17	0.18	0.38	0.55	0.55	0.55
v/c Ratio	0.81	0.78	0.52	0.59	0.61	0.14
Control Delay	50.0	34.1	9.6	22.5	23.2	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	34.1	9.6	22.6	23.3	3.2
LOS	D	C	A	C	C	A
Approach Delay	50.0		19.5		20.9	
Approach LOS	D		B		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 25.5	Intersection LOS: C
Intersection Capacity Utilization 81.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	299	178	433	644	0	0	0	0	982	3	124
Future Volume (veh/h)	0	299	178	433	644	0	0	0	0	982	3	124
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	325	193	471	700	0				1110	0	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	378	219	544	1315	0				1992	0	884
Arrive On Green	0.00	0.18	0.18	0.16	0.37	0.00				0.56	0.00	0.56
Sat Flow, veh/h	0	2251	1252	3456	3647	0				3563	0	1581
Grp Volume(v), veh/h	0	266	252	471	700	0				1110	0	91
Grp Sat Flow(s),veh/h/ln	0	1777	1632	1728	1777	0				1781	0	1581
Q Serve(g_s), s	0.0	17.5	18.0	16.0	18.5	0.0				23.9	0.0	3.2
Cycle Q Clear(g_c), s	0.0	17.5	18.0	16.0	18.5	0.0				23.9	0.0	3.2
Prop In Lane	0.00		0.77	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	311	286	544	1315	0				1992	0	884
V/C Ratio(X)	0.00	0.86	0.88	0.87	0.53	0.00				0.56	0.00	0.10
Avail Cap(c_a), veh/h	0	348	320	691	1525	0				1992	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.75	0.75	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	48.0	48.3	49.3	29.6	0.0				16.9	0.0	12.4
Incr Delay (d2), s/veh	0.0	17.1	21.9	7.2	0.3	0.0				1.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.0	8.9	7.3	7.7	0.0				9.8	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	65.1	70.1	56.5	29.9	0.0				18.1	0.0	12.6
LnGrp LOS	A	E	E	E	C	A				B	A	B
Approach Vol, veh/h		518			1171						1201	
Approach Delay, s/veh		67.5			40.6						17.7	
Approach LOS		E			D						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		23.4	25.5		71.1		48.9					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		24.0	* 24		60.0		51.5					
Max Q Clear Time (g_c+I1), s		18.0	20.0		25.9		20.5					
Green Ext Time (p_c), s		0.9	1.0		5.5		5.0					

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

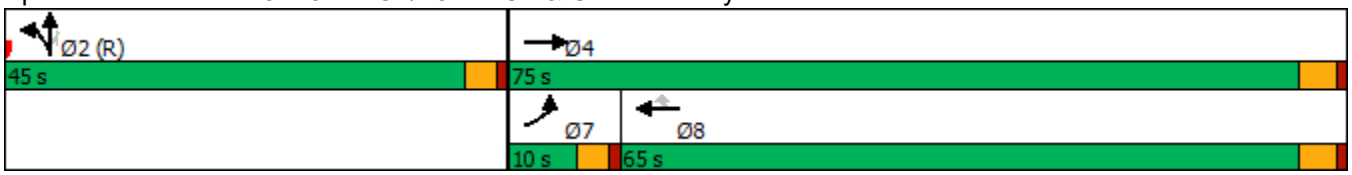
User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	72	1212	969	830	105	0	698
Future Volume (vph)	72	1212	969	830	105	0	698
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	75.0	65.0	65.0	45.0	45.0	45.0
Total Split (%)	8.3%	62.5%	54.2%	54.2%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.0	62.0	54.0	54.0	49.5	49.5	49.5
Actuated g/C Ratio	0.05	0.52	0.45	0.45	0.41	0.41	0.41
v/c Ratio	0.46	0.72	0.66	0.76	0.15	0.62	0.61
Control Delay	59.6	18.4	19.3	20.1	25.5	31.3	30.6
Queue Delay	0.0	0.7	0.4	2.5	0.0	0.0	0.0
Total Delay	59.6	19.1	19.8	22.6	25.5	31.3	30.6
LOS	E	B	B	C	C	C	C
Approach Delay		21.4	21.1			30.3	
Approach LOS		C	C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 23.1	Intersection LOS: C
Intersection Capacity Utilization 81.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1212	0	0	969	830	105	0	698	0	0	0
Future Volume (veh/h)	72	1212	0	0	969	830	105	0	698	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	78	1317	0	0	1053	902	76	0	800			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	133	2047	0	0	1792	797	629	0	1115			
Arrive On Green	0.04	0.58	0.00	0.00	0.50	0.50	0.35	0.00	0.35			
Sat Flow, veh/h	3456	3647	0	0	3647	1580	1781	0	3157			
Grp Volume(v), veh/h	78	1317	0	0	1053	902	76	0	800			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1580	1781	0	1578			
Q Serve(g_s), s	2.7	30.0	0.0	0.0	25.1	60.5	3.5	0.0	26.4			
Cycle Q Clear(g_c), s	2.7	30.0	0.0	0.0	25.1	60.5	3.5	0.0	26.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	133	2047	0	0	1792	797	629	0	1115			
V/C Ratio(X)	0.59	0.64	0.00	0.00	0.59	1.13	0.12	0.00	0.72			
Avail Cap(c_a), veh/h	173	2088	0	0	1792	797	629	0	1115			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.65	0.65	0.00	0.00	0.64	0.64	1.00	0.00	1.00			
Uniform Delay (d), s/veh	56.7	17.1	0.0	0.0	21.0	29.8	26.2	0.0	33.6			
Incr Delay (d2), s/veh	2.6	0.4	0.0	0.0	0.3	70.0	0.4	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			
%ile BackOfQ(50%),veh/ln	1.2	11.4	0.0	0.0	9.9	36.7	1.6	0.0	10.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	17.6	0.0	0.0	21.3	99.7	26.6	0.0	37.6			
LnGrp LOS	E	B	A	A	C	F	C	A	D			
Approach Vol, veh/h		1395			1955			876				
Approach Delay, s/veh		19.9			57.5			36.7				
Approach LOS		B			E			D				

Timer - Assigned Phs	2	4	7	8
Phs Duration (G+Y+Rc), s	46.4	73.6	8.6	65.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	41.0	70.5	6.0	60.5
Max Q Clear Time (g_c+I1), s	28.4	32.0	4.7	62.5
Green Ext Time (p_c), s	3.2	12.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D

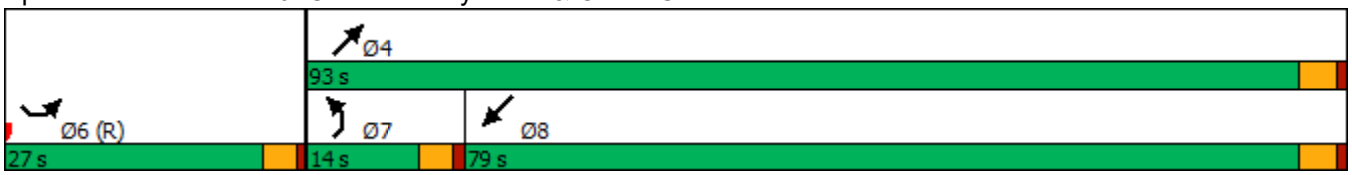
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	20	91	1808	1747
Future Volume (vph)	20	91	1808	1747
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	14.0	93.0	79.0
Total Split (%)	22.5%	11.7%	77.5%	65.8%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	32.1	9.5	79.4	65.8
Actuated g/C Ratio	0.27	0.08	0.66	0.55
v/c Ratio	0.13	0.71	0.58	0.70
Control Delay	18.5	78.1	8.5	16.2
Queue Delay	0.0	0.0	0.5	0.1
Total Delay	18.5	78.1	8.9	16.3
LOS	B	E	A	B
Approach Delay	18.5		12.3	16.3
Approach LOS	B		B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 14.3	Intersection LOS: B
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	20	36	91	1808	1747	53
Future Volume (veh/h)	20	36	91	1808	1747	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	39	99	1965	1899	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	204	362	123	2989	2459	75
Arrive On Green	0.34	0.34	0.07	0.59	0.48	0.48
Sat Flow, veh/h	594	1054	1781	5274	5259	155
Grp Volume(v), veh/h	62	0	99	1965	1269	688
Grp Sat Flow(s),veh/h/ln	1675	0	1781	1702	1702	1841
Q Serve(g_s), s	3.0	0.0	6.6	31.1	36.9	37.0
Cycle Q Clear(g_c), s	3.0	0.0	6.6	31.1	36.9	37.0
Prop In Lane	0.35	0.63	1.00			0.08
Lane Grp Cap(c), veh/h	576	0	123	2989	1644	889
V/C Ratio(X)	0.11	0.00	0.81	0.66	0.77	0.77
Avail Cap(c_a), veh/h	576	0	148	3766	2113	1143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.66	0.66	1.00	1.00
Uniform Delay (d), s/veh	26.8	0.0	55.1	16.8	25.6	25.6
Incr Delay (d2), s/veh	0.4	0.0	16.1	0.2	1.4	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	1.3	0.0	3.5	11.2	14.4	15.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.2	0.0	71.2	17.0	26.9	28.1
LnGrp LOS	C	A	E	B	C	C
Approach Vol, veh/h	62			2064	1957	
Approach Delay, s/veh	27.2			19.6	27.4	
Approach LOS	C			B	C	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		74.7		45.3	12.3	62.5
Change Period (Y+Rc), s		4.5		4.0	4.0	4.5
Max Green Setting (Gmax), s		88.5		23.0	10.0	74.5
Max Q Clear Time (g_c+I1), s		33.1		5.0	8.6	39.0
Green Ext Time (p_c), s		25.0		0.1	0.0	19.0

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	27	188	56	483	69	61	10	13	48	19
Future Volume (vph)	27	188	56	483	69	61	10	13	48	19
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	23.0	10.8	24.3	24.3	23.7	23.7	23.7	22.5	22.5
Total Split (%)	11.9%	28.8%	13.5%	30.4%	30.4%	29.6%	29.6%	29.6%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.9	11.7	7.7	15.2	15.2	21.1	21.1	21.1	8.7	8.7
Actuated g/C Ratio	0.10	0.20	0.13	0.26	0.26	0.36	0.36	0.36	0.15	0.15
v/c Ratio	0.16	0.41	0.26	0.57	0.15	0.06	0.06	0.02	0.20	0.35
Control Delay	33.2	17.3	31.0	23.2	2.3	19.3	19.3	0.1	26.8	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	17.3	31.0	23.2	2.3	19.3	19.3	0.1	26.8	12.5
LOS	C	B	C	C	A	B	B	A	C	B
Approach Delay		18.7		21.5			16.4			17.0
Approach LOS		B		C			B			B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 58.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 37.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	188	96	56	483	69	61	10	13	48	19	83
Future Volume (veh/h)	27	188	96	56	483	69	61	10	13	48	19	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	204	104	61	525	75	74	0	14	52	21	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	334	164	171	771	344	1257	0	559	183	32	136
Arrive On Green	0.03	0.14	0.14	0.10	0.22	0.22	0.35	0.00	0.35	0.10	0.10	0.10
Sat Flow, veh/h	1781	2311	1132	1781	3554	1585	3563	0	1585	1781	309	1323
Grp Volume(v), veh/h	29	155	153	61	525	75	74	0	14	52	0	111
Grp Sat Flow(s),veh/h/ln	1781	1777	1667	1781	1777	1585	1781	0	1585	1781	0	1632
Q Serve(g_s), s	0.9	4.6	4.8	1.8	7.6	2.2	0.8	0.0	0.3	1.5	0.0	3.7
Cycle Q Clear(g_c), s	0.9	4.6	4.8	1.8	7.6	2.2	0.8	0.0	0.3	1.5	0.0	3.7
Prop In Lane	1.00		0.68	1.00		1.00	1.00		1.00	1.00		0.81
Lane Grp Cap(c), veh/h	58	257	241	171	771	344	1257	0	559	183	0	167
V/C Ratio(X)	0.50	0.60	0.64	0.36	0.68	0.22	0.06	0.00	0.03	0.28	0.00	0.66
Avail Cap(c_a), veh/h	175	589	552	217	1260	562	1257	0	559	590	0	541
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	22.4	22.5	23.6	20.1	18.0	11.9	0.0	11.8	23.2	0.0	24.1
Incr Delay (d2), s/veh	6.6	2.3	2.8	1.3	1.1	0.3	0.1	0.0	0.1	0.8	0.0	4.5
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	0.4	1.8	1.9	0.7	2.8	0.7	0.3	0.0	0.1	0.6	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	24.7	25.3	24.9	21.2	18.3	12.0	0.0	11.9	24.0	0.0	28.6
LnGrp LOS	C	C	C	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h		337			661			88			163	
Approach Delay, s/veh		25.7			21.2			12.0			27.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.7	9.9	12.6	9.7	5.8	16.6
Change Period (Y+Rc), s	4.0	4.5	* 4.5	4.0	4.0	4.5
Max Green Setting (Gmax), s	19.7	6.8	* 19	18.5	5.5	19.8
Max Q Clear Time (g_c+I1), s	2.8	3.8	6.8	5.7	2.9	9.6
Green Ext Time (p_c), s	0.2	0.0	1.2	0.6	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

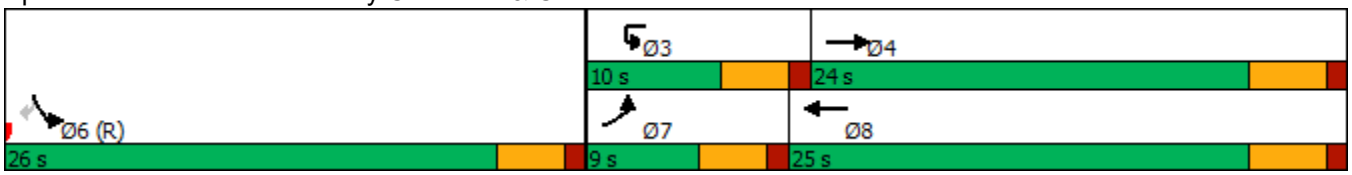
User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	223	2	469	95	140
Future Volume (vph)	19	223	2	469	95	140
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	9.0	24.0	10.0	25.0	26.0	26.0
Total Split (%)	15.0%	40.0%	16.7%	41.7%	43.3%	43.3%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	5.0	14.7	5.6	14.9	34.8	34.8
Actuated g/C Ratio	0.08	0.24	0.09	0.25	0.58	0.58
v/c Ratio	0.14	0.28	0.01	0.61	0.10	0.16
Control Delay	27.9	18.4	24.5	22.3	8.4	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	18.4	24.5	22.3	8.4	2.7
LOS	C	B	C	C	A	A
Approach Delay		19.2		22.3	5.0	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 2 (3%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 17.4	Intersection LOS: B
Intersection Capacity Utilization 37.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	19	223	2	469	26	95	140
Future Volume (veh/h)	19	223	2	469	26	95	140
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	21	242		510	28	103	152
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	44	1088		735	40	984	875
Arrive On Green	0.02	0.31		0.21	0.21	0.55	0.55
Sat Flow, veh/h	1781	3647		3517	188	1781	1585
Grp Volume(v), veh/h	21	242		264	274	103	152
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1834	1781	1585
Q Serve(g_s), s	0.7	3.0		8.2	8.3	1.6	2.8
Cycle Q Clear(g_c), s	0.7	3.0		8.2	8.3	1.6	2.8
Prop In Lane	1.00				0.10	1.00	1.00
Lane Grp Cap(c), veh/h	44	1088		382	394	984	875
V/C Ratio(X)	0.48	0.22		0.69	0.70	0.10	0.17
Avail Cap(c_a), veh/h	148	1155		607	627	984	875
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	15.5		21.7	21.7	6.4	6.7
Incr Delay (d2), s/veh	7.4	0.1		2.3	2.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1		3.3	3.4	0.6	3.8
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	36.3	15.6		24.0	24.0	6.6	7.1
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		263		538		255	
Approach Delay, s/veh		17.3		24.0		6.9	
Approach LOS		B		C		A	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	22.9	37.1	5.5	17.4
Change Period (Y+Rc), s	4.5	4.0	4.0	4.5
Max Green Setting (Gmax), s	19.5	22.0	5.0	20.5
Max Q Clear Time (g_c+I1), s	5.0	4.8	2.7	10.3
Green Ext Time (p_c), s	1.1	0.7	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

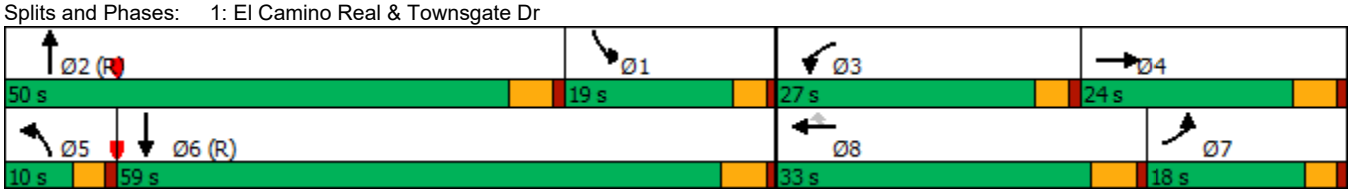
Notes

User approved ignoring U-Turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	80	25	168	10	109	12	1070	131	456
Future Volume (vph)	80	25	168	10	109	12	1070	131	456
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	9.5	23.0	9.5	23.0
Total Split (s)	18.0	24.0	27.0	33.0	33.0	10.0	50.0	19.0	59.0
Total Split (%)	15.0%	20.0%	22.5%	27.5%	27.5%	8.3%	41.7%	15.8%	49.2%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	14.0	19.0	23.0	28.0	28.0	6.0	45.0	15.0	54.0
Actuated g/C Ratio	0.12	0.16	0.19	0.23	0.23	0.05	0.38	0.12	0.45
v/c Ratio	0.42	0.21	0.54	0.03	0.25	0.15	0.76	0.64	0.22
Control Delay	56.1	24.6	50.5	35.9	4.5	58.8	21.9	64.2	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	24.6	50.5	35.9	4.5	58.8	21.9	64.2	20.4
LOS	E	C	D	D	A	E	C	E	C
Approach Delay		42.9		32.6			22.2		30.0
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 16 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 26.6	Intersection LOS: C
Intersection Capacity Utilization 61.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: El Camino Real & Townsgate Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	25	33	168	10	109	12	1070	246	131	456	10
Future Volume (veh/h)	80	25	33	168	10	109	12	1070	246	131	456	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	27	36	183	11	118	13	1163	267	142	496	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	119	159	336	429	364	88	1531	351	219	2317	51
Arrive On Green	0.11	0.16	0.16	0.19	0.23	0.23	0.10	0.74	0.74	0.12	0.45	0.45
Sat Flow, veh/h	1781	727	969	1781	1870	1585	1781	4150	953	1781	5140	114
Grp Volume(v), veh/h	87	0	63	183	11	118	13	954	476	142	328	179
Grp Sat Flow(s),veh/h/ln	1781	0	1696	1781	1870	1585	1781	1702	1699	1781	1702	1850
Q Serve(g_s), s	5.5	0.0	3.9	11.3	0.6	7.6	0.8	20.4	20.4	9.3	7.1	7.2
Cycle Q Clear(g_c), s	5.5	0.0	3.9	11.3	0.6	7.6	0.8	20.4	20.4	9.3	7.1	7.2
Prop In Lane	1.00		0.57	1.00		1.00	1.00		0.56	1.00		0.06
Lane Grp Cap(c), veh/h	204	0	278	336	429	364	88	1256	627	219	1535	834
V/C Ratio(X)	0.43	0.00	0.23	0.54	0.03	0.32	0.15	0.76	0.76	0.65	0.21	0.21
Avail Cap(c_a), veh/h	204	0	278	336	429	364	88	1256	627	219	1535	834
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	0.0	44.3	44.8	36.4	39.1	52.7	12.8	12.8	51.0	20.4	20.4
Incr Delay (d2), s/veh	6.4	0.0	1.9	6.2	0.1	2.4	3.5	4.4	8.4	13.9	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	1.8	5.6	0.3	3.2	0.4	4.8	5.5	4.9	2.8	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	0.0	46.2	51.0	36.5	41.5	56.2	17.1	21.2	64.9	20.7	21.0
LnGrp LOS	E	A	D	D	D	D	E	B	C	E	C	C
Approach Vol, veh/h		150			312			1443			649	
Approach Delay, s/veh		52.2			46.9			18.8			30.4	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	50.0	27.0	25.0	10.0	60.0	19.0	33.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	15.0	* 45	23.0	19.0	6.0	54.0	14.0	* 28
Max Q Clear Time (g_c+I1), s	11.3	22.4	13.3	5.9	2.8	9.2	7.5	9.6
Green Ext Time (p_c), s	0.1	9.9	0.3	0.2	0.0	3.1	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

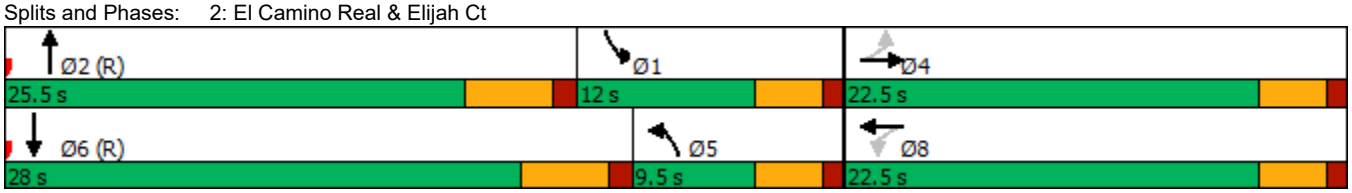
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	11	10	36	10	14	1258	107	586
Future Volume (vph)	11	10	36	10	14	1258	107	586
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	22.5	22.5	22.5	22.5	9.5	25.5	12.0	28.0
Total Split (%)	37.5%	37.5%	37.5%	37.5%	15.8%	42.5%	20.0%	46.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	18.5	18.5	18.5	18.5	5.5	20.5	8.0	23.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.09	0.34	0.13	0.38
v/c Ratio	0.03	0.04	0.09	0.13	0.09	0.84	0.49	0.33
Control Delay	14.8	10.9	15.6	6.6	26.3	27.8	23.1	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	10.9	15.6	6.6	26.3	27.8	23.1	8.6
LOS	B	B	B	A	C	C	C	A
Approach Delay		12.3		9.7		27.8		10.8
Approach LOS		B		A		C		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 21.3	Intersection LOS: C
Intersection Capacity Utilization 51.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: El Camino Real & Elijah Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	10	10	36	10	57	14	1258	86	107	586	10
Future Volume (veh/h)	11	10	10	36	10	57	14	1258	86	107	586	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	11	11	39	11	62	15	1367	93	116	637	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	486	265	265	536	75	425	163	1668	113	238	1982	34
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.03	0.11	0.11	0.27	0.77	0.77
Sat Flow, veh/h	1327	858	858	1390	244	1378	1781	4882	332	1781	5169	89
Grp Volume(v), veh/h	12	0	22	39	0	73	15	953	507	116	419	229
Grp Sat Flow(s),veh/h/ln	1327	0	1716	1390	0	1622	1781	1702	1811	1781	1702	1854
Q Serve(g_s), s	0.4	0.0	0.5	1.2	0.0	2.0	0.5	16.4	16.4	3.3	2.3	2.3
Cycle Q Clear(g_c), s	2.4	0.0	0.5	1.8	0.0	2.0	0.5	16.4	16.4	3.3	2.3	2.3
Prop In Lane	1.00		0.50	1.00		0.85	1.00		0.18	1.00		0.05
Lane Grp Cap(c), veh/h	486	0	529	536	0	500	163	1163	619	238	1305	711
V/C Ratio(X)	0.02	0.00	0.04	0.07	0.00	0.15	0.09	0.82	0.82	0.49	0.32	0.32
Avail Cap(c_a), veh/h	486	0	529	536	0	500	163	1163	619	238	1305	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	0.0	14.5	15.2	0.0	15.0	26.7	24.8	24.8	20.3	4.6	4.6
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.3	0.0	0.6	1.1	6.5	11.6	7.0	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.4	0.0	0.7	0.2	8.2	9.6	1.6	0.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	14.7	15.4	0.0	15.6	27.8	31.3	36.4	27.3	5.2	5.8
LnGrp LOS	B	A	B	B	A	B	C	C	D	C	A	A
Approach Vol, veh/h		34			112			1475			764	
Approach Delay, s/veh		15.1			15.6			33.0			8.7	
Approach LOS		B			B			C			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	25.5		22.5	9.5	28.0		22.5
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	8.0	20.5		18.5	5.5	23.0		18.5
Max Q Clear Time (g_c+I1), s	5.3	18.4		4.4	2.5	4.3		4.0
Green Ext Time (p_c), s	0.1	1.6		0.1	0.0	3.5		0.4

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	64	184	378	59	109	195	1171	106	502
Future Volume (vph)	64	184	378	59	109	195	1171	106	502
Turn Type	Prot	NA	pm+ov	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4	8					
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	18.0	33.0	35.0	13.0	28.0	35.0	55.0	19.0	39.0
Total Split (%)	15.0%	27.5%	29.2%	10.8%	23.3%	29.2%	45.8%	15.8%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	10.1	18.2	31.1	23.2	16.2	12.9	65.6	13.1	65.8
Actuated g/C Ratio	0.08	0.15	0.26	0.19	0.14	0.11	0.55	0.11	0.55
v/c Ratio	0.47	0.71	0.77	0.31	0.51	0.57	0.48	0.60	0.21
Control Delay	62.0	61.8	30.5	37.2	21.4	52.3	13.9	56.1	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	61.8	30.5	37.2	21.4	52.3	13.9	56.1	10.9
LOS	E	E	C	D	C	D	B	E	B
Approach Delay		42.9			24.2		19.2		18.4
Approach LOS		D			C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 24 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 58.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: El Camino Real & High Bluff Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	184	378	59	109	167	195	1171	51	106	502	28
Future Volume (veh/h)	64	184	378	59	109	167	195	1171	51	106	502	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	200	411	64	118	182	212	1273	55	115	546	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	452	508	251	409	362	279	2506	108	140	2463	134
Arrive On Green	0.05	0.24	0.24	0.04	0.23	0.23	0.16	1.00	1.00	0.16	0.99	0.99
Sat Flow, veh/h	1781	1870	1575	1781	1777	1575	3456	5017	217	1781	4954	270
Grp Volume(v), veh/h	70	200	411	64	118	182	212	864	464	115	374	202
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1777	1575	1728	1702	1830	1781	1702	1821
Q Serve(g_s), s	4.7	10.9	28.7	3.3	6.6	12.1	7.0	0.1	0.1	7.5	0.1	0.1
Cycle Q Clear(g_c), s	4.7	10.9	28.7	3.3	6.6	12.1	7.0	0.1	0.1	7.5	0.1	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.15
Lane Grp Cap(c), veh/h	90	452	508	251	409	362	279	1700	914	140	1692	905
V/C Ratio(X)	0.78	0.44	0.81	0.25	0.29	0.50	0.76	0.51	0.51	0.82	0.22	0.22
Avail Cap(c_a), veh/h	208	452	508	316	409	362	893	1700	914	223	1692	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	0.96	0.96	0.96
Uniform Delay (d), s/veh	56.3	38.6	37.3	33.7	38.1	40.2	49.2	0.0	0.0	49.8	0.2	0.2
Incr Delay (d2), s/veh	13.2	0.7	9.4	0.5	0.4	1.1	3.9	1.0	1.9	12.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.0	12.0	1.4	2.9	4.7	2.9	0.3	0.5	3.5	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	39.3	46.7	34.2	38.5	41.3	53.2	1.0	1.9	62.0	0.5	0.7
LnGrp LOS	E	D	D	C	D	D	D	A	A	E	A	A
Approach Vol, veh/h		681			364			1540			691	
Approach Delay, s/veh		46.9			39.2			8.5			10.8	
Approach LOS		D			D			A			B	

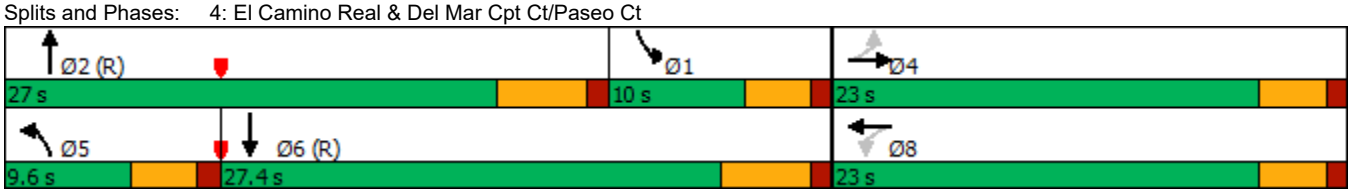
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	64.9	8.7	33.0	13.7	64.7	10.1	31.6
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	50.0	9.0	29.0	31.0	34.0	14.0	24.0
Max Q Clear Time (g_c+I1), s	9.5	2.1	5.3	30.7	9.0	2.1	6.7	14.1
Green Ext Time (p_c), s	0.1	10.9	0.0	0.0	0.6	3.5	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	10	57	10	17	1338	10	926
Future Volume (vph)	34	10	57	10	17	1338	10	926
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0	9.5	23.0
Total Split (s)	23.0	23.0	23.0	23.0	9.6	27.0	10.0	27.4
Total Split (%)	38.3%	38.3%	38.3%	38.3%	16.0%	45.0%	16.7%	45.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	9.6	9.6	9.6	9.6	6.0	42.3	5.8	42.1
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.10	0.70	0.10	0.70
v/c Ratio	0.17	0.29	0.30	0.22	0.10	0.41	0.06	0.29
Control Delay	21.2	8.7	24.0	9.2	35.3	5.0	27.5	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	8.7	24.0	9.2	35.3	5.0	27.5	5.5
LOS	C	A	C	A	D	A	C	A
Approach Delay		12.2		16.3		5.4		5.8
Approach LOS		B		B		A		A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 30 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 6.4	Intersection LOS: A
Intersection Capacity Utilization 44.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: El Camino Real & Del Mar Cpt Ct/Paseo Ct



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	10	76	57	10	52	17	1338	17	10	926	10
Future Volume (veh/h)	34	10	76	57	10	52	17	1338	17	10	926	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	11	83	62	11	57	18	1454	18	11	1007	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	28	211	245	39	202	38	1906	24	446	3187	35
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.04	0.73	0.73	0.50	1.00	1.00
Sat Flow, veh/h	1322	187	1412	1293	261	1351	1781	5198	64	1781	5207	57
Grp Volume(v), veh/h	37	0	94	62	0	68	18	952	520	11	658	360
Grp Sat Flow(s),veh/h/ln	1322	0	1599	1293	0	1611	1781	1702	1858	1781	1702	1860
Q Serve(g_s), s	1.5	0.0	3.2	2.7	0.0	2.2	0.6	10.2	10.2	0.2	0.0	0.0
Cycle Q Clear(g_c), s	3.8	0.0	3.2	5.9	0.0	2.2	0.6	10.2	10.2	0.2	0.0	0.0
Prop In Lane	1.00		0.88	1.00		0.84	1.00		0.03	1.00		0.03
Lane Grp Cap(c), veh/h	268	0	239	245	0	241	38	1248	681	446	2084	1138
V/C Ratio(X)	0.14	0.00	0.39	0.25	0.00	0.28	0.47	0.76	0.76	0.02	0.32	0.32
Avail Cap(c_a), veh/h	489	0	506	461	0	510	166	1248	681	446	2084	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.84	0.84	0.84	0.90	0.90	0.90
Uniform Delay (d), s/veh	24.3	0.0	23.0	25.7	0.0	22.6	28.4	6.4	6.4	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.0	0.5	0.0	0.6	7.2	3.8	6.7	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.2	0.8	0.0	0.9	0.3	2.2	3.0	0.1	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	24.1	26.3	0.0	23.3	35.6	10.2	13.1	11.3	0.4	0.7
LnGrp LOS	C	A	C	C	A	C	D	B	B	B	A	A
Approach Vol, veh/h		131			130			1490			1029	
Approach Delay, s/veh		24.2			24.7			11.5			0.6	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.0	27.0		13.0	5.3	41.7		13.0
Change Period (Y+Rc), s	5.0	* 5		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	6.0	* 22		19.0	5.6	22.4		19.0
Max Q Clear Time (g_c+I1), s	2.2	12.2		5.8	2.6	2.0		7.9
Green Ext Time (p_c), s	0.0	6.0		0.5	0.0	6.1		0.4

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

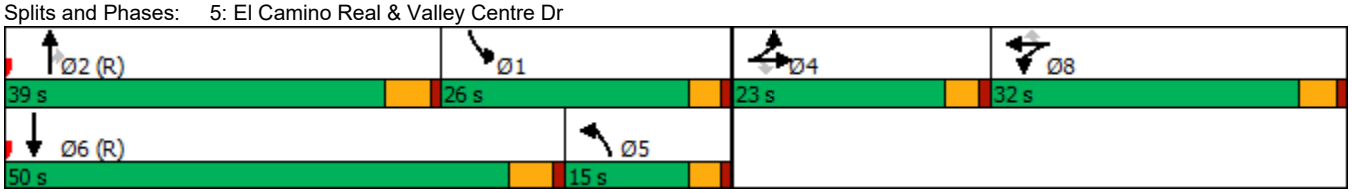
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	100	55	86	388	22	193	98	975	325	209	1087
Future Volume (vph)	100	55	86	388	22	193	98	975	325	209	1087
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	23.0	23.0	10.0	23.0
Total Split (s)	23.0	23.0	23.0	32.0	32.0	32.0	15.0	39.0	39.0	26.0	50.0
Total Split (%)	19.2%	19.2%	19.2%	26.7%	26.7%	26.7%	12.5%	32.5%	32.5%	21.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0
Lead/Lag							Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	12.1	12.1	12.1	22.6	22.6	22.6	10.4	46.5	46.5	21.4	57.5
Actuated g/C Ratio	0.10	0.10	0.10	0.19	0.19	0.19	0.09	0.39	0.39	0.18	0.48
v/c Ratio	0.53	0.54	0.30	0.73	0.77	0.44	0.70	0.54	0.46	0.72	0.51
Control Delay	61.6	59.6	3.1	59.2	61.9	8.7	69.5	18.7	4.6	55.8	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	59.6	3.1	59.2	61.9	8.7	69.5	18.7	4.6	55.8	25.9
LOS	E	E	A	E	E	A	E	B	A	E	C
Approach Delay		42.8			45.6			19.0			30.5
Approach LOS		D			D			B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 114 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 29.4	Intersection LOS: C
Intersection Capacity Utilization 61.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: El Camino Real & Valley Centre Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	55	86	388	22	193	98	975	325	209	1087	54
Future Volume (veh/h)	100	55	86	388	22	193	98	975	325	209	1087	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	97	82	497	0	148	107	1060	353	227	1182	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	151	125	591	0	261	415	1447	447	578	1867	93
Arrive On Green	0.08	0.08	0.08	0.17	0.00	0.17	0.47	0.57	0.57	0.65	0.75	0.75
Sat Flow, veh/h	1781	1870	1556	3563	0	1571	1781	5106	1577	1781	4979	248
Grp Volume(v), veh/h	90	97	82	497	0	148	107	1060	353	227	808	433
Grp Sat Flow(s),veh/h/ln	1781	1870	1556	1781	0	1571	1781	1702	1577	1781	1702	1824
Q Serve(g_s), s	5.9	6.0	6.1	16.2	0.0	10.4	4.4	18.5	21.1	7.2	13.6	13.6
Cycle Q Clear(g_c), s	5.9	6.0	6.1	16.2	0.0	10.4	4.4	18.5	21.1	7.2	13.6	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	143	151	125	591	0	261	415	1447	447	578	1277	684
V/C Ratio(X)	0.63	0.64	0.65	0.84	0.00	0.57	0.26	0.73	0.79	0.39	0.63	0.63
Avail Cap(c_a), veh/h	282	296	246	816	0	360	415	1447	447	578	1277	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.00	0.91	0.79	0.79	0.79	0.97	0.97	0.97
Uniform Delay (d), s/veh	53.4	53.5	53.6	48.5	0.0	46.1	25.8	22.6	23.2	15.5	11.1	11.1
Incr Delay (d2), s/veh	4.5	4.5	5.7	5.3	0.0	1.8	0.3	2.6	10.8	0.4	2.3	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.1	2.6	7.5	0.0	4.1	1.7	5.3	6.4	2.5	3.5	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	58.0	59.2	53.8	0.0	47.9	26.0	25.3	34.0	15.9	13.4	15.4
LnGrp LOS	E	E	E	D	A	D	C	C	C	B	B	B
Approach Vol, veh/h		269			645			1520			1468	
Approach Delay, s/veh		58.4			52.4			27.3			14.4	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	42.9	39.0		13.7	31.9	50.0		24.4
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.5
Max Green Setting (Gmax), s	22.0	34.0		19.0	11.0	45.0		27.5
Max Q Clear Time (g_c+I1), s	9.2	23.1		8.1	6.4	15.6		18.2
Green Ext Time (p_c), s	0.5	5.8		0.8	0.1	8.9		1.7

Intersection Summary		
HCM 6th Ctrl Delay		28.7
HCM 6th LOS		C

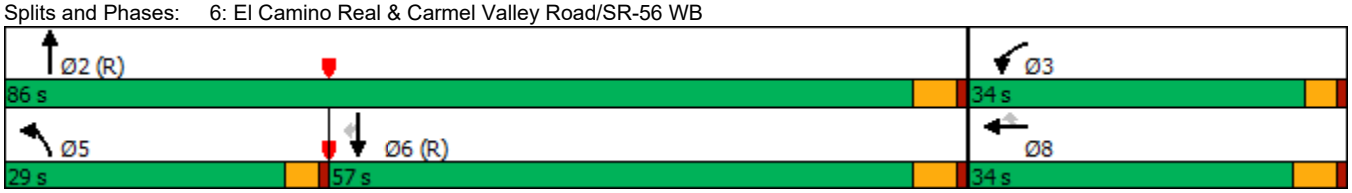
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	204	745	246	389	1262	817	684
Future Volume (vph)	204	745	246	389	1262	817	684
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	3	8		5	2	6	
Permitted Phases			8				6
Detector Phase	3	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	23.0	22.5	22.5
Total Split (s)	34.0	34.0	34.0	29.0	86.0	57.0	57.0
Total Split (%)	28.3%	28.3%	28.3%	24.2%	71.7%	47.5%	47.5%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	27.0	26.0	26.0	20.0	84.0	60.0	60.0
Actuated g/C Ratio	0.22	0.22	0.22	0.17	0.70	0.50	0.50
v/c Ratio	0.29	0.74	0.68	0.74	0.55	0.55	0.53
Control Delay	38.9	47.9	40.5	60.8	1.2	8.0	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	38.9	47.9	40.5	60.8	1.7	8.0	7.5
LOS	D	D	D	E	A	A	A
Approach Delay		44.8			15.6	7.9	
Approach LOS		D			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 75.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: El Camino Real & Carmel Valley Road/SR-56 WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	204	745	246	389	1262	0	0	817	684
Future Volume (veh/h)	0	0	0	204	745	246	389	1262	0	0	817	684
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				222	810	267	423	1372	0	0	888	743
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				737	1089	336	489	2529	0	0	2009	1697
Arrive On Green				0.21	0.21	0.21	0.28	1.00	0.00	0.00	1.00	1.00
Sat Flow, veh/h				3456	5106	1574	3456	3647	0	0	3741	3161
Grp Volume(v), veh/h				222	810	267	423	1372	0	0	888	743
Grp Sat Flow(s),veh/h/ln				1728	1702	1574	1728	1777	0	0	1870	1581
Q Serve(g_s), s				6.5	17.8	19.3	13.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				6.5	17.8	19.3	13.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				737	1089	336	489	2529	0	0	2009	1697
V/C Ratio(X)				0.30	0.74	0.80	0.87	0.54	0.00	0.00	0.44	0.44
Avail Cap(c_a), veh/h				864	1277	393	720	2529	0	0	2009	1697
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.42	0.42	0.00	0.00	0.83	0.83
Uniform Delay (d), s/veh				39.7	44.1	44.7	41.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.2	2.0	9.4	3.3	0.4	0.0	0.0	0.6	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.7	7.4	8.1	5.2	0.1	0.0	0.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.9	46.1	54.1	45.3	0.4	0.0	0.0	0.6	0.7
LnGrp LOS				D	D	D	D	A	A	A	A	A
Approach Vol, veh/h					1299			1795			1631	
Approach Delay, s/veh					46.7			10.9			0.6	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	90.4		21.0	69.4		29.6
Change Period (Y+Rc), s	5.0		4.0	5.0		4.0
Max Green Setting (Gmax), s	81.0		25.0	52.0		30.0
Max Q Clear Time (g_c+I1), s	2.0		15.9	2.0		21.3
Green Ext Time (p_c), s	14.0		1.0	12.2		4.3

Intersection Summary	
HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

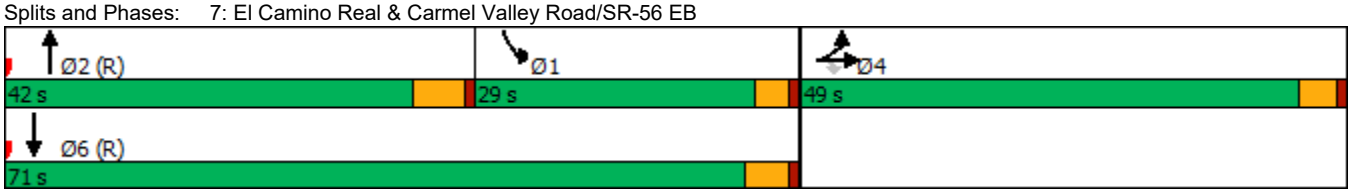
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	496	831	162	1159	263	710
Future Volume (vph)	496	831	162	1159	263	710
Turn Type	Split	NA	Perm	NA	Prot	NA
Protected Phases	4	4		2	1	6
Permitted Phases			4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	23.0
Total Split (s)	49.0	49.0	49.0	42.0	29.0	71.0
Total Split (%)	40.8%	40.8%	40.8%	35.0%	24.2%	59.2%
Yellow Time (s)	3.5	3.5	3.5	4.5	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	5.5	4.0	5.0
Lead/Lag				Lead	Lag	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	43.2	43.2	43.2	37.8	25.0	67.3
Actuated g/C Ratio	0.36	0.36	0.36	0.32	0.21	0.56
v/c Ratio	0.82	0.86	0.27	0.85	0.78	0.27
Control Delay	47.5	44.1	8.7	42.1	42.2	3.3
Queue Delay	0.0	0.0	0.0	0.0	2.7	0.2
Total Delay	47.5	44.1	8.7	42.1	44.9	3.5
LOS	D	D	A	D	D	A
Approach Delay		41.7		42.1		14.7
Approach LOS		D		D		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 35.3	Intersection LOS: D
Intersection Capacity Utilization 75.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: El Camino Real & Carmel Valley Road/SR-56 EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	496	831	162	0	0	0	0	1159	391	263	710	0
Future Volume (veh/h)	496	831	162	0	0	0	0	1159	391	263	710	0
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	359	1154	176				0	1260	425	286	772	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	623	1309	552				0	1468	480	394	2915	0
Arrive On Green	0.35	0.35	0.35				0.00	0.30	0.30	0.07	0.19	0.00
Sat Flow, veh/h	1781	3741	1578				0	5087	1577	1781	5274	0
Grp Volume(v), veh/h	359	1154	176				0	1260	425	286	772	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1578				0	1609	1577	1781	1702	0
Q Serve(g_s), s	19.7	34.8	9.8				0.0	29.5	30.8	18.9	15.5	0.0
Cycle Q Clear(g_c), s	19.7	34.8	9.8				0.0	29.5	30.8	18.9	15.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	623	1309	552				0	1468	480	394	2915	0
V/C Ratio(X)	0.58	0.88	0.32				0.00	0.86	0.89	0.73	0.26	0.00
Avail Cap(c_a), veh/h	661	1387	585				0	1468	480	394	2915	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.85	0.85	0.00
Uniform Delay (d), s/veh	31.8	36.7	28.5				0.0	39.3	39.8	52.1	27.2	0.0
Incr Delay (d2), s/veh	1.1	6.7	0.3				0.0	6.7	20.7	5.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	16.5	3.7				0.0	11.9	14.0	9.6	7.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	43.4	28.9				0.0	46.0	60.5	57.7	27.4	0.0
LnGrp LOS	C	D	C				A	D	E	E	C	A
Approach Vol, veh/h		1689						1685			1058	
Approach Delay, s/veh		39.6						49.7			35.6	
Approach LOS		D						D			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	31.5	42.0		46.5		73.5
Change Period (Y+Rc), s	5.0	* 5.5		4.5		5.0
Max Green Setting (Gmax), s	25.0	* 37		44.5		66.0
Max Q Clear Time (g_c+I1), s	20.9	32.8		36.8		17.5
Green Ext Time (p_c), s	0.3	2.9		5.2		5.6

Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

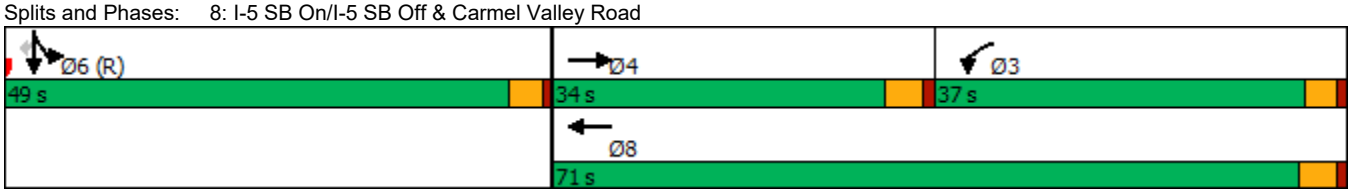
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	471	676	729	688	1	98
Future Volume (vph)	471	676	729	688	1	98
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	4	3	8	6	6	
Permitted Phases						6
Detector Phase	4	3	8	6	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	34.0	37.0	71.0	49.0	49.0	49.0
Total Split (%)	28.3%	30.8%	59.2%	40.8%	40.8%	40.8%
Yellow Time (s)	3.5	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.0	4.5	4.0	4.0	4.0
Lead/Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.5	29.8	60.4	51.1	51.1	51.1
Actuated g/C Ratio	0.22	0.25	0.50	0.43	0.43	0.43
v/c Ratio	0.83	0.86	0.44	0.53	0.55	0.14
Control Delay	52.5	39.7	7.7	30.6	31.2	5.4
Queue Delay	0.6	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	39.7	7.7	30.6	31.2	5.4
LOS	D	D	A	C	C	A
Approach Delay	53.1		23.1		28.1	
Approach LOS	D		C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 30.8	Intersection LOS: C
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-5 SB On/I-5 SB Off & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	471	119	676	729	0	0	0	0	688	1	98
Future Volume (veh/h)	0	471	119	676	729	0	0	0	0	688	1	98
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	512	129	735	792	0				782	0	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	590	148	817	1720	0				1586	0	703
Arrive On Green	0.00	0.21	0.21	0.24	0.48	0.00				0.45	0.00	0.45
Sat Flow, veh/h	0	2904	704	3456	3647	0				3563	0	1580
Grp Volume(v), veh/h	0	323	318	735	792	0				782	0	72
Grp Sat Flow(s),veh/h/ln	0	1777	1738	1728	1777	0				1781	0	1580
Q Serve(g_s), s	0.0	21.0	21.3	24.8	17.8	0.0				18.7	0.0	3.2
Cycle Q Clear(g_c), s	0.0	21.0	21.3	24.8	17.8	0.0				18.7	0.0	3.2
Prop In Lane	0.00		0.41	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	373	365	817	1720	0				1586	0	703
V/C Ratio(X)	0.00	0.86	0.87	0.90	0.46	0.00				0.49	0.00	0.10
Avail Cap(c_a), veh/h	0	437	427	950	1969	0				1586	0	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	45.7	45.8	44.4	20.6	0.0				23.7	0.0	19.3
Incr Delay (d2), s/veh	0.0	14.7	15.8	7.7	0.1	0.0				1.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.6	10.5	11.2	7.1	0.0				8.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	60.4	61.6	52.2	20.7	0.0				24.8	0.0	19.6
LnGrp LOS	A	E	E	D	C	A				C	A	B
Approach Vol, veh/h		641			1527						854	
Approach Delay, s/veh		61.0			35.9						24.3	
Approach LOS		E			D						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		32.9	29.7		57.4		62.6					
Change Period (Y+Rc), s		4.5	* 4.5		4.0		4.5					
Max Green Setting (Gmax), s		33.0	* 30		45.0		66.5					
Max Q Clear Time (g_c+I1), s		26.8	23.3		20.7		19.8					
Green Ext Time (p_c), s		1.6	2.0		3.4		6.1					

Intersection Summary	
HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

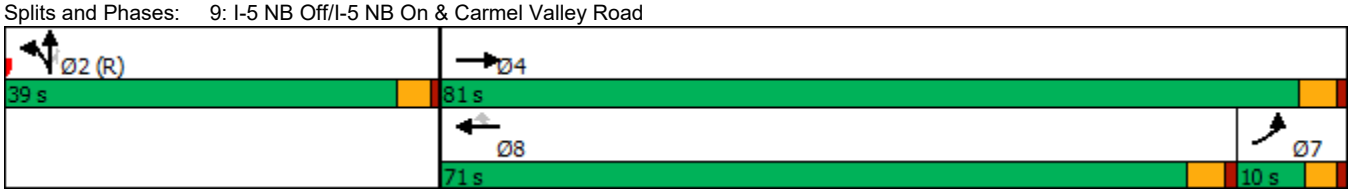
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	42	1117	1142	745	263	8	458
Future Volume (vph)	42	1117	1142	745	263	8	458
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	7	4	8		2	2	
Permitted Phases				8			2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	81.0	71.0	71.0	39.0	39.0	39.0
Total Split (%)	8.3%	67.5%	59.2%	59.2%	32.5%	32.5%	32.5%
Yellow Time (s)	3.0	3.5	3.5	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.5	4.5	4.0	4.0	4.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.2	68.2	59.8	59.8	43.3	43.3	43.3
Actuated g/C Ratio	0.05	0.57	0.50	0.50	0.36	0.36	0.36
v/c Ratio	0.26	0.60	0.70	0.69	0.42	0.47	0.45
Control Delay	68.1	19.8	5.8	7.1	34.5	25.5	24.7
Queue Delay	0.0	1.6	0.2	2.0	0.0	0.0	0.0
Total Delay	68.1	21.5	6.0	9.2	34.5	25.5	24.7
LOS	E	C	A	A	C	C	C
Approach Delay		23.2	7.3			28.1	
Approach LOS		C	A			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-5 NB Off/I-5 NB On & Carmel Valley Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1117	0	0	1142	745	263	8	458	0	0	0
Future Volume (veh/h)	42	1117	0	0	1142	745	263	8	458	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	46	1214	0	0	1241	810	194	0	603			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	113	2177	0	0	1927	857	564	0	999			
Arrive On Green	0.03	0.61	0.00	0.00	0.54	0.54	0.32	0.00	0.32			
Sat Flow, veh/h	3456	3647	0	0	3647	1581	1781	0	3155			
Grp Volume(v), veh/h	46	1214	0	0	1241	810	194	0	603			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1581	1781	0	1578			
Q Serve(g_s), s	1.6	24.1	0.0	0.0	29.5	57.7	10.0	0.0	19.4			
Cycle Q Clear(g_c), s	1.6	24.1	0.0	0.0	29.5	57.7	10.0	0.0	19.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	113	2177	0	0	1927	857	564	0	999			
V/C Ratio(X)	0.41	0.56	0.00	0.00	0.64	0.94	0.34	0.00	0.60			
Avail Cap(c_a), veh/h	173	2265	0	0	1969	876	564	0	999			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.63	0.63	0.00	0.00	0.64	0.64	1.00	0.00	1.00			
Uniform Delay (d), s/veh	56.9	13.7	0.0	0.0	19.3	25.8	31.4	0.0	34.6			
Incr Delay (d2), s/veh	1.5	0.2	0.0	0.0	0.5	13.3	1.7	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			
%ile BackOfQ(50%),veh/ln	0.7	8.9	0.0	0.0	11.5	23.0	4.6	0.0	7.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	13.9	0.0	0.0	19.8	39.0	33.1	0.0	37.3			
LnGrp LOS	E	B	A	A	B	D	C	A	D			
Approach Vol, veh/h		1260			2051			797				
Approach Delay, s/veh		15.5			27.4			36.3				
Approach LOS		B			C			D				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		42.0		78.0			8.4	69.6				
Change Period (Y+Rc), s		4.0		4.5			4.5	* 4.5				
Max Green Setting (Gmax), s		35.0		76.5			6.0	* 67				
Max Q Clear Time (g_c+I1), s		21.4		26.1			3.6	59.7				
Green Ext Time (p_c), s		2.8		11.4			0.0	5.3				

Intersection Summary												
HCM 6th Ctrl Delay			25.5									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	SEL	NEL	NET	SWT
Lane Configurations				
Traffic Volume (vph)	48	67	1499	1761
Future Volume (vph)	48	67	1499	1761
Turn Type	Prot	Prot	NA	NA
Protected Phases	6	7	4	8
Permitted Phases				
Detector Phase	6	7	4	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5
Total Split (s)	27.0	15.0	93.0	78.0
Total Split (%)	22.5%	12.5%	77.5%	65.0%
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.5	4.5
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Max	None	None	None
Act Effct Green (s)	34.3	9.7	77.2	65.6
Actuated g/C Ratio	0.29	0.08	0.64	0.55
v/c Ratio	0.31	0.51	0.50	0.71
Control Delay	22.3	67.5	6.9	13.9
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	22.3	67.5	7.0	13.9
LOS	C	E	A	B
Approach Delay	22.3		9.6	13.9
Approach LOS	C		A	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 8 (7%), Referenced to phase 2: and 6:SEL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 64.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Carmel Valley Road & Old El Camino Real

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	48	99	67	1499	1761	44
Future Volume (veh/h)	48	99	67	1499	1761	44
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	108	73	1629	1914	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	192	399	93	2921	2469	62
Arrive On Green	0.36	0.36	0.05	0.57	0.48	0.48
Sat Flow, veh/h	538	1118	1781	5274	5291	128
Grp Volume(v), veh/h	161	0	73	1629	1271	691
Grp Sat Flow(s),veh/h/ln	1666	0	1781	1702	1702	1846
Q Serve(g_s), s	8.3	0.0	4.9	24.1	37.1	37.1
Cycle Q Clear(g_c), s	8.3	0.0	4.9	24.1	37.1	37.1
Prop In Lane	0.32	0.67	1.00			0.07
Lane Grp Cap(c), veh/h	595	0	93	2921	1641	890
V/C Ratio(X)	0.27	0.00	0.78	0.56	0.77	0.78
Avail Cap(c_a), veh/h	595	0	163	3766	2085	1131
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	27.4	0.0	56.2	16.1	25.7	25.7
Incr Delay (d2), s/veh	1.1	0.0	10.6	0.1	1.4	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	2.4	8.7	14.5	16.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.6	0.0	66.8	16.3	27.1	28.4
LnGrp LOS	C	A	E	B	C	C
Approach Vol, veh/h	161			1702	1962	
Approach Delay, s/veh	28.6			18.4	27.6	
Approach LOS	C			B	C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	73.1	46.9	10.8	62.3
Change Period (Y+Rc), s	4.5	4.0	4.5	* 4.5
Max Green Setting (Gmax), s	88.5	23.0	11.0	* 74
Max Q Clear Time (g_c+I1), s	26.1	10.3	6.9	39.1
Green Ext Time (p_c), s	18.4	0.4	0.0	18.7

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

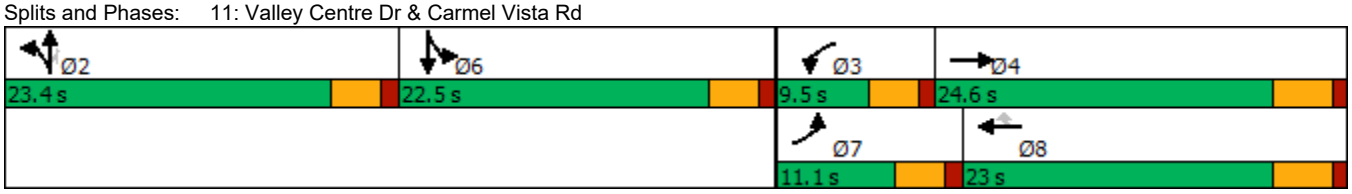
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	66	446	6	340	63	167	55	124	89	10
Future Volume (vph)	66	446	6	340	63	167	55	124	89	10
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8		2	2		6	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.1	24.6	9.5	23.0	23.0	23.4	23.4	23.4	22.5	22.5
Total Split (%)	13.9%	30.8%	11.9%	28.8%	28.8%	29.3%	29.3%	29.3%	28.1%	28.1%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	None	None
Act Effct Green (s)	7.1	17.1	5.9	12.9	12.9	20.9	20.9	20.9	9.8	9.8
Actuated g/C Ratio	0.12	0.29	0.10	0.22	0.22	0.35	0.35	0.35	0.16	0.16
v/c Ratio	0.34	0.49	0.04	0.48	0.16	0.20	0.20	0.21	0.33	0.13
Control Delay	34.7	20.5	32.3	25.0	1.9	20.8	20.7	5.8	28.3	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	20.5	32.3	25.0	1.9	20.8	20.7	5.8	28.3	14.2
LOS	C	C	C	C	A	C	C	A	C	B
Approach Delay		22.3		21.6			15.4			24.3
Approach LOS		C		C			B			C

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 59.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 20.6	Intersection LOS: C
Intersection Capacity Utilization 40.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Valley Centre Dr & Carmel Vista Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	446	16	6	340	63	167	55	124	89	10	26
Future Volume (veh/h)	66	446	16	6	340	63	167	55	124	89	10	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	485	17	7	370	68	121	145	135	97	11	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	780	27	16	604	269	658	691	586	150	39	100
Arrive On Green	0.06	0.22	0.22	0.01	0.17	0.17	0.37	0.37	0.37	0.08	0.08	0.08
Sat Flow, veh/h	1781	3503	123	1781	3554	1585	1781	1870	1585	1781	467	1189
Grp Volume(v), veh/h	72	246	256	7	370	68	121	145	135	97	0	39
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1585	1781	1870	1585	1781	0	1656
Q Serve(g_s), s	2.1	6.5	6.6	0.2	5.1	2.0	2.4	2.8	3.1	2.8	0.0	1.2
Cycle Q Clear(g_c), s	2.1	6.5	6.6	0.2	5.1	2.0	2.4	2.8	3.1	2.8	0.0	1.2
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	110	396	412	16	604	269	658	691	586	150	0	139
V/C Ratio(X)	0.65	0.62	0.62	0.43	0.61	0.25	0.18	0.21	0.23	0.65	0.00	0.28
Avail Cap(c_a), veh/h	241	681	708	187	1253	559	658	691	586	628	0	584
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	24.1	18.4	18.4	25.9	20.2	18.9	11.2	11.3	11.4	23.3	0.0	22.5
Incr Delay (d2), s/veh	6.4	1.6	1.5	16.4	1.0	0.5	0.6	0.7	0.9	4.7	0.0	1.1
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	1.0	2.5	2.6	0.2	1.9	0.7	0.9	1.1	1.0	1.3	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	20.0	20.0	42.3	21.2	19.4	11.8	12.0	12.3	27.9	0.0	23.6
LnGrp LOS	C	B	B	D	C	B	B	B	B	C	A	C
Approach Vol, veh/h		574			445			401			136	
Approach Delay, s/veh		21.3			21.2			12.0			26.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.4	4.5	16.2		8.4	7.2	13.4				
Change Period (Y+Rc), s		4.0	4.0	4.5		4.0	4.0	4.5				
Max Green Setting (Gmax), s		19.4	5.5	20.1		18.5	7.1	18.5				
Max Q Clear Time (g_c+I1), s		5.1	2.2	8.6		4.8	4.1	7.1				
Green Ext Time (p_c), s		1.4	0.0	2.1		0.3	0.0	1.9				

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

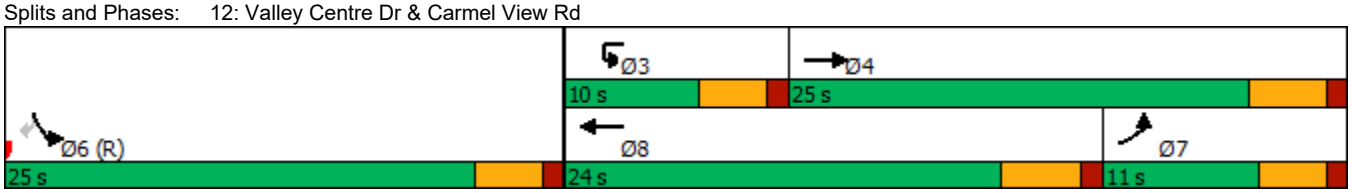
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	559	18	360	32	51
Future Volume (vph)	105	559	18	360	32	51
Turn Type	Prot	NA	Prot	NA	Prot	Perm
Protected Phases	7	4	3	8	6	
Permitted Phases						6
Detector Phase	7	4	3	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	22.5	9.5	22.5	22.5	22.5
Total Split (s)	11.0	25.0	10.0	24.0	25.0	25.0
Total Split (%)	18.3%	41.7%	16.7%	40.0%	41.7%	41.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Max	C-Max
Act Effct Green (s)	8.4	22.3	5.8	13.8	27.2	27.2
Actuated g/C Ratio	0.14	0.37	0.10	0.23	0.45	0.45
v/c Ratio	0.46	0.46	0.12	0.59	0.04	0.07
Control Delay	29.8	15.3	26.3	20.8	12.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	15.3	26.3	20.8	12.5	4.8
LOS	C	B	C	C	B	A
Approach Delay		17.6		21.1	7.8	
Approach LOS		B		C	A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 16 (27%), Referenced to phase 2: and 6:SBL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Valley Centre Dr & Carmel View Rd



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	105	559	18	360	91	32	51
Future Volume (veh/h)	105	559	18	360	91	32	51
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	114	608		391	99	35	55
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	146	1284		574	144	885	788
Arrive On Green	0.08	0.36		0.20	0.20	0.50	0.50
Sat Flow, veh/h	1781	3647		2901	703	1781	1585
Grp Volume(v), veh/h	114	608		246	244	35	55
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1734	1781	1585
Q Serve(g_s), s	3.8	7.9		7.7	7.8	0.6	1.1
Cycle Q Clear(g_c), s	3.8	7.9		7.7	7.8	0.6	1.1
Prop In Lane	1.00				0.41	1.00	1.00
Lane Grp Cap(c), veh/h	146	1284		363	354	885	788
V/C Ratio(X)	0.78	0.47		0.68	0.69	0.04	0.07
Avail Cap(c_a), veh/h	208	1284		577	563	885	788
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	14.8		22.0	22.1	7.7	7.9
Incr Delay (d2), s/veh	10.5	0.2		2.2	2.4	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.7		3.1	3.1	0.2	1.4
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	37.5	15.0		24.3	24.5	7.8	8.0
LnGrp LOS	D	B		C	C	A	A
Approach Vol, veh/h		722		490		90	
Approach Delay, s/veh		18.6		24.4		8.0	
Approach LOS		B		C		A	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	26.2	33.8	9.4	16.8
Change Period (Y+Rc), s	4.5	4.0	4.5	* 4.5
Max Green Setting (Gmax), s	20.5	21.0	7.0	* 20
Max Q Clear Time (g_c+I1), s	9.9	3.1	5.8	9.8
Green Ext Time (p_c), s	2.8	0.2	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX I

APPLICANT PROVIDED SITE PLAN AND PARKING ANALYSIS

Gensler
Architect
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Telephone: 619.557.2500
Facsimile: 619.557.2520

CARMEL VALLEY
CENTER DRIVE, LLC
7969 ENGINEER ROAD
Suite 108
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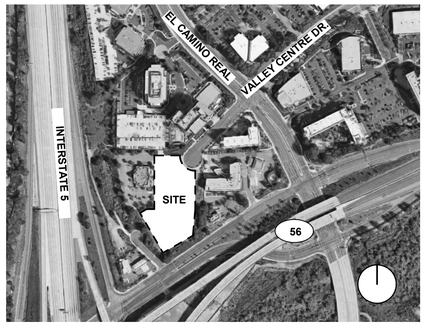
Telephone: 858.405.9846

COSTA AZUL CARMEL VALLEY

08/20/2018 SDP Submittal 4

3501 Valley Centre Dr.
San Diego, CA
92130

9/4/2018 3:22:10 PM



VICINITY MAP

OWNER

CARMEL VALLEY CENTRE DRIVE, LLC
7969 ENGINEER ROAD
SUITE 108
SAN DIEGO, CA 92111
PHONE: 858.405.9846
CONTACT: HUNTER OLIVER

ARCHITECT

GENSLER
225 BROADWAY
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SAN DIEGO, CA 92101
PHONE: 619-557-2500
FAX: 619-557-2520
CONTACT: DARREL FULLBRIGHT

CIVIL

BWE
9449 BALBOA AVE
SUITE 270
SAN DIEGO, CA 92123
PHONE: 619-299-5550
CONTACT: CARL FIORICA

LANDSCAPE

AHLES LANDSCAPE ARCHITECTURE
P.O. BOX 1503
RANCHO SANTA FE, CA 92067
PHONE: 858-756-8963
CONTACT: STEVE AHLES

TRAFFIC

TJW ENGINEERING
6 VENTURE, SUITE 265
IRVINE, CA 92618
PHONE: 949-878-3509
CONTACT: JEFF WECKSTEIN

PROJECT TEAM

__GENERAL	
G0.00	COVER
G0.01	PROJECT INFORMATION
ARCHITECTURE	
A0.50	SITE PLAN
A0.51	FIRE ACCESS PLAN
A2.01	PARKING STRUCTURE - FLOOR PLANS
A2.02	PARKING STRUCTURE - FLOOR PLANS
A2.03	OFFICE BLDG 1 - FLOOR & ROOF PLANS
A2.04	HOTEL BLDG 2 - FLOOR PLANS
A2.05	HOTEL BLDG 2 - FLOOR PLANS - ROOF
A4.01	OFFICE BLDG 1 - EXTERIOR ELEVATIONS
A4.02	OFFICE BLDG 1 - EXTERIOR ELEVATIONS
A4.03	HOTEL BLDG 2 - EXTERIOR ELEVATIONS
A4.04	HOTEL BLDG 2 - EXTERIOR ELEVATIONS
A5.01	SITE SECTIONS
A6.00	ULI PARKING CALCULATIONS
A6.01	ULI PARKING CALCULATIONS
A6.02	GENERAL NOTES - SAN DIEGO
CIVIL	
C1.0	EXISTING SITE CONDITIONS
C2.0	GRADING AND DRAINAGE PLAN
C3.0	SLOPE ANALYSIS
C4.0	WATER AND SEWER PLAN
LANDSCAPE	
L-1	TITLE SHEET, CITY CALCULATIONS, AND NOTES
L-2	PLANT LEGEND
L-3	LANDSCAPE DEVELOPMENT PLAN
L-4	WATER CONSERVATION PLAN

DRAWING INDEX

SCOPE OF WORK

CONSTRUCT 1 NEW COMMERCIAL OFFICE BUILDING (5 STORIES) AND 1 NEW HOTEL BUILDING (7 STORIES) WITH TWO LEVELS SUBTERRANEAN PARKING, ALSO INCLUDES SITE IMPROVEMENTS INCLUDING SURFACE PARKING, DRIVEWAYS, WALKWAYS, LANDSCAPING, GRADING, AND 565' LINEAR FEET OF RETAINING WALL. NO EXISTING STRUCTURES OR SITE IMPROVEMENTS EXIST ON THE SITE.

DEVELOPMENT SUMMARY

OVERALL SITE	133,534.7 SF
SITE WITHIN LIMIT OF WORK	133,534.7 SF
LANDSCAPE AREA	SEE LANDSCAPE
OFFICE BLDG 1 (5 STORIES @ 68' - 6" HEIGHT)	96,040 GSF
HOTEL BLDG. 2 (7 STORIES @ 76' - 0" HEIGHT)	77,652 GSF
PARKING GARAGE (2 LEVELS BELOW GRADE)	139,068 GSF
TOTAL (EXCLUDING PARKING STRUCTURE)	**= 173,692 GSF**
CV-1-1 MAXIMUM FAR: 2.0 *PARKING STRUCTURE IS EXCLUDED FROM FAR AS IT MEETS AT LEAST TWO OF THE FOLLOWING CRITERIA: 1. PER SEC 113.0234 (D)(3)(B)(I), THE PARKING STRUCTURE INCLUDES AT LEAST ONE SUBTERRANEAN FLOOR. 2. PER SEC 113.0234 (D)(3)(B)(III), THE PARKING STRUCTURE IS SCREENED FROM THE ADJACENT PUBLIC RIGHT OF WAY.	1.3 FAR

ACCESSORY SUMMARY

RESTAURANT (INSIDE OFFICE BLDG)	4,815 GSF
ROOFTOP ACCESSORY (INSIDE OFFICE BLDG)	3,840 GSF

ZONING SUMMARY

COASTAL OVERLAY ZONE		YES
GELOGICAL HAZARD CATEGORY		#52 & #31
	ALLOWABLE	PROPOSED
TYPE I-B		
B (N) OFFICE BLDG. 1	60'-0"	68'-6"
S-2 (N) PARKING STRUCTURE	60'-0"	BELOW GRADE
TYPE I-B		
R-1 (N) HOTEL BLDG. 2	60'-0"	76'-0"

PROJECT ADDRESS:

3515 VALLEY CENTRE DR.
SAN DIEGO, CA 92130

APN: 307-240-03, 307-240-04

LEGAL DESCRIPTION

LOTS 3 AND 4 OF PARDEE VISITOR CENTER, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 11479, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, APRIL 2, 1986.

ZONING CLASSIFICATION

CVPD-VC
CV-1-1

SETBACKS

FRONT = 10'
STREET SIDE = 10'
SIDE = 10'
REAR = 10'

CODE ANALYSIS (BASED ON 2016 C.B.C.)

	OFFICE BLDG 1	HOTEL BLDG 2	PARKING STRUCT
USE	COMMERCIAL OFFICE	HOTEL	PARKING GARAGE
OCCUPANCY	B	R-1	S-2
CONSTRUCTION TYPE	TYPE I - B	TYPE I - B	TYPE I - B
SPRINKLERS	YES	YES	YES
ALLOWABLE AREA			
BASE AREA (TABLE 506.2)	UL	UL	79,000
FRONTAGE INCREASE (PER 506.3) **			
SPRINKLER INCREASE (TABLE 506.2)			158000
TOTAL ALLOWABLE AREA	UL	UL	237,000
LARGEST PROPOSED AREA	97,565	77,652	139,068
ALLOWABLE STORIES			
NUMBER OF STORIES (TABLE 504.4)	11	11	11
SPRINKLER STORY INCREASE (TABLE 504.4)	1	1	1
TOTAL ALLOWABLE STORIES	12	12	12
PROPOSED STORIES	4	7	BELOW GRADE
BUILDING HEIGHT			
BASE HEIGHT (TABLE 504.3)	180'-0"	180'-0"	160'-0"
SPRINKLER INCREASE (TABLE 504.3) *	20'-0"	20'-0"	20'-0"
TOTAL ALLOWABLE HEIGHT	180'-0"	180'-0"	180'-0"
MAXIMUM PROPOSED HEIGHT	68'-6"	76'-0"	BELOW GRADE
BUILDING ELEMENTS - FIRE RATING (HOURS) (PER TABLE 601)			
PRIMARY STRUCTURAL FRAME	2	2	2
BEARING WALLS EXTERIOR	2	2	2
BEARING WALLS INTERIOR	2	2	2
NON-BEARING WALLS EXTERIOR	0	0	0
NON-BEARING WALLS INTERIOR	0	0	0
FLOOR CONSTRUCTION	2	2	2
ROOF CONSTRUCTION	1	1	1
SHAFT ENCLOSURES ***	1 TO 2	1 TO 2	1 TO 2
INTERIOR EXIT STAIRWAY AND RAMPS ****	1 TO 2	1 TO 2	1 TO 2
EXIT PASSAGEWAY *****	2	2	2

* SPRINKLER INCREASE NOT NEEDED
** FRONTAGE INCREASE NOT NEEDED
*** 2-HR WHEN CONNECTING 4 OR MORE STORIES (INCLUDING ELEVATORS PER SEC. 713.4)
**** 2-HR WHEN CONNECTING 4 OR MORE STORIES PER SEC. 1023.2
***** ENTIRE EXIT PASSAGEWAY SHALL MAINTAIN INTERIOR EXIT STAIRWAY RATING PER SEC. 1024.5

BUILDING CODE ANALYSIS

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△	Date	Description
	2017-09-28	SDP Submittal 1
	2018-04-02	SDP Submittal 2
	2018-07-02	SDP Submittal 3
	2018-08-20	SDP Submittal 4

Seal/Signature

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
PROJECT INFORMATION

Scale
As indicated

G0.01

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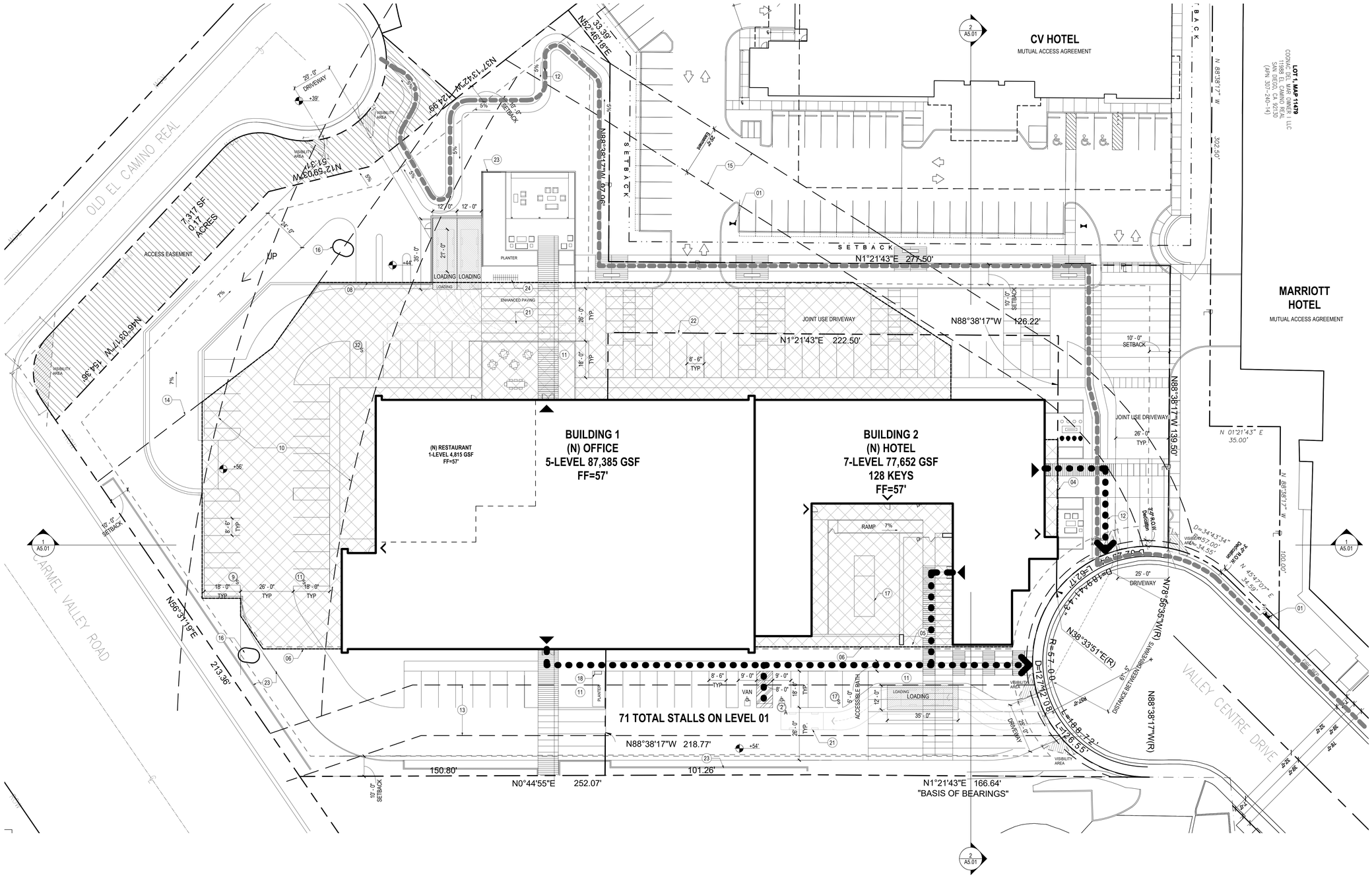


1 SITE PLAN

SCALE: 1" = 20'-0"

GENERAL NOTES

1. PROVIDE BUILDING ADDRESS NUMBERS, VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY PER FHPS POLICY P-00-6 (UFC 901.4.4)

2. PROJECT NOT ADJACENT TO TRANSIT STOPS

3. EVERY BUILDING FOUR STORIES OR MORE IN HEIGHT SHALL BE PROVIDED WITH NOT LESS THAN ONE STANDPIPE FOR USE DURING CONSTRUCTION INSTALLED IN ACCORDANCE WITH CFC 3313.1. STANDPIPE SHALL BE INSTALLED WHEN THE PROGRESS OF CONSTRUCTION IS NOT MORE THAN 40 FEET IN HEIGHT ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS. CFC 3313.1

4. 1.7 MILES TO NEAREST TRANSIT STOP: N TORREY PINES & STATE BEACH

5. NO VEGETATION, OTHER THAN TREES, IN THESE AREAS WILL EXCEED 24 INCHES IN HEIGHT IN VISIBILITY AREAS.

6. SEE A2.01 FOR FURTHER INFORMATION ON TYPICAL PARKING STALL DIMENSIONS

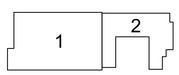
LEGEND

- PROPERTY LINE
- SETBACK
- ACCESIBLE PATH OF TRAVEL
- PEDESTRIAN & BICYCLE PATH 8'-0" WIDE
- ACCESS EASEMENT AGREEMENT, PARKING CIRCULATION & LANDSCAPE
- GARAGE BELOW
- INTERNATIONAL SYMBOL OF ACCESSIBILITY
- 1.0% CROSS SLOPE
- L.S. LANDSCAPE AREA
- PRIMARY BUILDING EXIT
- SCONDARY BUILDING EXIT
- +XX' SPOT ELEVATION, SEE CIVIL
- # NUMBER OF STALLS IN RUN
  - TYPE
    - S=STANDARD
    - A=ACCESSIBLE
    - M=MOTORCYCLE
    - C=CLEAN-AIR / VANPOOL
    - BL=BIKE LOCKER

KEYNOTES

01 (E) FIRE HYDRANT TO REMAIN
04 LINE OF BUILDING OVERHANG ABOVE, TYP.
05 LINE OF ENTRY CANOPY ABOVE, TYP.
06 LINE OF GARAGE BELOW, TYP.
08 LINE OF GUARDRAIL, VEHICLE BARRIER
10 LINE OF FUTURE FREEWAY CONNECTOR AERIEL EASEMENT PER CAL TRANS
11 PASSENGER DROP-OFF
12 PEDESTRIAN & BICYCLE PATHWAY
13 SDG&E EASEMENT, HIGH VOLTAGE UNDERGROUND CABLE
14 ENCROACHMENT AGREEMENT/WATER SEWER & DRAINAGE EASEMENT
15 (E) DRAINAGE EASEMENT PER MAP NO. 11479
16 FUTURE FREEWAY CONNECTOR COLUMN PLACEMENT
17 POOL ON RAISED POOL DECK
18 CARPOOL / RIDE-SHARING INFORMATION KIOSK
21 TRUCK MANEUVERABILITY
22 INTERNAL LOT LINE, PER FORTHCOMING LOT TIE AGREEMENT
23 RETAINING WALL PER CIVIL
24 SHORT TERM BIKE STORAGE, 23

KEYPLAN



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Seal/Signature

LICENSED ARCHITECT JAMES K HARRISON 9/30/18 STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
SITE PLAN

Scale
1" = 20'-0"

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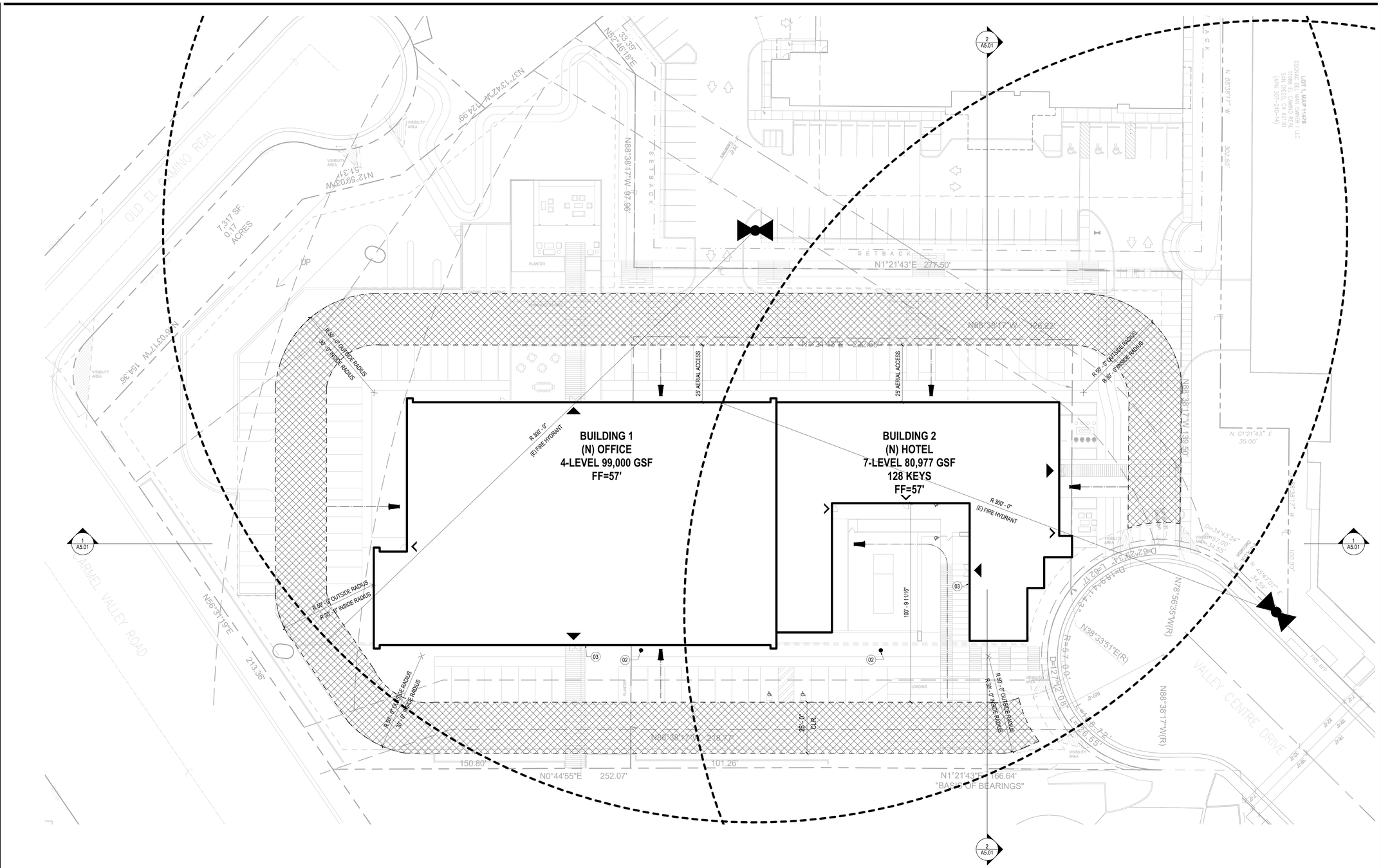


1 FIRE ACCESS PLAN

SCALE: 1" = 20'-0"

GENERAL NOTES

1. FIRE APPARATUS ACCESS ROADS AND WATER SUPPLIES FOR FIRE PROTECTION, SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING TIME OF CONSTRUCTION. CFC CH 33

2. ALL BUILDINGS AND SITES UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 33 OF THE CFC.

3. STRUCTURES UNDER CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE PROVIDED WITH NOT LESS THAN ONE APPROVED PORTABLE FIRE EXTINGUISHER IN ACCORDANCE WITH SECTION 906 AND SIZED FOR NOT LESS THAN ORDINARY HAZARD (2A10BC) A5 FOLLOWS.
   1. AT EACH STAIRWAY ON ALL FLOOR LEVELS WHERE COMBUSTIBLE MATERIALS HAVE ACCUMULATED.
   2. IN EVERY STORAGE AND CONSTRUCTION SHED.
   3. ADDITIONAL PORTABLE FIRE EXTINGUISHERS SHALL BE PROVIDED WHERE SPECIAL HAZARDS EXIST INCLUDING, BUT NOT LIMITED TO, THE STORAGE AND USE OF FLAMMABLE AND COMBUSTIBLE LIQUIDS

4. POST INDICATOR VALVES, FIRE DEPARTMENT CONNECTIONS, AND ALARM BELL ARE TO BE LOCATED ON THE ADDRESS/ACCESS SIDE OF STRUCTURES.

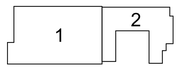
LEGEND

- PROPERTY LINE
- SETBACK
- HOSE PULLS
- FIRE HYDRANT SPACING
- FIRE LANE PER CITY STANDARDS FOR PAVING SECTIONS, ENTIRE FIRE LANE TO BE RED CURBED
- FIRE HYDRANT
- PRIMARY BLDG EXIT
- SECONDARY BLDG EXIT

KEYNOTES

02 FDC/PIV
03 KNOX BOX LOCATIONS PER FIRE DEPARTMENT POLICY K-12-2

KEYPLAN



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2018-08-20	SDP Submittal 4

Seal/Signature

LICENSED ARCHITECT JAMES K. HERSON 9/30/19 STATE OF CALIFORNIA NOT FOR CONSTRUCTION

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COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
FIRE ACCESS PLAN

Scale
1" = 20'-0"

A0.51

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REFUSE & RECYCLE

100,001+ GSF	REQUIRED	PROVIDED
REFUGE	334 SF	339 SF
RECYCLE	334 SF	339 SF
TOTAL	668 SF	678 SF
PER SDMC SECTION 142.0830, TABLE 142-08C		

OVERALL PARCEL PARKING TABULATION

	STANDARD	ACCESSIBLE	TOTAL	SUBTERRANEAN / STRUCT. PARKING SF / CAR TABULATION: TOTAL SF	SF/ CAR
P1 - SUBTERRANEAN	177	8	185	69,543 SF	376
P2 - SUBTERRANEAN	198	0	198	69,543 SF	351
SURFACE	69	2	71		
TOTAL	444	10	**454**	139,068 SF	306

REQUIRED PARKING — 454 PER ULI SHARED PARKING DEMANDS

PROVIDED PARKING — 454 STALLS / (169,852 GSF* / 1000) = **2.7**

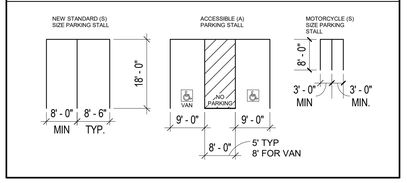
*Excludes Rooftop Accessory

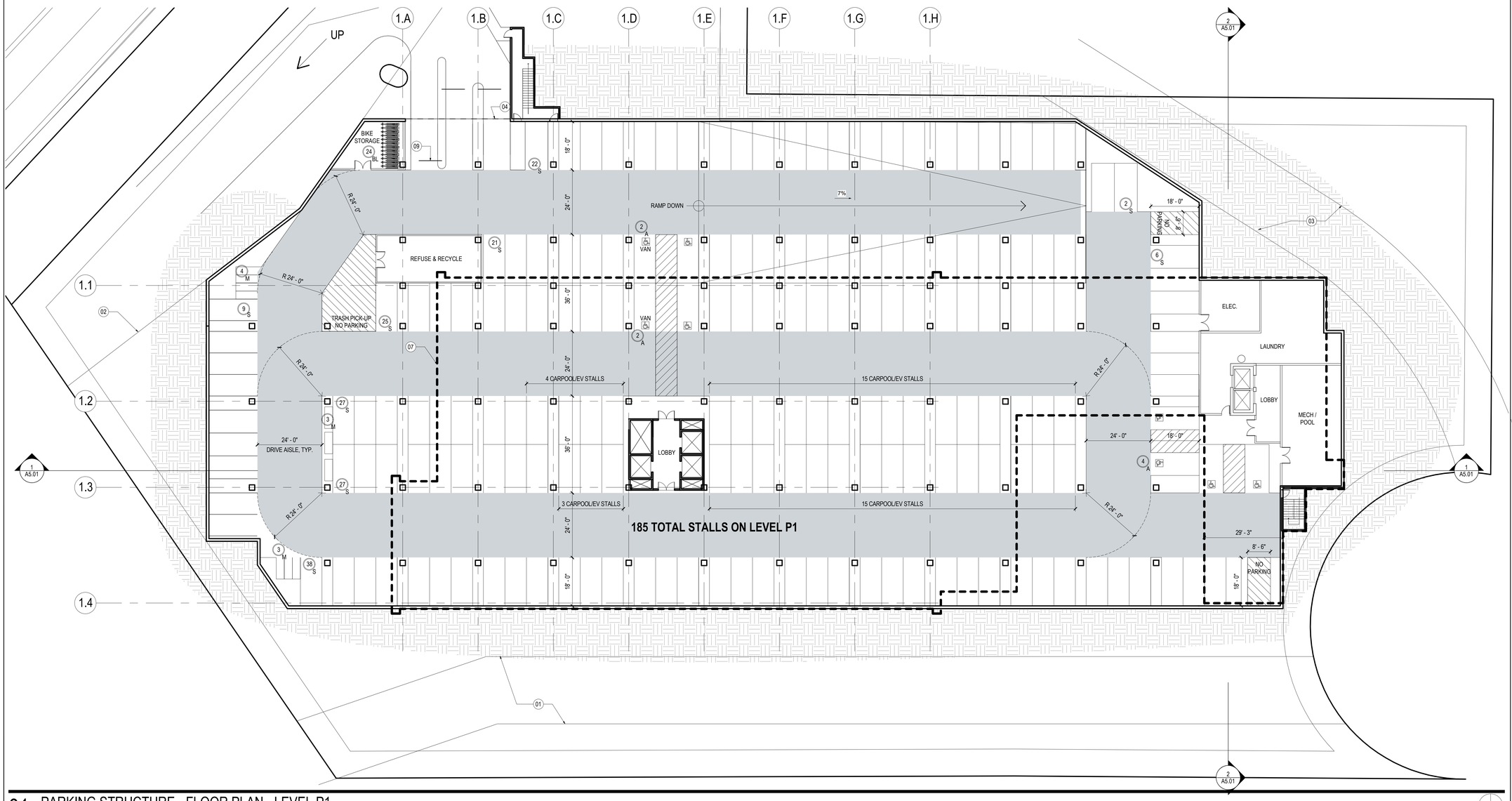
OVERALL PARKING RATIOS

TOTAL PARKING - 454 SPACES	REQUIRED	PROVIDED
ACCESSIBLE SPACES (401-500)	9	10
CARPOOL / EV SPACES (8%)	37	37
MOTORCYCLE SPACES (2%)	10	10
BIKE LOCKERS - SHORT-TERM (5%)	23	23
BIKE LOCKERS - LONG-TERM (5%)	23	23
OFFICE LOADING (0.1% / 10,000 SF)	1	1
HOTEL LOADING (0.25% / 10,000 SF)	2	2

***NOTE:** SEE SHEET A02.01 FOR BIKE STORAGE

TYP PARKING STALL DIMENSIONS





01 PARKING STRUCTURE - FLOOR PLAN - LEVEL P1

SCALE: 1/16" = 1'-0"

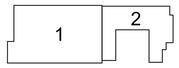
GENERAL NOTES

LEGEND

KEYNOTES

01 SDG&E EASEMENT. HIGH VOLTAGE UNDERGROUND CABLE
02 ENCROACHMENT AGREEMENT/WATER SEWER & DRAINAGE EASEMENT
03 (E) DRAINAGE EASEMENT PER MAP NO. 11479
04 SECURITY GATE
07 LINE OF BLDG ABOVE
09 AUTOMATIC GATE ARMS W/ ALL ASSOCIATED SENSOR LOOPS, TRANSPONDERS, ETC.

KEYPLAN



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2018-08-20	SDP Submittal 4

Seal/Signature

LICENSED ARCHITECT JAMES K. HERSEY C 26830 EXP. 9/30/19 STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
PARKING STRUCTURE - FLOOR PLANS

Scale
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REFUSE & RECYCLE

100,001+ GSF	REQUIRED	PROVIDED
REFUGE	334 SF	339 SF
RECYCLE	334 SF	339 SF
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PER SDMC SECTION 142.0830, TABLE 142-08C		

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	STANDARD	ACCESSIBLE	TOTAL	SUBTERRANEAN / STRUCT. PARKING SF / CAR TABULATION: TOTAL SF	SF/ CAR
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TOTAL	444	10	**454**	139,068 SF	306

REQUIRED PARKING — 454 PER ULI SHARED PARKING DEMANDS

PROVIDED PARKING — 454 STALLS / (169,852 GSF* / 1000) = **2.7**
*Excludes Rooftop Accessory

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TOTAL PARKING - 454 SPACES	REQUIRED	PROVIDED
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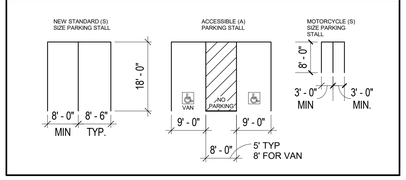
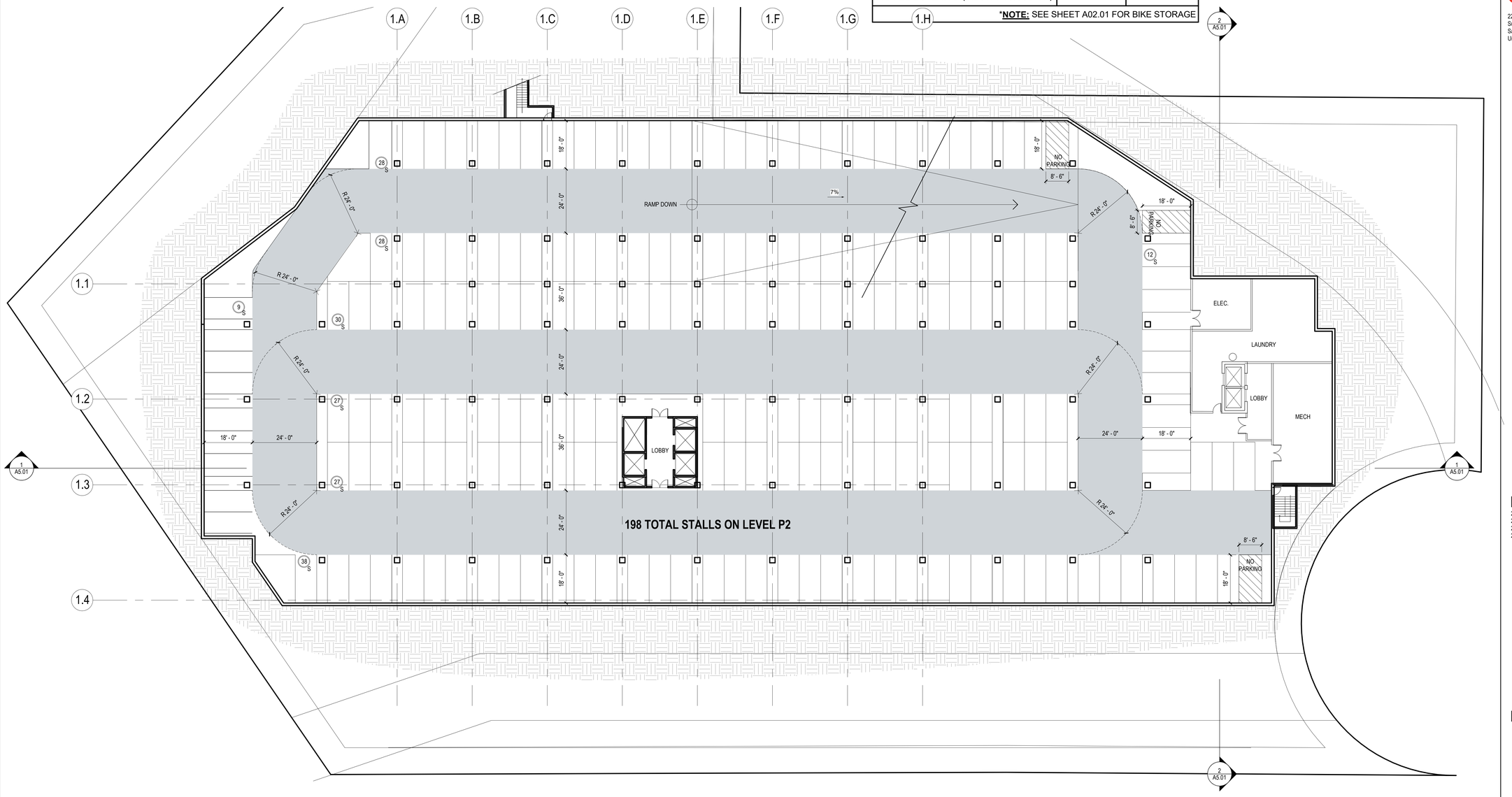
MOTORCYCLE SPACES (2%)	10	10
BIKE LOCKERS - SHORT-TERM (5%)	23	23
BIKE LOCKERS - LONG-TERM (5%)	23	23
OFFICE LOADING (0.1% / 10,000 SF)	1	1
HOTEL LOADING (0.25% / 10,000 SF)	2	2

*__NOTE:__ SEE SHEET A02.01 FOR BIKE STORAGE

TYP PARKING STALL DIMENSIONS





01 PARKING STRUCTURE - FLOOR PLAN - LEVEL P2

SCALE: 1/16" = 1'-0"

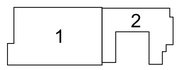
GENERAL NOTES

1. SEE A2.01 FOR TYPICAL NOTES.

LEGEND

KEYNOTES

KEYPLAN



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Seal/Signature

LICENSED ARCHITECT JAMES K. HARRISON 9/30/18 STATE OF CALIFORNIA
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Project Name
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Description
PARKING STRUCTURE - FLOOR PLANS

Scale
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A2.02

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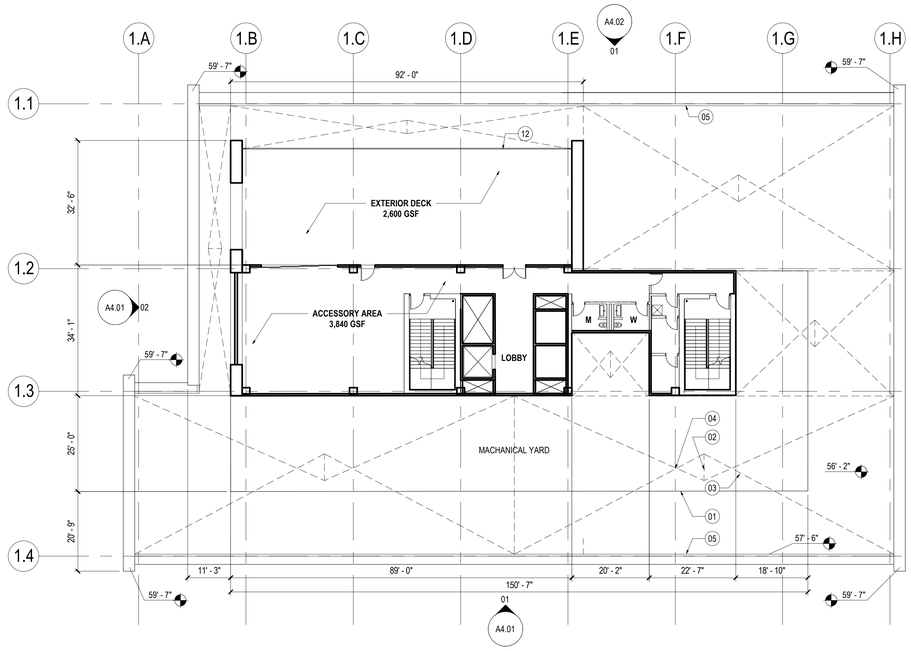
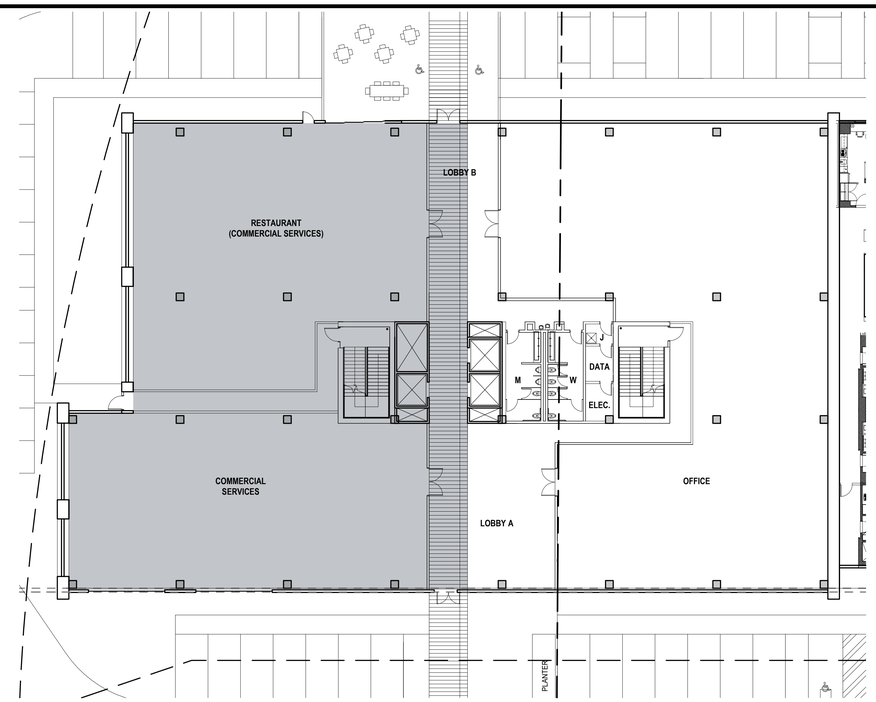
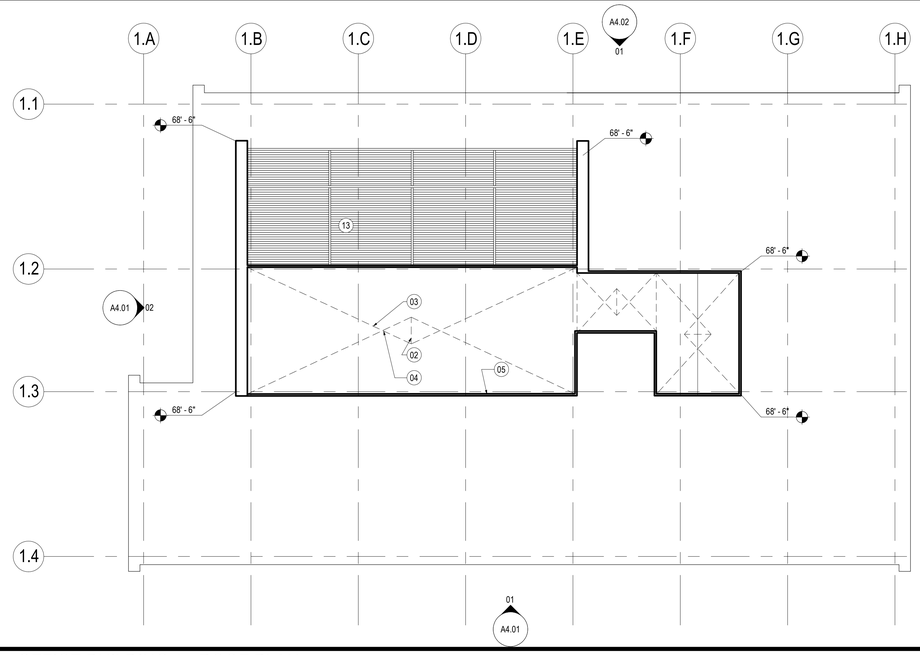


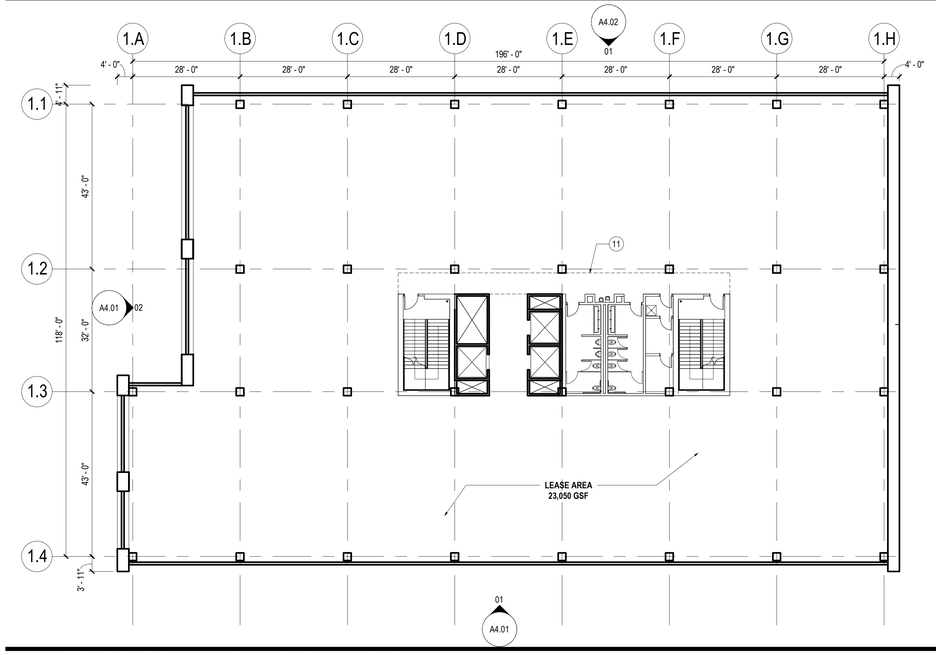
03 OFFICE BUILDING 1 - FLOOR PLAN - ACCESSORY LEVEL 05
SCALE: 1/16" = 1'-0"



01 OFFICE BUILDING 1 - FLOOR PLAN - LEVEL 01
SCALE: 1/16" = 1'-0"



4 OFFICE BUILDING 1 - ROOF PLAN
SCALE: 1/16" = 1'-0"



02 OFFICE BUILDING 1 - FLOOR PLAN - LEVEL 02 - 04
SCALE: 1/16" = 1'-0"

GENERAL NOTES

COMMERCIAL SERVICES TABULATION		
	GSF	%
COMMERCIAL SERVICES	11,525	50
OFFICE	11,525	50
LEVEL 01 TOTAL	23,050	100

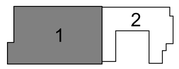
LEGEND

GSF OF COMMERCIAL SERVICES

KEYNOTES

01 MECHANICAL SCREEN
02 RIDGE, TYP.
03 VALLEY, TYP.
04 ROOF & OVERFLOW DRAIN, TYP.
05 PARAPET
11 FUTURE CORRIDOR
12 GUARDRAIL
13 TRELLIS

KEYPLAN



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2018-07-02	SDP Submittal 3
2018-08-20	SDP Submittal 4

Seal/Signature

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
OFFICE BLDG 1 - FLOOR & ROOF PLANS

Scale
As indicated

A2.03

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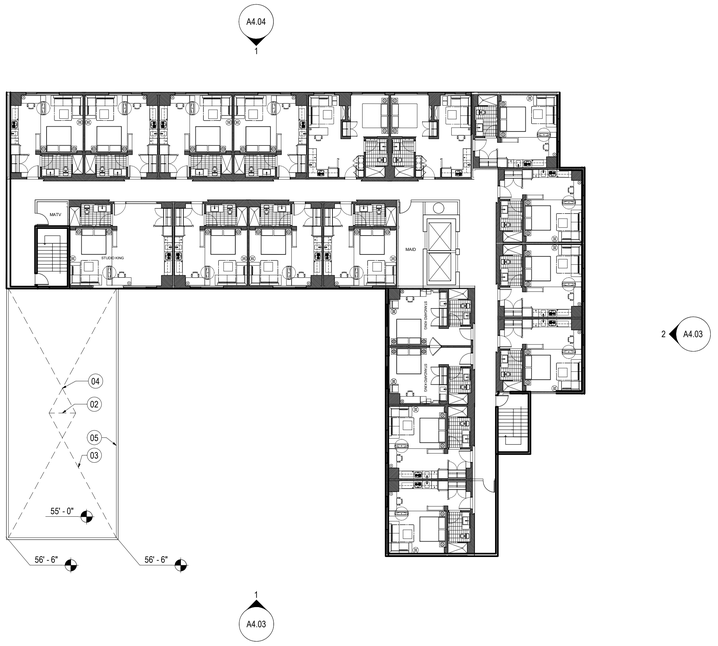
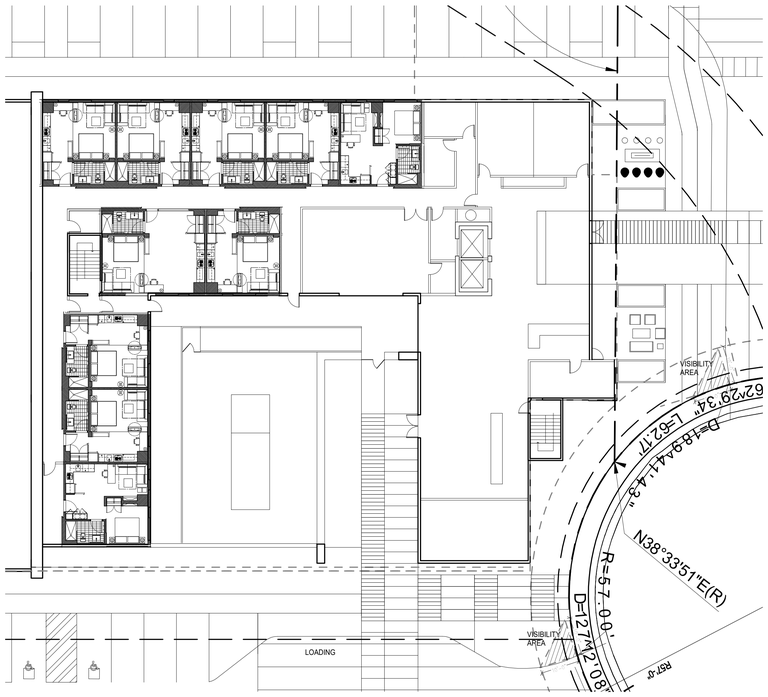
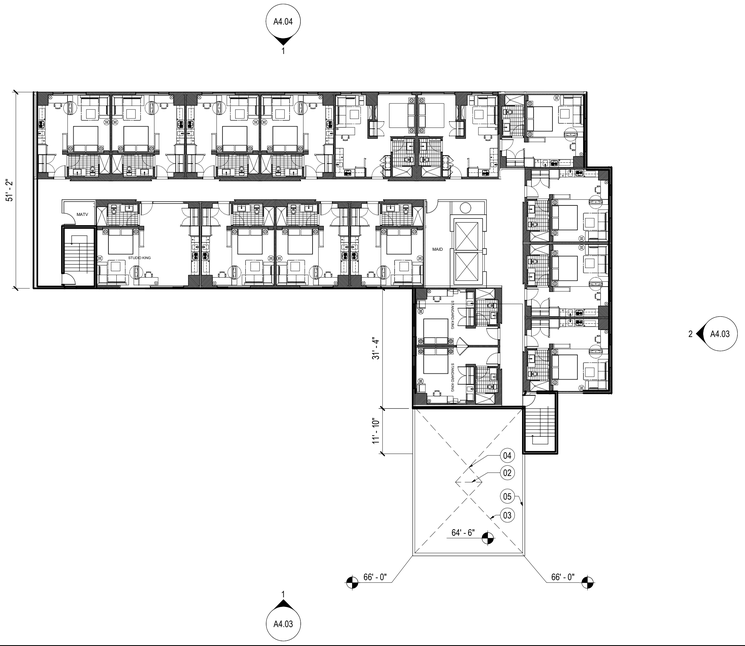


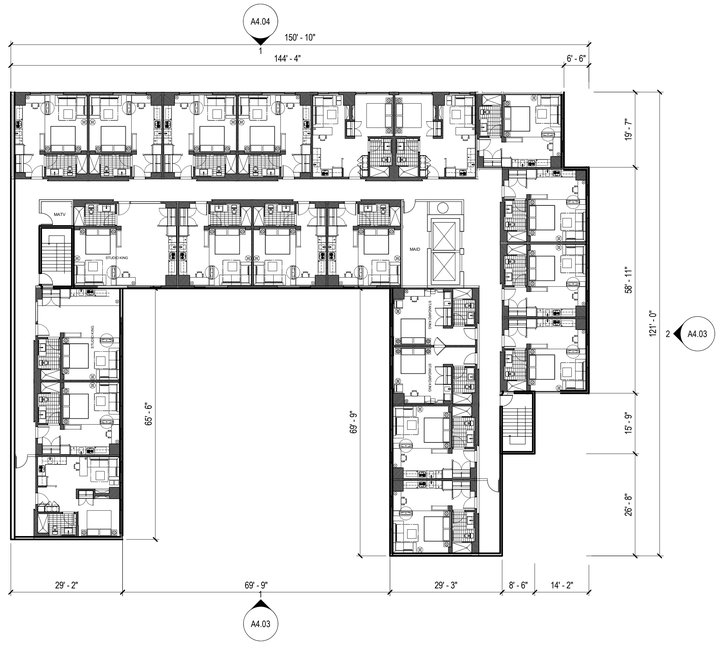
03 HOTEL BUILDING 2 - FLOOR PLAN - LEVEL 06
SCALE: 1/16" = 1'-0"



01 HOTEL BUILDING 2 - FLOOR PLAN - LEVEL 01
SCALE: 1/16" = 1'-0"



04 HOTEL BUILDING 2 - FLOOR PLAN - LEVEL 07
SCALE: 1/16" = 1'-0"



02 HOTEL BUILDING 2 - FLOOR PLAN - LEVEL 02 - 05
SCALE: 1/16" = 1'-0"

GENERAL NOTES

1. SEE 02/A2.04 FOR TYPICAL DIMENSIONS.

LEGEND

KEYNOTES

KEYPLAN

COSTA AZUL CARMEL VALLEY

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Date	Description
2017-09-28	SDP Submittal 1
2018-04-02	SDP Submittal 2
2018-07-02	SDP Submittal 3
2018-08-20	SDP Submittal 4

Seal/Signature

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
HOTEL BLDG 2 - FLOOR PLANS

Scale
As indicated

A2.04

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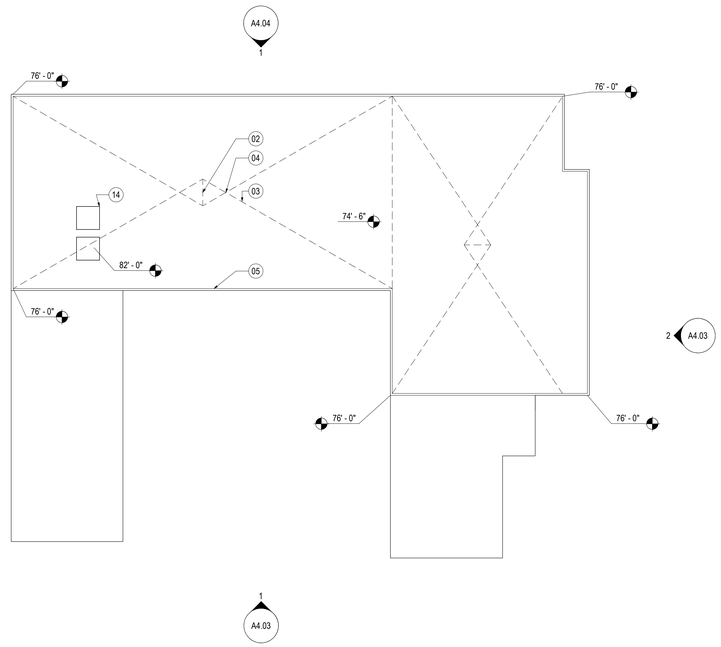

1 HOTEL BUILDING 2 - FLOOR PLAN - ROOF
SCALE: 1/16" = 1'-0"

GENERAL NOTES

1. SEE 02/A2.04 FOR TYPICAL DIMENSIONS.

LEGEND

KEYNOTES

02 RIDGE, TYP.
03 VALLEY, TYP.
04 ROOF & OVERFLOW DRAIN, TYP.
05 PARAPET
14 LOUVERED MECHANICAL EQUIPMENT

KEYPLAN

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Seal/Signature

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
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Description
HOTEL BLDG 2 - FLOOR PLANS - ROOF

Scale
As indicated

A2.05

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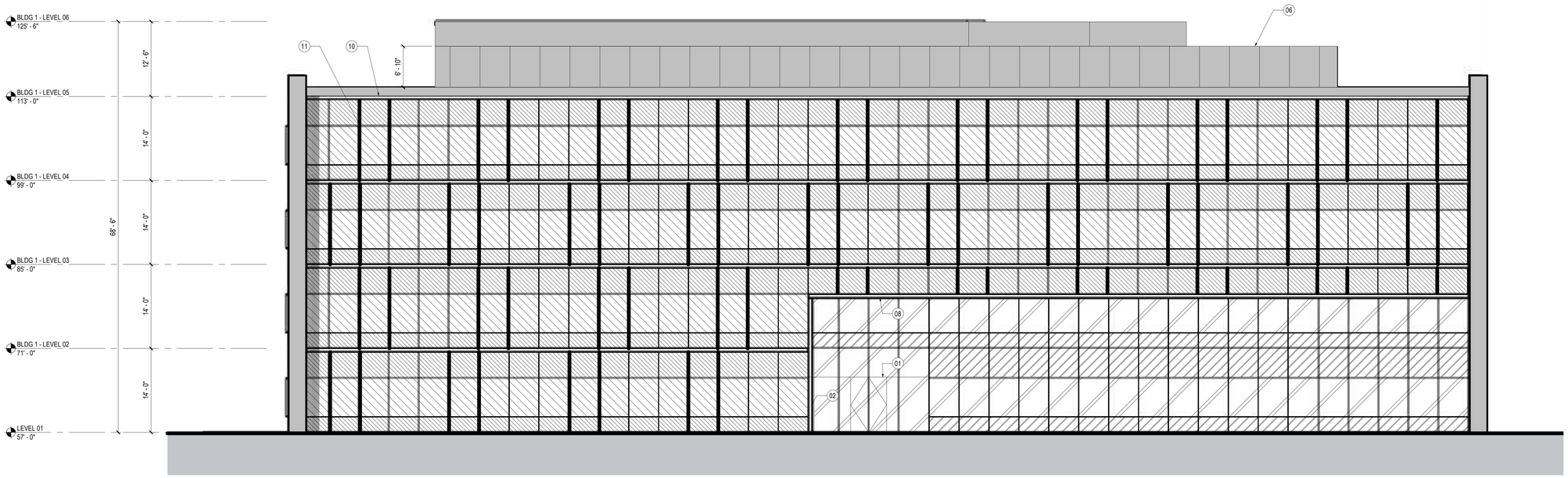
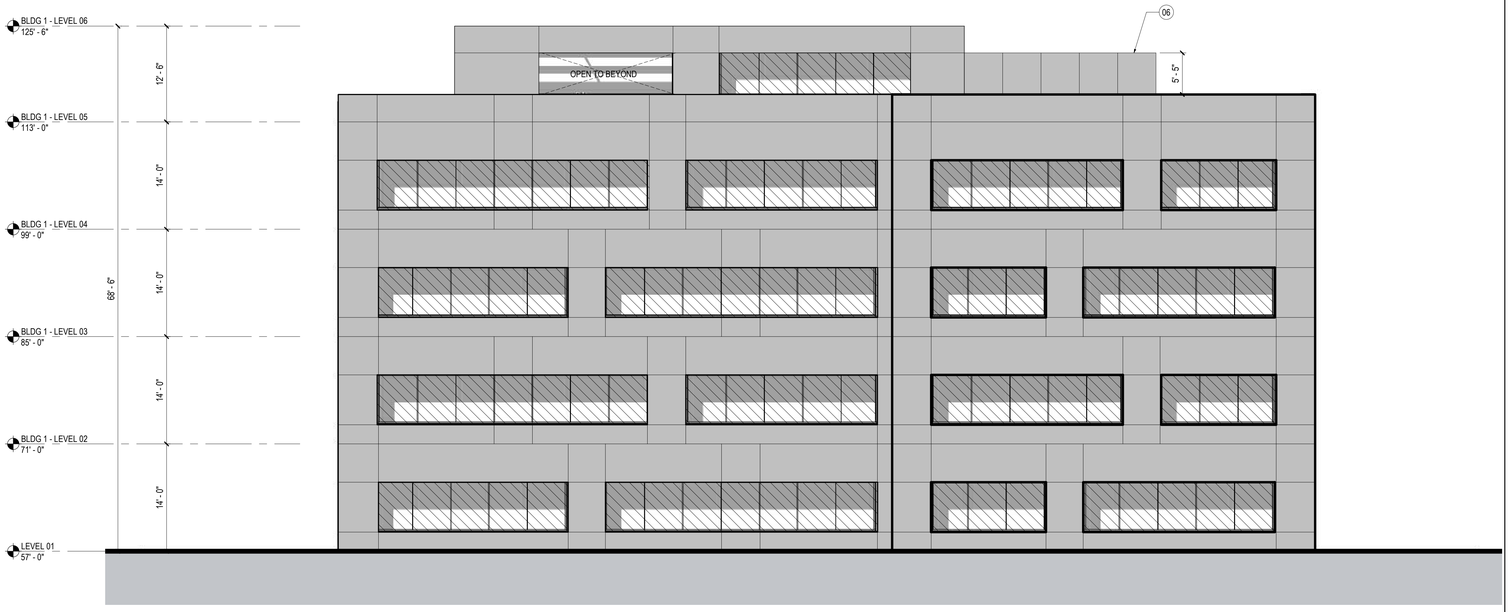


01 OFFICE BLDG 1 - EAST ELEVATION

SCALE: 1/8" = 1'-0"



02 OFFICE BLDG 1 - SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. SEE CIVIL FOR EXIST VS. PROPOSED GRADE

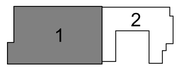
LEGEND

GL-1	1" INSULATED GLASS SOLARBAN Z75 OPTIBLUE
GL-1 BP	1" INSULATED GLASS SOLARBAN Z75 OPTIBLUE W/ BACKPAN
GL-2	1" INSULATED GLASS SOLARBAN 70XL
GL-2 BP	1" INSULATED GLASS SOLARBAN 70XL W/ BACK PAN
PL-2	PLASTER, GREY

KEYNOTES

01 FRAMLESS GLASS DOORS
02 KNOX BOX
06 MECHANICAL SCREEN, PAINTED TO MATCH PLASTER
08 CANOPY FEATURE
10 14" DEEP HORIZONTAL LOUVER, TYP.
11 12" DEEP VERTICAL LOUVER, TYP.

KEYPLAN



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2018-08-20	SDP Submittal 4

Seal/Signature

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
OFFICE BLDG 1 - EXTERIOR ELEVATIONS

Scale
As indicated

A4.01

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01 OFFICE BLDG 1 - WEST ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. SEE CIVIL FOR EXIST VS. PROPOSED GRADE

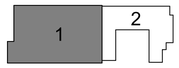
LEGEND

GL-1	1" INSULATED GLASS SOLARBAN Z75 OPTIBLUE
GL-1 BP	1" INSULATED GLASS SOLARBAN Z75 OPTIBLUE W/ BACKPAN
GL-2	1" INSULATED GLASS SOLARBAN 70XL
GL-2 BP	1" INSULATED GLASS SOLARBAN 70XL W/ BACK PAN
PL-2	PLASTER, GREY

KEYNOTES

10 14" DEEP HORIZONTAL LOUVER, TYP.
11 12" DEEP VERTICAL LOUVER, TYP.

KEYPLAN



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2018-07-02	SDP Submittal 3
2018-08-20	SDP Submittal 4

Seal/Signature

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
OFFICE BLDG 1 - EXTERIOR ELEVATIONS

Scale
As indicated

A4.02

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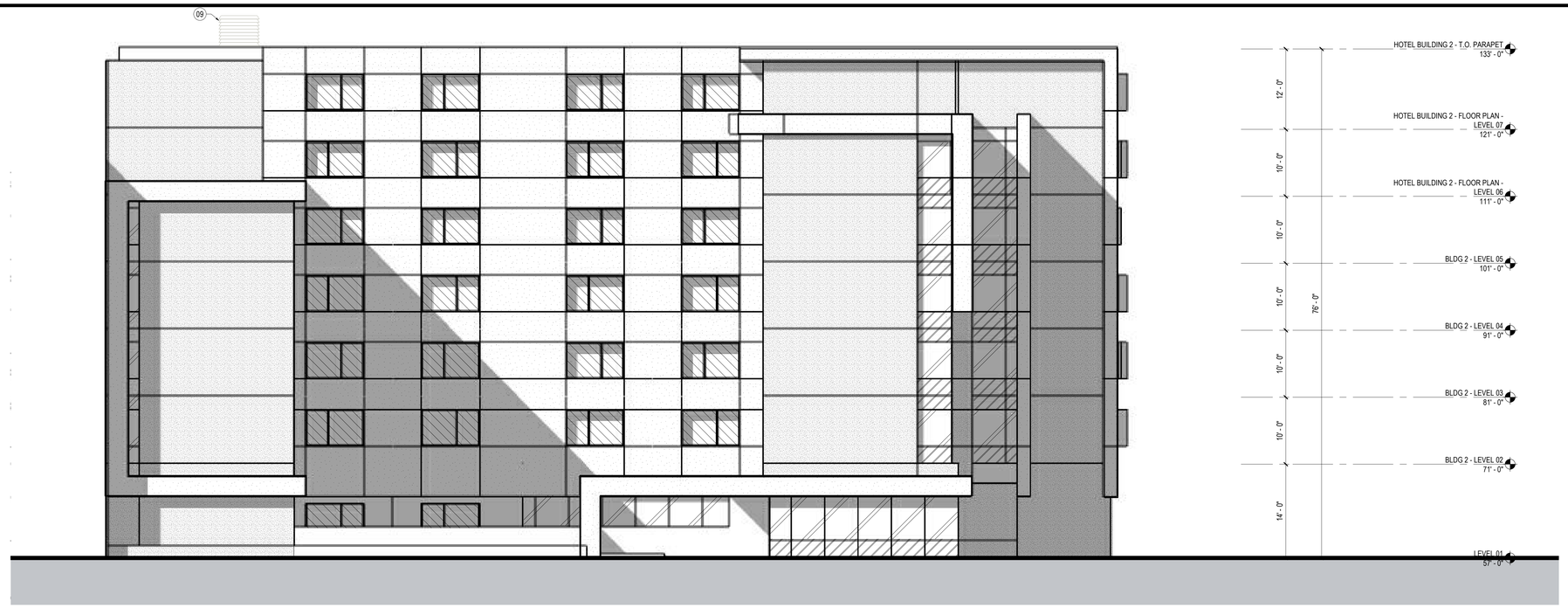
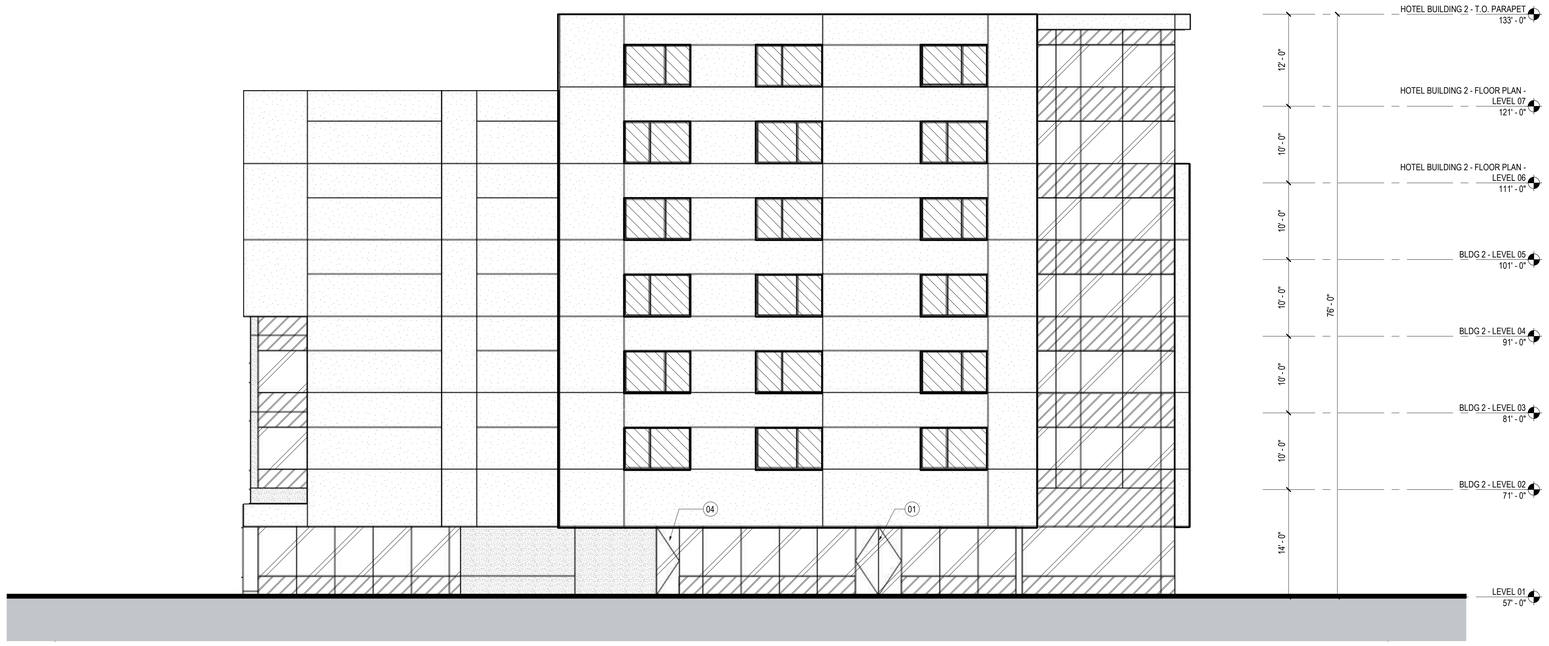


1 HOTEL BLDG 2 - EAST ELEVATION

SCALE: 1/8" = 1'-0"



2 HOTEL BLDG 2 - NORTH ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. SEE CIVIL FOR EXIST VS. PROPOSED GRADE

LEGEND

GL-1	1" INSULATED GLASS SOLARBAN Z75 OPTIBLUE	PL-1	WHITE PLASTER
GL-1 BP	1" INSULATED GLASS SOLARBAN Z75 OPTIBLUE W/ BACKPAN	PL-2	DARK GREY PLASTER
GL-2	1" INSULATED GLASS SOLARBAN 70XL		
GL-2 BP	1" INSULATED GLASS SOLARBAN 70XL W/ BACK PAN		

KEYNOTES

01 FRAMLESS GLASS DOORS
04 NARROW STILE EXIT DOOR
09 LOUVERED MECHANICAL EQUIPMENT

KEYPLAN

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2018-07-02	SDP Submittal 3
2018-08-20	SDP Submittal 4

Seal/Signature

Project Name
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Project Number
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Description
HOTEL BLDG 2 - EXTERIOR ELEVATIONS

Scale
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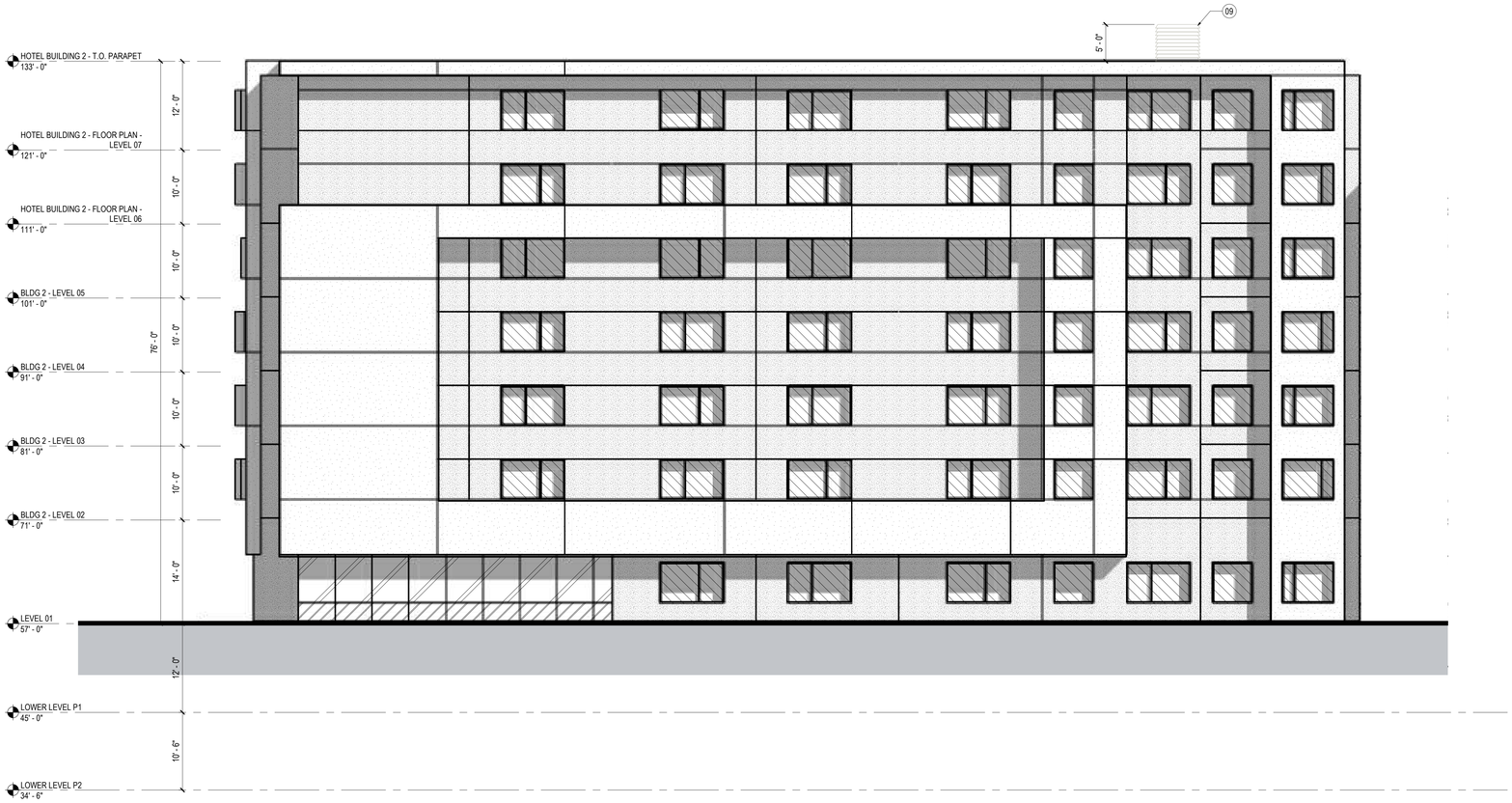


1 HOTEL BLDG 2 - WEST ELEVATION
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. SEE CIVIL FOR EXIST VS. PROPOSED GRADE

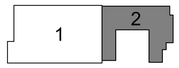
LEGEND

GL-1	1" INSULATED GLASS SOLARBAN Z75 OPTIBLUE	PL-1	WHITE PLASTER
GL-1 BP	1" INSULATED GLASS SOLARBAN Z75 OPTIBLUE W/ BACKPAN	PL-2	DARK GREY PLASTER
GL-2	1" INSULATED GLASS SOLARBAN 70XL		
GL-2 BP	1" INSULATED GLASS SOLARBAN 70XL W/ BACK PAN		

KEYNOTES

09 LOUVERED MECHANICAL EQUIPMENT

KEYPLAN



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Seal/Signature

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
HOTEL BLDG 2 - EXTERIOR ELEVATIONS

Scale
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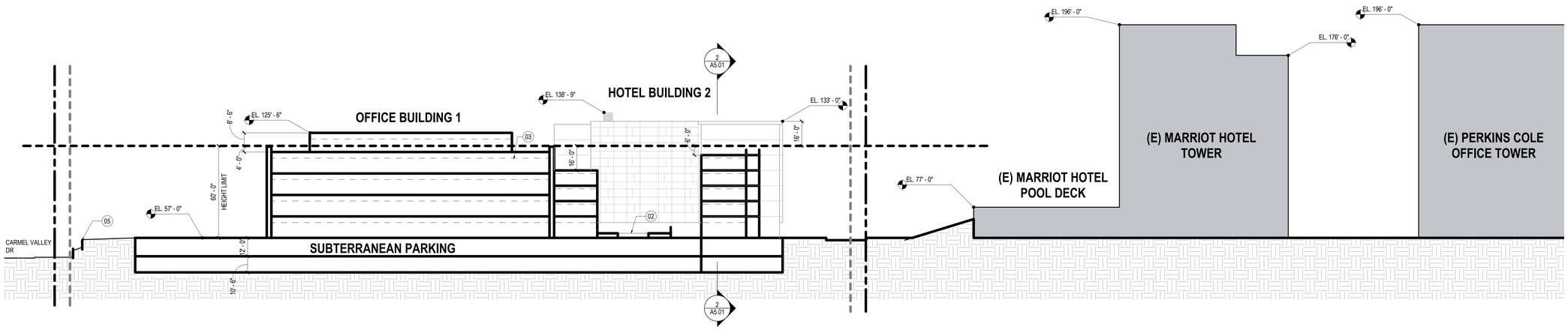
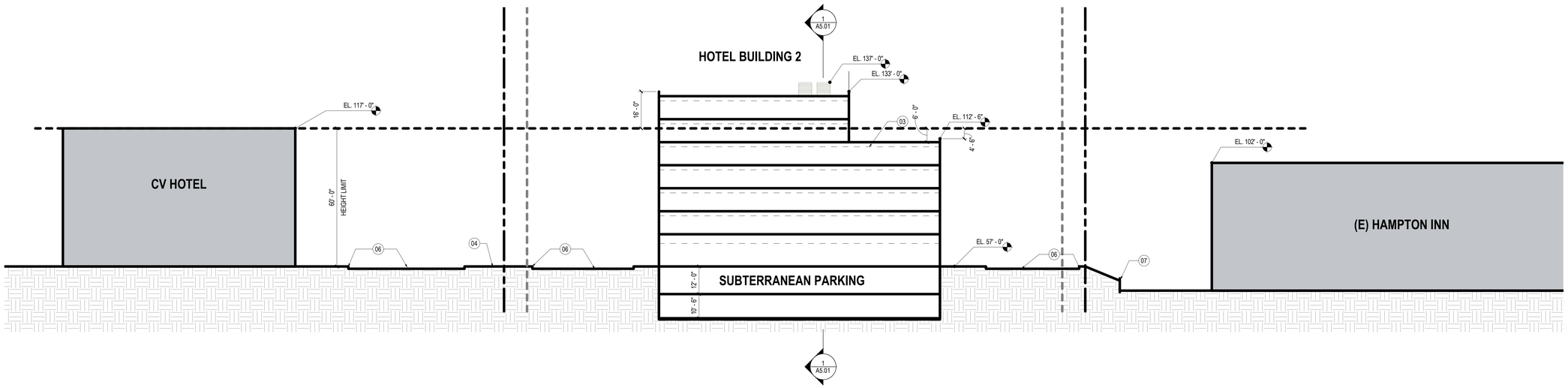


1 CONTEXT SECTION 1 - NORTH/SOUTH
SCALE: 1" = 30'-0"



2 CONTEXT SECTION 2 - EAST/WEST
SCALE: 1" = 20'-0"

GENERAL NOTES

1. SEE CIVIL FOR ADDITIONAL SITE INFORMATION

HEIGHT LIMIT TABULATION		
	GSF	%
ABOVE HEIGHT LIMIT	23,540	14
BELOW HEIGHT LIMIT	150,152	86
TOTAL	173,692 GSF	100

LEGEND

PROPERTY LINE

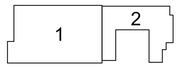
SETBACK

+XX' SPOT ELEVATION (MSL)

KEYNOTES

02 POOL
03 CEILING
04 PEDESTRIAN / BICYCLE PATH
05 WHERE OCCURS, SEE CIVIL
06 DRIVE AISLE
07 (E) RETAINING WALLS

KEYPLAN



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	2018-08-20	SDP Submittal 4

Seal/Signature

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
SITE SECTIONS

Scale
As indicated

A5.01

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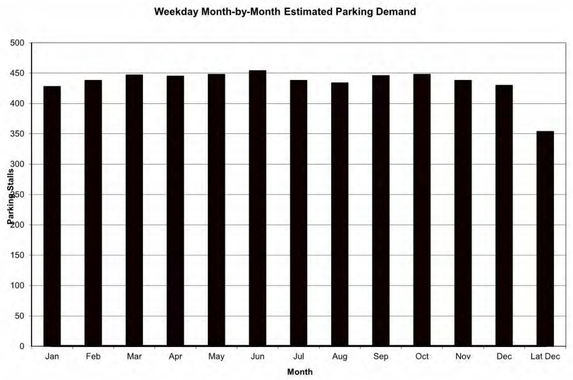

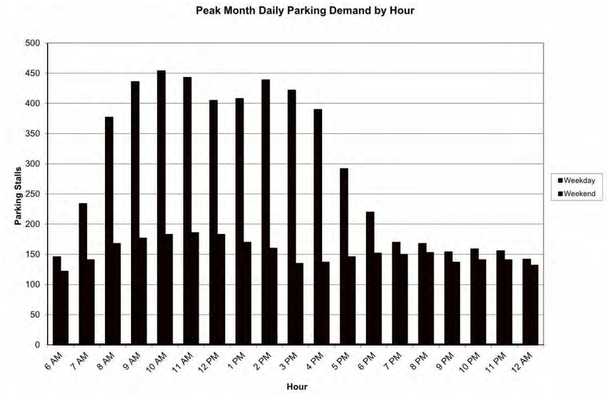

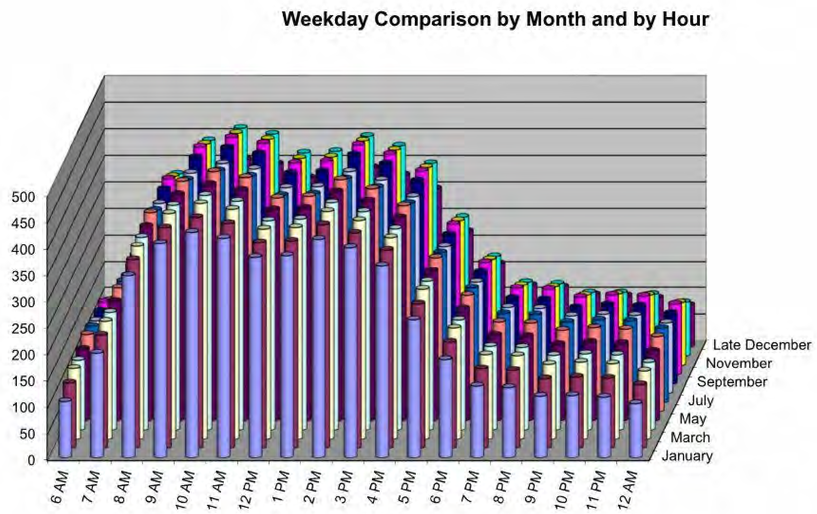

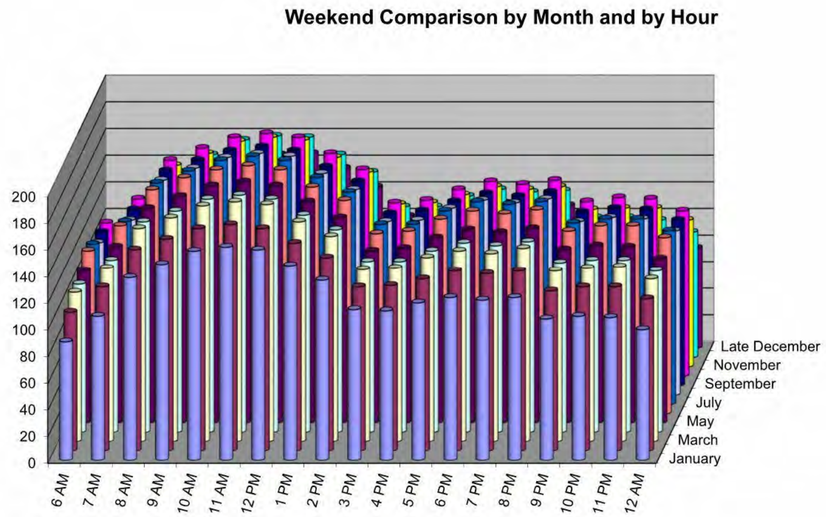

June
Weekday Estimated Peak-Hour Parking Demand

	Monthly Adj	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	Overall Pk 10 AM	AM Peak Hr 10 AM	PM Peak Hr 2 PM	Eve Peak Hr 6 PM	Footnote
Family Restaurant	95%	10	20	26	41	35	37	41	37	20	18	18	31	33	33	33	25	23	20	10	35	35	20	33	-
Employee	100%	4	5	6	6	7	7	7	7	7	5	5	7	7	7	7	6	5	5	2	7	7	7	7	-
Hotel-Business	100%	122	115	102	90	77	77	70	70	77	77	83	90	96	96	102	109	122	128	128	77	77	77	96	-
Employee	100%	2	10	29	29	32	32	32	32	32	32	29	22	13	6	6	6	6	3	2	32	32	32	13	-
Office 25 to 100 ksf	100%	-	-	5	14	23	10	3	10	23	10	3	2	1	-	-	-	-	-	-	23	23	23	1	-
Employee	100%	8	84	210	266	280	280	252	252	280	280	252	140	70	28	20	8	3	-	-	280	280	280	70	-
TOTAL DEMAND	Customer	132	135	132	135	135	124	114	117	120	105	104	123	130	129	135	134	145	148	138	135	135	120	130	
	Employee	14	99	245	301	319	319	291	291	319	317	286	169	90	41	33	20	14	8	4	319	319	319	90	
	Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		146	234	377	436	454	443	405	408	439	422	390	292	220	170	168	154	159	156	142	454	454	439	220	
																					454	454	439	220	

Footnote(s):

June
Weekend Estimated Peak-Hour Parking Demand

		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	Overall Pk 11 AM	AM Peak Hr 11 AM	PM Peak Hr 12 PM	Eve Peak Hr 8 PM	Footnote
Family Restaurant	95%	6	15	26	41	52	52	58	49	38	23	26	35	41	41	38	17	15	9	6	52	52	58	38	-
Employee	100%	6	8	10	10	11	11	11	11	11	8	8	10	10	10	10	9	7	7	4	11	11	11	10	-
Hotel-Business	100%	109	104	92	81	69	69	63	63	69	69	75	81	86	86	92	98	109	115	115	69	69	63	92	-
Employee	100%	1	7	21	21	23	23	23	23	23	23	21	17	14	13	13	13	10	10	7	23	23	23	13	-
Office 25 to 100 ksf	100%	-	1	2	2	3	3	3	2	2	1	1	-	-	-	-	-	-	-	-	3	3	3	-	-
Employee	100%	-	6	17	22	25	28	25	22	17	11	6	3	1	-	-	-	-	-	-	28	28	25	-	-
TOTAL DEMAND	Customer	115	120	120	124	124	124	124	114	109	93	102	116	127	127	130	115	124	124	121	124	124	124	130	
	Employee	7	21	48	53	59	62	59	56	51	42	35	30	25	23	23	22	17	17	11	62	62	59	23	
	Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		122	141	168	177	183	186	183	170	160	135	137	146	152	150	153	137	141	141	132	186	186	183	153	
																					186	186	183	153	

SHARED PARKING DEMAND SUMMARY

PEAK MONTH: JUNE -- PEAK PERIOD: 10 AM, WEEKDAY

			Weekday					Weekend					Weekday			Weekend		
Land Use	Project Data Quantity	Project Data Unit	Base Rate	Mode Adj	Non-Captive Ratio	Project Rate	Unit	Base Rate	Mode Adj	Non-Captive Ratio	Project Rate	Unit	Peak Hr Adj 10 AM	Peak Mo Adj June	Estimated Parking Demand	Peak Hr Adj 11 AM	Peak Mo Adj June	Estimated Parking Demand
Family Restaurant	4,815	sf GLA	9.00	1.00	1.00	9.00	/ksf GLA	12.75	1.00	1.00	12.75	/ksf GLA	0.85	0.95	35	0.90	0.95	52
Employee			1.50	1.00	1.00	1.50	/ksf GLA	2.25	1.00	1.00	2.25	/ksf GLA	1.00	1.00	7	1.00	1.00	11
Hotel-Business	128	rooms	1.00	1.00	1.00	1.00	/rooms	0.90	1.00	1.00	0.90	/rooms	0.60	1.00	77	0.60	1.00	69
Employee			0.25	1.00	1.00	0.25	/rooms	0.18	1.00	1.00	0.18	/rooms	1.00	1.00	32	1.00	1.00	23
Office 25 to 100 ksf	87,380	sf GLA	0.26	1.00	1.00	0.26	/ksf GLA	0.03	1.00	1.00	0.03	/ksf GLA	1.00	1.00	23	1.00	1.00	3
Employee			3.21	1.00	1.00	3.21	/ksf GLA	0.33	1.00	1.00	0.33	/ksf GLA	1.00	1.00	280	1.00	1.00	28
													Customer		135	Customer		124
													Employee		319	Employee		62
													Reserved		0	Reserved		0
													Total		454	Total		186

Shared Parking Reduction 15% 65%

COSTA AZUL
CARMEL VALLEY

CARMEL VALLEY CENTRE DRIVE, LLC
7969 ENGINEER ROAD
Suite 108
San Diego CA 92111
Telephone: 858.405.9846

Gensler

225 Broadway
Suite 100
San Diego, CA 92101
United States

Tel 619.557.2500
Fax 619.557.2520

Date	Description
2017-09-28	SDP Submittal 1
2018-04-02	SDP Submittal 2
2018-07-02	SDP Submittal 3
2018-08-20	SDP Submittal 4

Seal/Signature

LICENSED ARCHITECT
JAMES K. HUSBY
No. 26830
9/30/19
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
ULI PARKING CALCULATIONS

Scale

A6.00

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\\gensler.adf\Projects\Revit\Users\Models\23922\Architecture - 55.7604.000 - COSTA AZUL CENTAL_A18_David_Harrison2NHE.rvt

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Recommended Parking Ratios					
Spaces required per unit land use					
Land Use	Weekday		Weekend		Unit
	Visitor	Employee	Visitor	Employee	
Community Shopping Center (<400 ksf)	2.90	0.70	3.20	0.80	/ksf GLA
Regional Shopping Center (400 to 600 ksf)	Linear 2.9<x<3.2				/ksf GLA
Super Regional Shopping Center (>600 ksf)	3.20	0.80	3.60	0.90	/ksf GLA
Fine/Casual Dining Restaurant	15.25	2.75	17.00	3.00	/ksf GLA
Family Restaurant	9.00	1.50	12.75	2.25	/ksf GLA
Fast Food Restaurant	12.75	2.25	12.00	2.00	/ksf GLA
Nightclub	15.25	1.25	17.50	1.50	/ksf GLA
Cineplex	0.19	0.01	0.26	0.01	/seat
Performing Arts Theater	0.30	0.07	0.33	0.07	/seat
Arena	0.27	0.03	0.30	0.03	/seat
Pro Football Stadium	0.30	0.01	0.30	0.01	/seat
Pro Baseball Stadium	0.31	0.01	0.34	0.01	/seat
Health Club	6.60	0.40	5.50	0.25	/ksf GLA
Convention Center	5.50	0.50	5.50	0.50	/ksf GLA
Hotel-Business	1.00	0.25	0.90	0.18	/room
Hotel-Leisure	0.90	0.25	1.00	0.18	/room
Restaurant/Lounge	10.00		10.00		/ksf GLA
Conference Ctr/Banquet (20 to 50 sq ft/guest room)	30.00		30.00		/ksf GLA
Convention Space (>50 sq ft/guest room)	20.00		10.00		/ksf GLA
Residential, Rental, Shared Spaces *	0.15	1.50	0.15	1.50	/unit
Residential, Owned, Shared Spaces *	0.15	1.7	0.15	1.7	/unit
Office <25 ksf	0.30	3.5	0.03	0.35	/unit
Office 25 to 100 ksf	Linear 0.3<x<0.25				/ksf GLA
Office 100 to 500 ksf	Linear 0.25<x<0.2				/ksf GLA
Office >500 ksf	0.20	2.60	0.02	0.26	/ksf GLA
Data Processing Office	0.25	5.75	0.03	0.58	/ksf GLA
Medical/Dental Office	3.00	1.50	3.00	1.50	/ksf GLA
Bank (Branch) with Drive-In	3.00	1.60	3.00	1.60	/ksf GLA

* 1.0 space reserved for residents' sole use; remainder may be shared.

ksf = thousand square feet

Projected Parking Supply:			Max Parking Spaces		Mode Adjustment				Noncaptive Ratio			
					Weekday		Weekend		Weekday		Weekend	
Land Use	Quantity		Weekday	Weekend	Daytime	Evening	Daytime	Evening	Daytime	Evening	Daytime	Evening
Community Shopping Center (<400 ksf)		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Regional Shopping Center (400 to 600 ksf)		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Super Regional Shopping Center (>600 ksf)		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Fine/Casual Dining Restaurant	0	sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Family Restaurant	4,815	sf GLA	43	61	100%	100%	100%	100%	100%	100%	100%	100%
Employee			7	11	100%	100%	100%	100%	100%	100%	100%	100%
Fast Food Restaurant	0	sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Nightclub		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Cineplex		seats	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Performing Arts Theater		seats	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Arena		seats	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Pro Football Stadium		seats	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Pro Baseball Stadium		seats	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Health Club		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Convention Center		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Hotel-Business	128	rooms	128	115	100%	100%	100%	100%	100%	100%	100%	100%
Hotel-Leisure	0	rooms	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Restaurant/Lounge	0	sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Conference Ctr/Banquet (20 to 50 sq ft/guest room)	0	sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Convention Space (>50 sq ft/guest room)	0	sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee	-		32	23	100%	100%	100%	100%	100%	100%	100%	100%
Residential, Rental, Shared Spaces		units	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Reserved	1	sp/unit	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Guest		units	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Residential, Owned, Shared Spaces		units	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Reserved	1	sp/unit	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Guest		units	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Office <25 ksf		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Office 25 to 100 ksf	87,365	sf GLA	23	3	100%	100%	100%	100%	100%	100%	100%	100%
Employee			280	26	100%	100%	100%	100%	100%	100%	100%	100%
Office 100 to 500 ksf		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Office >500 ksf		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Data Processing Office		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Medical/Dental Office		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Bank (Branch) with Drive-In		sf GLA	0	0	100%	100%	100%	100%	100%	100%	100%	100%
Employee			0	0	100%	100%	100%	100%	100%	100%	100%	100%
Subtotal Customer/Guest Spaces			194	179								
Subtotal Employee/Resident Spaces			319	62								
Subtotal Reserved Spaces			0	0								
Total Parking Spaces			513	241								

Community Shopping Center (<400 ksf)	2.9	0.7	3.2	0.8
Regional Shopping Center (400 to 600 ksf)	Linear 3.2<x<2.9			
Super Regional Shopping Center (>600 ksf)	3.2	0.8	3.6	0.9
Fine/Casual Dining Restaurant	15.25	2.75	17	3
Family Restaurant	9	1.5	12.75	2.25
Fast Food Restaurant	12.75	2.25	12	2
Nightclub	15.25	1.25	17.5	1.5
Cineplex	0.19	0.01	0.26	0.01
Performing Arts Theater	0.3	0.07	0.33	0.07
Arena	0.27	0.03	0.3	0.03
Pro Football Stadium	0.3	0.01	0.3	0.01
Pro Baseball Stadium	0.306	0.01	0.34	0.01
Health Club	6.6	0.4	5.5	0.25
Convention Center	5.5	0.5	5.5	0.5
Hotel-Business	1	0.253846	0.9	0.18
Hotel-Leisure	0.9	0.2475	1	0.18
Restaurant/Lounge	10		10	
Conference Ctr/Banquet (20 to 50 sq ft/guest room)	30		30	
Convention Space (>50 sq ft/guest room)	20		10	
Residential, Rental, Shared Spaces *	0.15	1.5	0.15	1.5
Residential, Owned, Shared Spaces *	0.15	1.7	0.15	1.7
Office <25 ksf	0.3	3.5	0.03	0.35
Office 25 to 100 ksf	Linear 0.3<x<0.25			
Office 100 to 500 ksf	Linear 0.3<x<0.2			
Office >500 ksf	0.2	2.6	0.02	0.26
Data Processing Office	0.25	5.75	0.03	0.58
Medical/Dental Office	3	1.5	3	1.5
Bank (Branch) with Drive-In	3	1.6	3	1.6

0 0 0 0 0

Monthly Adjustments for Customer/Visitor Parking	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec
Shopping Center	56%	57%	64%	63%	66%	67%	64%	69%	64%	66%	72%	100%	80%
Restaurants	85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%
Fast Food Restaurant	85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%
Nightclub	84%	86%	98%	90%	90%	91%	94%	96%	92%	98%	96%	100%	95%
Cineplex Weekdays	27%	21%	20%	19%	27%	41%	55%	40%	15%	15%	25%	23%	100%
Cineplex Weekends	71%	59%	67%	58%	71%	82%	92%	75%	51%	62%	78%	67%	100%
Performing Arts Theater	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	100%	100%
Arena	90%	100%	100%	100%	100%	75%	0%	0%	60%	65%	90%	95%	95%
Pro Football Stadium	0%	0%	0%	0%	0%	0%	0%	67%	0%	0%	0%	100%	100%
Pro Baseball Stadium	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%
Health Club	100%	95%	85%	70%	65%	65%	65%	70%	80%	85%	85%	90%	95%
Convention Center	75%	100%	90%	55%	60%	50%	45%	75%	80%	85%	100%	60%	0%
Hotel-Business	71%	85%	91%	90%	92%	100%	98%	92%	93%	93%	81%	67%	50%
Hotel-Leisure	90%	100%	100%	100%	90%	90%	100%	100%	75%	75%	75%	50%	100%
Restaurant/Lounge	85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%
Conference Ctr/Banquet (20 to 50 sq ft/guest r	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Convention Space (>50 sq ft/guest room)	75%	100%	90%	55%	60%	50%	45%	75%	80%	85%	100%	60%	0%
Residential	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Office, Bank	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%

Monthly Adjustments for Employee/Resident Parking	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec
Shopping Center	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	90%	100%	90%
Restaurants	95%	95%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Fast Food Restaurant	95%	95%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Nightclub	90%	90%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Cineplex Weekdays	50%	50%	50%	50%	50%	75%	75%	75%	50%	50%	50%	50%	100%
Cineplex Weekends	80%	80%	80%	80%	80%	100%	100%	90%	80%	80%	80%	80%	100%
Performing Arts Theater	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Arena	100%	100%	100%	100%	100%	75%	10%	10%	75%	75%	100%	100%	100%
Pro Football Stadium	10%	10%	10%	10%	10%	10%	10%	100%	10%	10%	10%	100%	100%
Pro Baseball Stadium	10%	10%	10%	10%	100%	100%	100%	100%	100%	100%	10%	10%	10%
Health Club	100%	100%	95%	80%	75%	75%	75%	80%	90%	95%	95%	100%	100%
Convention Center	85%	100%	100%	65%	70%	60%	55%	85%	90%	95%	100%	70%	10%
Hotel	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Residential	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Office, Bank	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%

56%	57%	64%	63%	66%	67%	64%	69%	64%	66%	72%	100%	80%
85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%
85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%
84%	86%	98%	90%	90%	91%	94%	96%	92%	98%	96%	100%	95%
27%	21%	20%	19%	27%	41%	55%	40%	15%	15%	25%	23%	100%
71%	59%	67%	58%	71%	82%	92%	75%	51%	62%	78%	67%	100%
90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	100%	100%
90%	100%	100%	100%	100%	75%	0%	0%	60%	65%	90%	95%	95%
0%	0%	0%	0%	0%	0%	0%	67%	0%	0%	0%	100%	100%
0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%
100%	95%	85%	70%	65%	65%	65%	70%	80%	85%	85%	90%	95%
75%	100%	90%	55%	60%	50%	45%	75%	80%	85%	100%	60%	0%
71%	85%	91%	90%	92%	100%	98%	92%	93%	93%	81%	67%	50%
90%	100%	100%	100%	90%	90%	100%	100%	75%	75%	75%	50%	100%
85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
75%	100%	90%	55%	60%	50%	45%	75%	80%	85%	100%	60%	0%
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%

0 0 0 0 0 0 0 0 0 0 0 0 0 0

80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	90%	100%	90%
95%	95%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
95%	95%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
90%	90%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
50%	50%	50%	50%	50%	75%	75%	75%	50%	50%	50%	50%	100%
80%	80%	80%	80%	80%	100%	100%	90%	80%	80%	80%	80%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	75%	10%	10%	75%	75%	100%	100%	100%
10%	10%	10%	10%	10%	10%	10%	100%	10%	10%	10%	100%	100%
10%	10%	10%	10%	100%	100%	100%	100%	100%	100%	10%	10%	10%
100%	100%	95%	80%	75%	75%	75%	80%	90%	95%	95%	100%	100%
85%	100%	100%	65%	70%	60%	55%	85%	90%	95%	100%	70%	10%
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%

0 0 0 0 0 0 0 0 0 0 0 0 0 0

Time-of-Day Factors for Weekday Demand		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM
Shopping Center-Typical	Customer	1%	5%	15%	35%	65%	85%	95%	100%	95%	90%	90%	95%	95%	95%	80%	50%	30%	10%	0%
December	Customer	1%	5%	15%	30%	55%	75%	90%	100%	100%	100%	95%	85%	80%	75%	65%	50%	30%	10%	0%
Late December	Customer	1%	5%	10%	20%	40%	65%	90%	100%	100%	100%	95%	85%	70%	55%	40%	25%	15%	5%	0%
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	95%	95%	90%	75%	40%	15%	0%
Fine/Casual Dining Restaurant	Customer	0%	0%	0%	0%	15%	40%	75%	75%	65%	40%	50%	75%	95%	100%	100%	100%	95%	75%	25%
	Employee	0%	20%	50%	75%	90%	90%	90%	90%	90%	75%	75%	100%	100%	100%	100%	100%	100%	85%	35%
Family Restaurant	Customer	25%	50%	60%	75%	85%	90%	100%	90%	50%	45%	45%	75%	80%	80%	80%	60%	55%	50%	25%
	Employee	50%	75%	90%	90%	100%	100%	100%	100%	100%	75%	75%	95%	95%	95%	95%	80%	65%	65%	35%
Fast Food Restaurant	Customer	5%	10%	20%	30%	55%	85%	100%	100%	90%	60%	55%	60%	85%	80%	50%	30%	20%	10%	5%
	Employee	15%	20%	30%	40%	75%	100%	100%	100%	95%	70%	60%	70%	90%	90%	60%	40%	30%	20%	20%
Nightclub	Customer													25%	50%	75%	100%	100%	100%	100%
	Employee				5%	5%	5%	5%	10%	10%	10%	20%	45%	70%	100%	100%	100%	100%	100%	100%
Cineplex - Typical	Customer	0%	0%	0%	0%	0%	0%	20%	45%	55%	55%	55%	60%	60%	80%	100%	100%	80%	65%	40%
Late December	Customer	0%	0%	0%	0%	0%	0%	35%	60%	75%	80%	80%	80%	70%	80%	100%	100%	85%	70%	55%
	Employee	0%	0%	0%	0%	0%	0%	50%	60%	60%	75%	75%	100%	100%	100%	100%	100%	100%	70%	50%
Performing Arts Theater	Customer				1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	25%	100%	100%			
	Employee		10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	30%	10%	5%
Arena	Customer				1%	1%	1%	1%	1%	1%	1%	1%	1%	10%	25%	100%	100%	85%		
	Employee		10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	30%	10%	5%
Stadium - 6 PM Start	Customer				1%	1%	1%	5%	5%	5%	5%	5%	5%	10%	50%	100%	100%	85%	25%	
	Employee		10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	100%	25%	10%
Health Club	Customer	70%	40%	40%	70%	70%	80%	60%	70%	70%	70%	80%	90%	100%	90%	80%	70%	35%	10%	
	Employee	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	100%	100%	75%	50%	20%	20%	20%	
Convention Center	Customer			50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%			
	Employee	5%	30%	33%	33%	100%	100%	100%	100%	100%	100%	90%	70%	40%	25%	20%	20%	5%		
Hotel-Business	Guest	95%	90%	80%	70%	60%	60%	55%	55%	60%	60%	65%	70%	75%	75%	80%	85%	95%	100%	100%
Hotel-Leisure	Guest	95%	95%	90%	80%	70%	70%	65%	65%	70%	70%	75%	80%	85%	85%	90%	95%	95%	100%	100%
Restaurant/Lounge	Customer		10%	30%	10%	10%	5%	100%	100%	33%	10%	10%	30%	55%	60%	70%	67%	60%	40%	30%
Conference Ctr/Banquet (20 to 50 s	Customer			30%	60%	60%	60%	65%	65%	65%	65%	65%	100%	100%	100%	100%	100%	50%		
Convention Space (>50 sq ft/guest	Customer			50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%			
	Employee	5%	30%	90%	90%	100%	100%	100%	100%	100%	100%	90%	70%	40%	20%	20%	20%	20%	10%	5%
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	100%
	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Guest	0%	10%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%
Office	Visitor	0%	1%	20%	60%	100%	45%	15%	45%	100%	45%	15%	10%	5%	2%	1%	0%	0%	0%	0%
	Employee	3%	30%	75%	95%	100%	100%	90%	90%	100%	100%	90%	50%	25%	10%	7%	3%	1%		
Medical/Dental Office	Customer			90%	90%	100%	100%	30%	90%	100%	100%	90%	60%	67%	30%	15%				
	Employee			60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	67%	30%	15%				
Bank (Branch) with Drive-In	Customer	0%	0%	50%	90%	100%	50%	50%	50%	70%	50%	80%	100%							
	Employee	0%	0%	60%	100%	100%	100%	100%	100%	100%	100%	100%	100%							

Time-of-Day Factors for Weekend Demand		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM
Shopping Center-Typical	Customer	1%	5%	10%	30%	50%	65%	80%	90%	100%	100%	95%	90%	80%	75%	65%	50%	35%	15%	0%
December	Customer	1%	5%	10%	35%	60%	70%	85%	95%	100%	100%	95%	90%	80%	75%	65%	50%	35%	15%	0%
Late December	Customer	1%	5%	10%	20%	40%	60%	80%	95%	100%	100%	95%	85%	70%	60%	50%	30%	20%	10%	0%
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	85%	80%	75%	60%	45%	15%	0%
Fine/Casual Dining Restaurant	Customer	0%	0%	0%	0%	0%	15%	50%	55%	45%	45%	45%	60%	90%	95%	100%	90%	90%	90%	50%
	Employee	0%	20%	30%	60%	75%	75%	75%	75%	75%	75%	75%	100%	100%	100%	100%	100%	100%	85%	50%
Family Restaurant	Customer	10%	25%	45%	70%	90%	90%	100%	85%	65%	40%	45%	60%	70%	70%	65%	30%	25%	15%	10%
	Employee	50%	75%	90%	90%	100%	100%	100%	100%	100%	75%	75%	95%	95%	95%	95%	80%	65%	65%	35%
Fast Food Restaurant	Customer	5%	10%	20%	30%	55%	85%	100%	100%	90%	60%	55%	60%	85%	80%	50%	30%	20%	10%	5%
	Employee	15%	20%	30%	40%	75%	100%	100%	100%	95%	70%	60%	70%	90%	90%	60%	40%	30%	20%	20%
Nightclub	Customer													25%	50%	75%	100%	100%	100%	100%
	Employee				5%	5%	5%	5%	10%	10%	10%	20%	45%	70%	100%	100%	100%	100%	100%	100%
Cineplex - Typical	Customer	0%	0%	0%	0%	0%	0%	20%	45%	55%	55%	55%	60%	60%	80%	100%	100%	100%	80%	50%
Late December	Customer	0%	0%	0%	0%	0%	0%	35%	60%	75%	80%	80%	80%	70%	80%	100%	100%	100%	85%	70%
	Employee	0%	0%	0%	0%	0%	0%	50%	60%	60%	75%	75%	100%	100%	100%	100%	100%	100%	70%	50%
Performing Arts Theater	Customer				1%	1%	1%	1%	17%	67%	67%	1%	1%	1%	25%	100%	100%			
	Employee		10%	10%	20%	20%	20%	30%	100%	100%	100%	30%	30%	100%	100%	100%	100%	30%	10%	5%
Arena	Customer				1%	1%	1%	1%	25%	95%	95%	81%	1%	1%	25%	100%	100%			
	Employee		10%	10%	20%	20%	20%	30%	100%	100%	100%	100%	30%	100%	100%	100%	100%	30%	10%	5%
Stadium - 1 PM Start; see	Customer			1%	1%	5%	5%	50%	100%	100%	85%	20%	0%							
weekday for evening start	Employee		5%	10%	20%	30%	30%	100%	100%	100%	100%	25%	10%	5%	5%					
Health Club	Customer	80%	45%	35%	50%	35%	50%	50%	30%	25%	30%	55%	100%	95%	60%	30%	10%	1%	1%	
	Employee	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	75%	100%	100%	75%	50%	20%	20%	20%	
Convention Center	Customer			50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%			
	Employee	5%	30%	33%	33%	100%	100%	100%	100%	100%	100%	90%	70%	40%	25%	20%	20%	5%		
Hotel-Business	Guest	95%	90%	80%	70%	60%	60%	55%	55%	60%	60%	65%	70%	75%	75%	80%	85%	95%	100%	100%
Hotel-Leisure	Guest	95%	95%	90%	80%	70%	70%	65%	65%	70%	70%	75%	80%	85%	85%	90%	95%	95%	100%	100%
Restaurant/Lounge	Customer		10%	30%	10%	10%	5%	100%	100%	33%	10%	10%	30%	55%	60%	70%	67%	60%	40%	30%
Conference Ctr/Banquet (20 to 50 s	Customer			30%	60%	60%	60%	65%	65%	65%	65%	65%	100%	100%	100%	100%	100%	50%		
Convention Space (>50 sq ft/guest	Customer			50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%			
	Employee	5%	30%	90%	90%	100%	100%	100%	100%	100%	100%	90%	75%	60%	55%	55%	55%	45%	45%	30%
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	100%
	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Guest		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%
Office	Visitor	0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%
	Employee	0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%
Medical/Dental Office	Customer	0%	0%	90%	90%	100%	100%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Employee	0%	0%	60%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bank (Branch) with Drive-In	Customer	0%	0%	25%	40%	75%	100%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Employee	0%	0%	90%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

1%	5%	15%	35%	65%	85%	95%	100%	95%	90%	90%	95%	95%	95%	80%	50%	30%	10%	0%
1%	5%	15%	30%	55%	75%	90%	100%	100%	100%	95%	85%	80%	75%	65%	50%	30%	10%	0%
1%	5%	10%	20%	40%	65%	90%	100%	100%	100%	95%	85%	70%	55%	40%	25%	15%	5%	0%
10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	95%	95%	90%	75%	40%	15%	0%
0%	0%	0%	0%	15%	40%	75%	75%	65%	40%	50%	75%	95%	100%	100%	100%	95%	75%	25%
0%	20%	50%	75%	90%	90%	90%	90%	90%	75%	75%	100%	100%	100%	100%	100%	100%	85%	35%
25%	50%	60%	75%	85%	90%	100%	90%	50%	45%	45%	75%	80%	80%	80%	60%	55%	50%	25%
50%	75%	90%	90%	100%	100%	100%	100%	100%	75%	75%	95%	95%	95%	95%	80%	65%	65%	35%
5%	10%	20%	30%	55%	85%	100%	100%	90%	60%	55%	60%	85%	80%	50%	30%	20%	10%	5%
15%	20%	30%	40%	75%	100%	100%	100%	95%	70%	60%	70%	90%	90%	60%	40%	30%	20%	20%
												25%	50%	75%	100%	100%	100%	100%
			5%	5%	5%	5%	10%	10%	10%	20%	45%	70%	100%	100%	100%	100%	100%	100%
0%	0%	0%	0%	0%	0%	20%	45%	55%	55%	55%	60%	60%	80%	100%	100%	80%	65%	40%
0%	0%	0%	0%	0%	0%	35%	60%	75%	80%	80%	80%	70%	80%	100%	100%	85%	70%	55%
0%	0%	0%	0%	0%	0%	50%	60%	60%	75%	75%	100%	100%	100%	100%	100%	100%	70%	50%
			1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	25%	100%	100%			
	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	30%	10%	5%
			1%	1%	1%	1%	1%	1%	1%	1%	1%	10%	25%	100%	100%	85%		
	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	30%	10%	5%
			1%	1%	1%	5%	5%	5%	5%	5%	5%	10%	50%	100%	100%	85%	25%	
	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	100%	25%	10%
70%	40%	40%	70%	70%	80%	60%	70%	70%	70%	80%	90%	100%	90%	80%	70%	35%	10%	
75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	100%	100%	75%	50%	20%	20%	20%	
		50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%			
5%	30%	33%	33%	100%	100%	100%	100%	100%	100%	90%	70%	40%	25%	20%	20%	5%		
95%	90%	80%	70%	60%	60%	55%	55%	60%	60%	65%	70%	75%	75%	80%	85%	95%	100%	100%
95%	95%	90%	80%	70%	70%	65%	65%	70%	70%	75%	80%	85%	85%	90%	95%	95%	100%	100%
	10%	30%	10%	10%	5%	100%	100%	33%	10%	10%	30%	55%	60%	70%	67%	60%	40%	30%
		30%	60%	60%	60%	65%	65%	65%	65%	65%	100%	100%	100%	100%	100%	50%		
		50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%			
5%	30%	90%	90%	100%	100%	100%	100%	100%	100%	90%	70%	40%	20%	20%	20%	20%	10%	5%
100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
0%	10%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%
0%	1%	20%	60%	100%	45%	15%	45%	100%	45%	15%	10%	5%	2%	1%	0%	0%	0%	0%
3%	30%	75%	95%	100%	100%	90%	90%	100%	100%	90%	50%	25%	10%	7%	3%	1%		
		90%	90%	100%	100%	30%	90%	100%	100%	90%	60%	67%	30%	15%				
		60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	67%	30%	15%				
0%	0%	50%	90%	100%	50%	50%	50%	70%	50%	80%	100%							
0%	0%	60%	100%	100%	100%	100%	100%	100%	100%	100%	100%							

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1%	5%	10%	30%	50%	65%	80%	90%	100%	100%	95%	90%	80%	75%	65%	50%	35%	15%	0%
1%	5%	10%	35%	60%	70%	85%	95%	100%	100%	95%	90%	80%	75%	65%	50%	35%	15%	0%
1%	5%	10%	20%	40%	60%	80%	95%	100%	100%	95%	85%	70%	60%	50%	30%	20%	10%	0%
10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	85%	80%	75%	60%	45%	15%	0%
0%	0%	0%	0%	0%	15%	50%	55%	45%	45%	45%	60%	90%	95%	100%	90%	90%	90%	50%
0%	20%	30%	60%	75%	75%	75%	75%	75%	75%	75%	100%	100%	100%	100%	100%	100%	85%	50%
10%	25%	45%	70%	90%	90%	100%	85%	65%	40%	45%	60%	70%	70%	65%	30%	25%	15%	10%
50%	75%	90%	90%	100%	100%	100%	100%	100%	75%	75%	95%	95%	95%	95%	80%	65%	65%	35%
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15%	20%	30%	40%	75%	100%	100%	100%	95%	70%	60%	70%	90%	90%	60%	40%	30%	20%	20%
												25%	50%	75%	100%	100%	100%	100%
			5%	5%	5%	5%	10%	10%	10%	20%	45%	70%	100%	100%	100%	100%	100%	100%
0%	0%	0%	0%	0%	0%	20%	45%	55%	55%	55%	60%	60%	80%	100%	100%	100%	80%	50%
0%	0%	0%	0%	0%	0%	35%	60%	75%	80%	80%	80%	70%	80%	100%	100%	100%	85%	70%
0%	0%	0%	0%	0%	0%	50%	60%	60%	75%	75%	100%	100%	100%	100%	100%	100%	70%	50%
			1%	1%	1%	1%	17%	67%	67%	1%	1%	1%	25%	100%	100%			
	10%	10%	20%	20%	20%	30%	100%	100%	100%	30%	30%	100%	100%	100%	100%	30%	10%	5%
			1%	1%	1%	1%	25%	95%	95%	81%	1%	1%	25%	100%	100%			
	10%	10%	20%	20%	20%	30%	100%	100%	100%	100%	30%	100%	100%	100%	100%	30%	10%	5%
		1%	1%	5%	5%	50%	100%	100%	85%	20%	0%							
	5%	10%	20%	30%	30%	100%	100%	100%	100%	25%	10%	5%	5%					
80%	45%	35%	50%	35%	50%	50%	30%	25%	30%	55%	100%	95%	60%	30%	10%	1%	1%	
50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	75%	100%	100%	75%	50%	20%	20%	20%	
		50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%			
5%	30%	33%	33%	100%	100%	100%	100%	100%	100%	90%	70%	40%	25%	20%	20%	5%		
95%	90%	80%	70%	60%	60%	55%	55%	60%	60%	65%	70%	75%	75%	80%	85%	95%	100%	100%
95%	95%	90%	80%	70%	70%	65%	65%	70%	70%	75%	80%	85%	85%	90%	95%	95%	100%	100%
	10%	30%	10%	10%	5%	100%	100%	33%	10%	10%	30%	55%	60%	70%	67%	60%	40%	30%
		30%	60%	60%	60%	65%	65%	65%	65%	65%	100%	100%	100%	100%	100%	50%		
		50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	30%	30%	10%			
5%	30%	90%	90%	100%	100%	100%	100%	100%	100%	90%	75%	60%	55%	55%	55%	45%	45%	30%
100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%
0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%
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0%	0%	90%	90%	100%	100%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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0%	0%	25%	40%	75%	100%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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COSTA AZUL CARMEL VALLEY

CARMEL VALLEY CENTRE DRIVE, LLC
7969 ENGINEER ROAD
Suite 108
San Diego CA 92111
Telephone: 858.405.9846

Gensler

225 Broadway
Suite 100
San Diego, CA 92101
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Date	Description
2017-09-28	SDP Submittal 1
2018-04-02	SDP Submittal 2
2018-07-02	SDP Submittal 3
2018-08-20	SDP Submittal 4

Seal/Signature

LICENSED ARCHITECT
JAMES K HEALY
C-26830
REN. 9/30/19
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
ULI PARKING CALCULATIONS

Scale

A6.01

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STORMWATER REQUIREMENTS

City of San Diego
Development Services
1222 First Ave., MS-302
San Diego, CA 92101
(619) 446-5000

Storm Water Requirements Applicability Checklist

FORM **DS-560**
OCTOBER 2016

Project Address: 3515 Valley Center Drive, San Diego, CA | Project Number *(for City Use Only)*:

SECTION 1. Construction Storm Water BMP Requirements:
All construction sites are required to implement construction BMPs in accordance with the performance standards in the Storm Water Standards Manual. Some sites are additionally required to obtain coverage under the State Construction General Permit (CGP)[1], which is administered by the State Water Resources Control Board.

For all projects complete PART A: If project is required to submit a SWPPP or WPCP, continue to PART B.

PART A: Determine Construction Phase Storm Water Requirements.

1. Is the project subject to California's statewide General NPDES permit for Storm Water Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

☒ Yes; SWPPP required, skip questions 2-4 ☐ No; next question

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity resulting in ground disturbance and contact with storm water runoff?

☐ Yes; WPCP required, skip 3-4 ☐ No; next question

3. Does the project propose routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

☐ Yes; WPCP required, skip 4 ☐ No; next question

4. Does the project only include the following Permit types listed below?

- Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
- Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
- Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, and retaining wall encroachments.

☐ Yes; no document required

Check one of the boxes below, and continue to PART B:

☒ If you checked "Yes" for question 1, **a SWPPP is REQUIRED. Continue to PART B**

☐ If you checked "No" for question 1, and checked "Yes" for question 2 or 3, **a WPCP is REQUIRED.** If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to PART B.**

☐ If you checked "No" for all questions 1-3, and checked "Yes" for question 4 PART B **does not apply and no document is required. Continue to Section 2.**

1. More information on the City's construction BMP requirements as well as CGP requirements can be found at: www.sandiego.gov/stormwater/regulations/index.shtml

Printed on recycled paper. Visit our web site at www.sandiego.gov/development-services.
Upon request, this information is available in alternative formats for persons with disabilities.
DS-560 (10-16)

Clear Page 1

Page 2 of 4 City of San Diego • Development Services • Storm Water Requirements Applicability Checklist

PART B: Determine Construction Site Priority

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a "high threat to water quality." The City has aligned the local definition of "high threat to water quality" to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

Complete PART B and continued to Section 2

1. ☐ **ASBS**
   a. Projects located in the ASBS watershed.

2. ☒ **High Priority**
   a. Projects 1 acre or more determined to be Risk Level 2 or Risk Level 3 per the Construction General Permit and not located in the ASBS watershed.
   b. Projects 1 acre or more determined to be LUP Type 2 or LUP Type 3 per the Construction General Permit and not located in the ASBS watershed.

3. ☐ **Medium Priority**
   a. Projects 1 acre or more but not subject to an ASBS or high priority designation.
   b. Projects determined to be Risk Level 1 or LUP Type 1 per the Construction General Permit and not located in the ASBS watershed.

4. ☐ **Low Priority**
   a. Projects requiring a Water Pollution Control Plan but not subject to ASBS, high, or medium priority designation.

SECTION 2. Permanent Storm Water BMP Requirements.

Additional information for determining the requirements is found in the Storm Water Standards Manual.

PART C: Determine if Not Subject to Permanent Storm Water Requirements.
Projects that are considered maintenance, or otherwise not categorized as "new development projects" or "redevelopment projects" according to the Storm Water Standards Manual are not subject to Permanent Storm Water BMPs.

If "yes" is checked for any number in Part C, proceed to Part F and check "Not Subject to Permanent Storm Water BMP Requirements".

If "no" is checked for all of the numbers in Part C continue to Part D.

1.	Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact storm water?	☐ Yes ☒ No
2.	Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?	☐ Yes ☒ No
3.	Does the project fall under routine maintenance? Examples include, but are not limited to: roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay, and pothole repair).	☐ Yes ☒ No

Clear Page 2

City of San Diego • Development Services • Storm Water Requirements Applicability Checklist Page 3 of 4

PART D: PDP Exempt Requirements.

PDP Exempt projects are required to implement site design and source control BMPs.

If "yes" was checked for any questions in Part D, continue to Part F and check the box labeled "PDP Exempt."

If "no" was checked for all questions in Part D, continue to Part E.

1. **Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:**
   - **Are designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;**
   - **Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;**
   - **Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City's Storm Water Standards manual?**

   ☐ Yes; PDP exempt requirements apply ☒ No; next question

2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the City's Storm Water Standards Manual?

   ☐ Yes; PDP exempt requirements apply ☒ No; project not exempt.

PART E: Determine if Project is a Priority Development Project (PDP).
Projects that match one of the definitions below are subject to additional requirements including preparation of a Storm Water Quality Management Plan (SWQMP).

If "yes" is checked for any number in PART E, continue to PART F and check the box labeled "Priority Development Project".

If "no" is checked for every number in PART E, continue to PART F and check the box labeled "Standard Development Project".

1.	**New Development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.	☒ Yes ☐ No
2.	**Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces on an existing site of 10,000 square feet or more of impervious surfaces**. This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.	☐ Yes ☒ No
3.	**New development or redevelopment of a restaurant.** Facilities that sell prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC 5812), and where the land development creates and/or replace 5,000 square feet or more of impervious surface.	☐ Yes ☒ No
4.	**New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater.	☐ Yes ☒ No
5.	**New development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).**	☒ Yes ☐ No
6.	**New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).	☐ Yes ☒ No

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7.	**New development or redevelopment discharging directly to an Environmentally Sensitive Area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over project site), and discharges directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).	☐ Yes ☒ No
8.	**New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.	☐ Yes ☒ No
9.	**New development or redevelopment projects of an automotive repair shops that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.	☐ Yes ☒ No
10.	**Other Pollutant Generating Project.** The project is not covered in the categories above, results in the disturbance of one or more acres of land and is expected to generate pollutants post construction, such as fertilizers and pesticides. This does not include projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces of if they sheet flow to surrounding pervious surfaces.	☐ Yes ☒ No

PART F: Select the appropriate category based on the outcomes of PART C through PART E.

1.	The project is **NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS**.	☐
2.	The project is a **STANDARD DEVELOPMENT PROJECT**. Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance.	☐
3.	The project is **PDP EXEMPT**. Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance.	☐
4.	The project is a **PRIORITY DEVELOPMENT PROJECT**. Site design, source control, and structural pollutant control BMP requirements apply. See the Storm Water Standards Manual for guidance on determining if project requires a hydromodification plan management	☒

Carl Fiorica — Name of Owner or Agent *(Please Print)*
Project Engineer — Title

Signature
03/28/2018 — Date

Clear Page 4
Clear Form

STORMWATER REQUIREMENTS

1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ALL SILT & MUD ON ADJACENT STREET(S), DUE TO CONSTRUCTION VEHICLES OR ANY OTHER CONSTRUCTION ACTIVITY, AT THE END OF EACH WORK DAY, OR AFTER A STORM EVENT THAT CAUSES A BREECH IN INSTALLED CONSTRUCTION BMP'S WHICH MAY COMPROMISE STORM WATER QUALITY WITHIN ANY STREET(S). A STABALIZED CONSTRUCTION EXIT MAY BE REQUIRED TO PREVENT CONSTRUCTION VEHICLES OR EQUIPMENT FROM TRACKING MUD OR SILT ONTO THE STREET.
2 ALL STOCKPILES OF SOIL &/OR BUILDING MATERIALS THAT ARE INTENDED TO BE LEFT FOR A PERIOD GREATER THAN 7 CALENDAR DAYS ARE TO BE COVERED. ALL REMOVABLE BMP DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN 5 DAY RAIN PROBABILITY FORECAST EXCEEDS 40%.
3 A CONCRETE WASHOUT SHALL BE PROVIDED ON ALL PROJECTS WHICH PROPOSE THE CONSTRUCTION OF ANY CONCRETE IMPROVEMENTS WHICH ARE TO BE POURED IN PLACE ON SITE.
4 THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER AFTER EACH RUN-OFF PRODUCING RAINFALL AOR AFTER ANY MATERIAL BREACH IN EFFECTIVENESS.
5 ALL SLOPES THAT ARE CREATED OR DISTURBED BY CONSTRUCTION ACTIVITY MUST BE PROTECTED AGAINST EROSION AND SEDIMENT TRANSPORT AT ALL TIMES.
6 THE STORAGE OF ALL CONSTRUCTION MATERIALS AND EQUIPMENT MUST BE PROTECTED AGAINST ANY POTENTIAL RELEASE OF POLLUTANTS INTO THE ENVIRONMENT.

ENERGY EFFICIENCY STANDARDS

2016 CALIFORNIA ENERGY CODE - TITLE 24 PART 6

1 ANY FENESTRATION PRODUCT OR EXTERIOR DOOR, OTHER THAN FIELD-FABRICATED PRODUCTS, SHALL BE CERTIFIED AND LABELED TO MEET THE FOLLOWING REQUIREMENTS PER E.E.S. SEC 110.6:
AIR LEAKAGE: <0.3 CFM/SF
'U' FACTOR: NFRC 100 OR PER TABLE 110.6-A (E.E.S.)
SHGC: NFRC 200 OR PER TABLE 110.6-B (E.E.S.)
VISIBLE LIGHT TRANSMITTANCE (VT) PER NFRC 200 OR ASTM E972
2 FIELD FABRICATED FENESTRATION AND EXTERIOR DOORS SHALL COMPLY WITH U-FACTORS FROM TABLE 110.6-A (E.E.S.) AND SHGC VALUES FROM TABLE 110.6-B (E.E.S.) & SHALL BE CAULKED BETWEEN THE PRODUCT AND THE BUILDING AND SHALL BE WEATHERSTRIPPED (EXCEPT UNFRAMED GLASS DOORS AND FIRE DOORS).
3 JOINTS AND OTHER OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED, OR OTHERWISE SEALED TO LIMIT INFILTRATION AND EXFILTRATION (SEC 110.7 E.E.S.)
4 INSULATION PRODUCTS SHALL MEET THE CERTIFICATION REQUIREMENTS OF E.E.S. SEC 110.8 AND THE FLAME SPREAD RATING OF THE CBC. WHERE ROOF IS INSULATED, FIXED VENTS OR OPENINGS TO THE OUTDOORS OR TO UNCONDITIONED SPACES SHALL NOT BE INSTALLED. THE OPAQUE PORTIONS OF FRAMED DEMISING WALLS SHALL BE INSULATED AS FOLLOWS: WOOD FRAMED WALLS - U-FACTOR NOT LESS THAN 0.099, METAL FRAMED WALLS - U-FACTOR NOT GREATER THAN 0.151 (SEC 120.7(b)7)
5 ROOFING PRODUCTS SHALL MEET THE SOLAR RELFECTANCE AND TERMAL EMITTANCE REQUIREMENTS OF E.E.S. SEC 110.8(i)

CALGREEN NOTES

2016 CALIFORNIA GREEN BUILDING STANDARDS - TITLE 24 PART 11

THE NON-RESIDENTIAL REQUIREMENTS OF THE CALIFORNIA GREEN BUILDING CODE APPLIES TO ALL NEW NON-RESIDENTIAL CONSTRUCTION INCLUDING HIGH RISE BUILDINGS, ADDITIONS OF 1,000 SQUARE FEET OR GREATER, AND/OR BUILDING ALTERATIONS WITH A PERMIT VALUATION OF $200,000 OR ABOVE. NON-RESIDENTIAL BUILDING INCLUDES ALL OCCUPANCIES THAT ARE WITHIN THE AUTHORITY OF THE CALIFORNIA BUILDING STANDARD COMMISSION.

1 STORM WATER POLLUTION CONTROL PREVENTION: COMPLY WITH LOCAL STORM WATER MANAGEMENT AND EROSION CONTROL ORDINANCES. SAN DIEGO MUNICIPAL CODE, CHAPTER 4, ARTICLE 3, DIVISION 3.
2 LIGHT POLLUTION REDUCTION: COMPLY WITH LOCAL LIGHT POLLUTION CONTROL ORDINANCE. SAN DIEGO MUNICIPAL CODE 142.0740.
3 PLUMBING FIXTURES SHALL MEET THE MAXIMUM FLOW RATE VALUES SHOWN IN CALIFORNIA GREEN BUILDING CODE TABLE 5.503.3.
4 WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK TYPE TOILETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE US EPA WATERSENSE SPECIFICATION.
5 URINALS SHALL NOT EXCEED 0.125 GALLONS PER FLUSH.
6 SINGLE SHOWER HEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 2.0 GALLONS PER MINUTE AT 80 PSI.
7 WHERE THERE ARE MULTIPLE SHOWER HEADS SERVING ONE SHOWER AND CONTROLLED BY A SINGLE VALVE, THE COMBINED FLOW RATE OF ALL SHOWERHEADS SHALL NOT EXCEED 2.0 GALLONS PER MINUTE AT 80 PSI.
8 CONSTRUCTION WASTE MANAGEMENT SHALL COMPLY WITH LOCAL ORDINANCES. SAN DIEGO MUNICIPAL CODE, CHAPTER 6, ARTICLE 6.
9 PROVIDE READILY ACCESSIBLE RECYCLING AREAS FOR BUILDING OCCUPANTS PER LOCAL ORDINANCE. SAN DIEGO MUNICIPAL CODE, CHAPTER 6, ARTICLE 6 AND CHAPTER 14, ARTICLE 2, DIVISION 8.
10 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION: AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HVAC EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.
11 ADHESIVES, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE, OR SCAQMD RULE 1168 VOC LIMITS AS SHOWN IN CAL GREEN TABLES 5.504.4.1 AND 5.504.4.2. SUCH PRODUCTS ALSO SHALL COMPLY WITH RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHOLORFORM, ETHYLENE DICHLORIDE, METHYLLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE).
12 AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN ONE POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.
13 ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS IN TABLE 1 OF THE ARB ARCHITECTURAL COATINS SUGGESTED CONTROL MEASURE, AS SHOWN IN CAL GREEN TABLE 5.504.4.3, UNLESS MORE STRINGENT LOCAL LIMITS APPLY. THE VOC CONTENT LIMIT FOR COATING THAT DO NOT MEET THE DEFINITIONS FOR THE SPECIALTY COATINGS CATEGORIES LISTED IN TABLE5.504.4.3 SHALL BE DETERMINED BY CLASSIFYING THE COATING AS A FLAT, NONFLAT OR NONFLAT-HIGH GLOSS COATING, BASED ON ITS GLOSS, AS DEFINED IN SUBSECTIONS 4.21, 4.36 AND 4.37 OF THE 2007 CALIFORNIA AIR RESOURCE BOARD SUGGESTED CONTROL MEASURE, AND THE CORRESPONDING FLAT, NONFLAT OR NONFLAT-HIGH GLOSS VOC LIMIT IN TABLE 5.504.4.3, SHALL APPLY.
14 AEROSOL PAINTS AND COATINGS SHALL MEET THE PWMIR LIMITS FOR ROC IN SECTION 94522(A)(3) AND OTHER REQUIRMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(C)(2) AND (D)(2) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520.
15 ALL CARPET INSTALLED IN BUILDING INTERIORS SHALL MEET AT LEAST ONE OF THE FOLLOWING REQUIREMENTS:
(A) CARPET AND RUG INSTITUTES GREEN LABEL PLUS PROGRAM
(B) COMPLIANT W/ THE VOC EMISSION LIMITS AND TESTING REQUIREMENTS SPECIFIED IN THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FOR INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS VERSION 1.1 FEBRUARY 2010
(C) NSF/ANSI 140 AT THE GOLD LEVEL OR HIGHER
(D) SCIENTIFIC CERTIFICATIONS SYSTEM SUSTAINABLE CHOICE
(E) COMPLIANT W/ CALIFORNIA COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CA-CHPS) CRITERIA INTERPRETATION FOR EQ 2.2 DATED JULY 2012 AND LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE
16 ALL CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTES'S GREEN LABEL PROGRAM.
17 HARDWOOD PLYWOOD, PARTICLE BOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDING SHALL MEET THE REQUIREMENTS FOR FORMALDEHYDE AS SPECIFIED IN THE ARB'S AIR TOXICS CONTROL MEASURE (ACTM) FOR COMPOSITE WOOD (17 CCR 93120 ET SEQ.) THOSE MATERIALS NOT EXEMPTED UNDER THE ACTM MUST MEET THE SPECIFIED EMISSION LIMITS, AS SHOWN IN CAL GREEN TABLE 5.504.4.5.
18 RESILIENT FLOORING SYSTEMS: FOR 80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING, INSTALLED RESILIENT FLOORING SHALL MEET ONE OF THE FOLLOWING:
(A) CERTIFIED UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOOR SCORE PROGRAM
(B) COMPLIANT WITH THE VOC EMISSION LIMITS AND TESTING REQUIREMENTS SPECIFIED IN THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S 2010 STANDARD METHOD FOR THE TESTING AND EVALUATION CHAMBERS, VERSION 1.1 DATED FEBRUARY 2010
(C) COMPLIANT WITH THE CALIFORNIA COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CA-CHPS) CRITERIA INTERPRETATION FOR EQ 2.2 DATED JULY 2012 AND LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE
(D) COMPLIANT WITH CDPH CRITERIA AS CERTIFIED UNDER THE GREENGUARD CHILDREN'S AND SCHOOLS PROGRAM
19 ACOUSTICAL CONTROL: EMPLOY BUILDING ASSEMBLIES AND COMPONENTS WITH SOUND TRANSMISSION CLASS (STC) VALUES DETERMINED IN ACCORDANCE WITH ASTM E 90 AND ASTM E 413 OR OUTDOOR-INDOOR SOUND TRANSMISSION CLASS (OITC) DETERMINED IN ACCORDANCE WITH ASTM E 1332, USING EITHER THE PRESCRIPTIVE OR PERFORMANCE METHOD IN CAL GREEN SECTION 5.507.4.1 OR 5.507.4.2.
20 INTERIOR SOUND TRANSMISSION: WALL AND FLOOR-CEILING ASSEMBLIES SEPARATING TENANT SPACES AND TENANT SPACES AND PUBLIC SPACES SHALL HAVE AN STC OF AT LEAST 40.
21 NEW INSTALLATIONS OF HVAC, REFRIGERATION AND FIRE SUPPRESSION SYSTEMS SHALL NOT CONTAIN CHOLORFLUOROCARBONS (CFCs) OR HALONS.
22 IN THE CITY OF SAN DIEGO, A LETTER FROM THE CONTRACTOR AND/OR THE BUILDING OWNER CERTIFYING WHAT MATERIALS IN NOTE #11 AND PAINTS IN NOTE #13 HAVE BEEN USED AND ITS COMPLIANCE WITH THE CODE MUST BE SUBMITTED TO THE BUILDING INSPECTOR.

FIRE DEPARTMENT NOTES

2016 CALIFORNIA FIRE CODE - TITLE 24 PART 9; SAN DIEGO MUNICIPAL ORDINANCES

1 CONSTRUCTION DOCUMENTS APPROVED BY THE FIRE CODE OFFICIAL ARE APPROVED WITH THE INTENT THAT SUCH CONSTRUCTION DOCUMENTS COMPLY IN ALL RESPECTS WITH CURRENT CODE. REVIEW AND APPROVAL BY THE FIRE CODE OFFICIAL SHALL NOT RELIEVE THE APPLICANT OF THE RESPONSIBILITY OF COMPLIANCE WITH THIS CODE (CFC 105.4.4)
2 FIRE HYDRANTS SHALL COMPLY WITH FIRE AND LIFE SAFETY POLICY FS-0410 FOR ON-SITE FIRE HYDRANTS.
3 FIRE HYDRANT LOCATIONS SHALL BE IDENTIFIED BY THE INSTALLATION OF REFLECTIVE MARKERS, PER SD STANDARD DRAING SDW-104
4 FIRE APPARATUS ACCESS ROADS AND WATER SUPPLIES FOR FIRE PROTECTION SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING TIME OF CONSTRUCTION. CFC 503,507
5 ANYTIME A BUILDING IS OCCUPIED, THE MEANS OF EGRESS SHALL BE ILLUMINATED AT AN INTENSITY OF NOT LESS THAN 1 FC AT THE FLOOR LEVEL.
6 COMPLETE PLANS AND SPECIFICATIONS FOR THE OPERATION OF ELEVATORS SHALL BE SUBMITTED TO FIRE AND LIFE SAFETY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
7 BOLLARDS SHALL COMPLY WITH SAN DIEGO REGIONAL STANDARD DRAWING M-16. DEMOUNTABLE POSTED
8 IF BOLLARDS ARE TO BE LOCKED EITHER A KNOX PAD LOCK OR A NON-CASE HARDENED, BREAKAWAY LOCK (CAPABLE OF BEING CUT WITH FIRE DEPARTMENT BOLT CUTTERS) SHALL BE PROVIDED.
9 BOLLARDS SHALL WEIGH NO MORE THAN 25 POUNDS EACH.
10 ACCESS ONTO FIRE LANE OVER HARDSCAPE AREAS ADJACENT TO BUILDING ADA ENTRANCE SHALL BE EITHER A ROLLED CURB OR A CURB CUT SATISFACTORY TO THE FIRE MARSHAL.
11 STRUCTURAL PAVEMENT REQUIREMENTS SHALL MEET A MINIMUM TRAFFIC INDEX (TI) OF 6 AND 8.5 (IN AREAS WHERE EMERGENCY VEHICLES WILL POTENTIALLY BE POSITIONED DURING EMERGENCY OPERATIONS_ PER SAN DIEGO STANDARD SCHEDULE "J" (SDG-113) .
13 LOCATIONS AND CLASSIFICATIONS OF EXTINGUISHERS SHALL BE IN ACCORDANCE WITH CFC 906 AND CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 19. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A WITHIN 75 FOOT TRAVEL DISTANCE TO ALL PORTIONS OF THE BUILDING ON EACH FLOOR, AND ADDITIONAL EXTINGUISHERS AS REQUIRED BY FIRE DEPARTMENT FIELD INSPECTOR OR BUILDING DEPARTMENT INSPECTOR.
14 DURING CONSTRUCTION, AT LEAST ONE EXTINGUISHER SHALL BE PROVIDED ON EACH FLOOR LEVEL AT EACH STAIRWAY, IN ALL STORAGE AND CONSTRUCTION SHEDS, IN LOCATIONS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED OR USED, AND WHERE OTHER SPECIAL HAZARDS ARE PRESENT PER CFC 3315.1
15 BUILDINGS UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION SHALL CONFORM TO CFC CHAPTER 33. WELDING, CUTTING, AND OTHER HOT WORK SHALL BE IN CONFORMANCE WITH CFC CHAPTER 35.
16 ADDRESS IDENTIFICATION SHALL BE PROVIDED FOR ALL NEW AND EXISTING BUILDINGS IN A LOCATION THAT IS PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. WHERE ACCESS IS BY WAY OF A PRIVATE ROAD AND BUILDING ADDRESS CANNOT BE VIEW FROM THE PUBLIC WAY, AN APPROVED SIGN OR MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE. PREMISES IDENTIFICATION SHALL CONFORM TO THE SAN DIEGO FIRE DEPARTMENT POLICY FHPS P-00-6.
17 WALL, FLOOR AND CEILING FINISHES AND MATERIALS SHALL NOT EXCEED THE INTERIOR FINISH CLASSIFICATIONS IN CBC TABLE 803.9 AND SHALL MEET THE FLAME PROPAGATION PERFORMANCE CRITERIA OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 19, DIVISION 1. DECORATIVE MATERIALS SHALL BE PROPERLY TREATED BY A PRODUCT OR PROCESS APPROVED BY THE STATE FIRE MARSHAL WITH APPROPRIATE DOCUMENTATION PROVIDED TO THE CITY OF SAN DIEGO.
18 KEY BOXES SHALL BE PROVIDED FOR ALL (HIGH-RISE BUILDINGS, POOL ENCLOSURES, GATES IN THE PATH OF FIREFIGHTER TRAVEL TO STRUCTURES, SECURED PARKING LEVELS, DOORS GIVING ACCESS TO ALARM PANELS AND/OR ANNUNCIATORS, AND ANY OTHER) STRUCTURES OR AREAS WHERE ACCESS TO AN AREA IS RESTRICTED.
19 DUMPSTERS AND TRASH CONTAINERS EXCEEDING 1.5 CUBIC YARDS SHALL NOT BE STORED IN BUILDINGS OR PLACED WITHIN 5 FEET OF COMBUSTIBLE WALLS, OPENINGS OR COMBUSTIBLE ROOF EAVE LINES UNLESS PROTECTED BY AN APPROVED SPRINKLER SYSTEM OR LOCATED IN A TYPE I OR IIA STRUCTURE SEPARATED BY 10 FEET FROM OTHER STRUCTURES. CONTAINERS LARGER THAN 1 CUBIC YARD SHALL BE NON- OR LIMITED COMBUSTIBLE MATERIALS OR SIMILARLY PROTECTED OR SEPARATED. CFC 304.3.
20 EXITS, EXIT SIGNS, FIRE ALARMS PANELS, HOSE CABINETS, FIRE EXTINGUISHER LOCATIONS, AND STANDPIPE CONNECTIONS SHALL NOT BE CONCEALED BY CURTAINS, MIRRORS, OR OTHER DECORATIVE MATERIAL.
21 OPEN FLAMES, FIRE, AND BURNING ON ALL PREMISES IS PROHIBITED EXCEPT AS SPECIFICALLY PERMITTED BY THE CITY OF SAN DIEGO AND CFC 308.
22 THE EGRESS PATH SHALL REMAIN FREE AND CLEAR OF ALL OBSTRUCTIONS AT ALL TIMES. NO STORAGE IS PERMITTED IN ANY EGRESS PATHS.
23 COMPLETE PLANS AND SPECIFICATIONS FOR ALL FIRE EXTINGUISHING SYSTEMS, INCLUDING AUTOMATIC SPRINKLER AND STANDPIPE SYSTEMS AND OTHER SPECIAL FIRE EXTINGUISHING SYSTEMS AND RELATED APPURTENANCES SHALL BE SUBMITTED TO THE CITY OF SAN DIEGO FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. CFC 901.2
24 FIRE SPRINKLER SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH CBC 903.3.
25 ALL VALVES CONTROLLING THE WATER SUPPLY FOR AUTOMATIC SPRINKLER SYSTEMS AND WATERFLOW SWITCHES ON ALL SPRINKLER SYSTEMS SHALL BE ELECTRONICALLY MONITORED WHERE THE NUMBER OF SPRINKLERS SERVED IS 20 OR MORE. CBC 903.4.
26 ONE APPROVED AUDIBLE DEVICE MUST BE CONNECTED TO EVERY AUTOMATIC SPRINKLER SYSTEM IN AN APPROVED LOCATION ON THE EXTERIOR OF THE STRUCTURE. CBC 903.4.2.
27 AUTOMATIC FIRE SPRINKLER SYSTEM(S) AND ALL CONTROL VALVES, WITH THE EXCEPTION OF THOSE LISTED IN CBC 903.4 SHALL BE MONITORED BY A UL LISTED CENTRAL ALARM STATION. AUTOMATIC SPRINKLER SYSTEMS SHALL BE SUPERVISED BY AN APPROVED CENTRAL, PROPRIETARY OR REMOTE STATION SERVICE OR A LOCAL ALARM WHICH WILL GIVE AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED LOCATION. ALTERATIONS OR ADDITIONS TO THE FIRE SPRINKLER AND FIRE ALARM SYSTEM SHALL BE DONE IN COMPLIANCE WITH NFPA 13, NFPA 72, AND THE CBC. COMMON USE AREAS ARE DEFINED TO INCLUDE BREAK ROOMS, CONFERENCE ROOMS, OPEN AREAS, CORRIDORS, HALLWAYS AND LOBBIES. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY LOCAL AUTHORITIES HAVING JURISDICTIONS.
28 COMPLETE PLANS AND SPECIFICATIONS FOR FIRE ALARM SYSTEMS SHALL BE SUBMITTED TO THE CITY OF SAN DIEGO DEVELOPMENT SERVICES FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. CFC 907.1.1.
29 FIRE ALARM SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH CBC 907.6. LOCATE THE CENTER OF FIRE ALARM INITIATING DEVICES 48" ABOVE THE LEVEL OF THE FLOOR, WORKING PLATFORM, GROUND SURFACE OR SIDEWALK. EMERGENCY WARNING SYSTEMS SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED. FLASHING VISUAL WARNING SHALL HAVE A FREQUENCY OF NOT MORE THAN 60 FLASHES PER MINUTE
30 IN BUILDINGS FOUR OR MORE STORIES IN HEIGHT, STANDPIPES SHALL BE PROVIDED DURING CONSTRUCTION WHEN THE HEIGHT REACHES 40 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS. A FIRE DEPARTMENT CONNECTION SHALL BE NO MORE THAN 100 FEET FROM AVAILABLE FIRE DEPARTMENT VEHICLE ACCESS ROADWAYS. CFC 3310, 3313
31 WHERE APPLICABLE, AN AUTOMATIC EXTINGUISHING SYSTEM SHALL BE PROVIDED TO PROTECT COMMERCIAL-TYPE FOOD HEATING EQUIPMENT THAT PRODUCES GREASE-LADEN VAPORS AND SHALL COMPLY WITH 2013 CFC, CMC AND NFPA 17A. REVIEW AND APPROVAL OF A HOOD DUCT EXTINGUISHING SYSTEM IS REQUIRED PRIOR TO INSTALLATION OR USE OF COOKING EQUIPMENT.
32 PROVIDE EXIT SIGN WITH 6" LETTERS OVER REQUIRED EXITS, WHERE SHOWN ON DRAWINGS, AND ADDITIONAL SIGNS AS REQUIRED BY BUILDING DEPARTMENT INSPECTOR OR FIRE DEPARTMENT FIELD INSPECTOR. CONNECT EXIT SIGNS TO EMERGENCY POWER CIRCUITS. COMPLY WITH BUILDING CODES.
33 PROVIDE EMERGENCY LIGHTING OF ONE FOOT-CANDLE AT FLOOR LEVEL. COMPLY WITH BUILDING CODES.
34 MAINTAIN AISLES AT LEAST 44' WIDE AT PUBLIC AREAS.
35 STORAGE, DISPENSING OR USE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS, FLAMMABLE GAS AND HAZARDOUS SUBSTANCES SHALL COMPLY WITH UNIFORM FIRE CODE REGULATIONS.
36 BUILDINGS UNDER GOING CONSTRUCTION, ALTERATIONS, OR DEMOLITION SHALL CONFIRM TO CFC CHAPTER 14. WELDING, CUTTING AND OTHER HOT WORK SHALL BE IN CONFORMANCE WITH CFC CHAPTER 26.
37 COMBUSTIBLE DEBRIS SHALL NOT BE ACCUMULATED WITHIN BUILDINGS. COMBUSTIBLE DEBRIS, RUBBISH AND WASTE MATERIAL SHALL BE REMOVED FROM BUILDINGS AT THE END OF EACH SHIFT OF WORK. COMBUSTIBLE DEBRIS, RUBBISH AND WASTE MATERIAL SHALL NOT BE DISPOSED OF BY BURNING ON SITE UNLESS APPROVED.
38 THE OWNER SHALL DESIGNATE A PERSON TO BE THE FIRE PREVENTION PROGRAM
39 INTERNAL COMBUSTION POWERED CONSTRUCTION EQUIPMENT SHALL BE USED IN ACCORDANCE WITH ALL OF THE FOLLOWING CONDITIONS:
(A) EQUIPMENT SHALL BE LOCATED SO THAT EXHAUSTS DO NOT DISCHARGE
(B) EXHAUSTS SHALL BE PIPED TO THE OUTSIDE OF THE BUILDING
(C) EQUIPMENT SHALL NOT BE REFUELED WHILE IN OPERATION
(D) FUEL FOR EQUIPMENT SHALL BE STORED IN AN APPROVED AREA OUTSIDE OF THE BUILDING

DEFIBRILLATORS (AED'S)

1 PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY OR APPROVAL OF FINAL INSPECTION, AEDS SHALL BE PLACED IN ALL NEWLY CONSTRUCTED BUILDINGS IN THE OCCUPANCY GROUPS AND WITH OCCUPANT LOADS IN EXCESS OF THAT SHOWN IN TABLE 145-3910. THE OCCUPANT LOAD SHALL BE DETERMINED BASED ON THE OCCUPANT LOAD FACTORS IN THE CALIFORNIA BUILDING CODE. OCCUPANCY GROUPS SHALL BE DETERMINED BASED ON CHAPTER 3 OF THE CALIFORNIA BUILDING CODE.
2 AEDS SHALL BE CONSPICUOUSLY PLACED AND READILY ACCESSIBLE IN THE EVENT OF AN EMERGENCY. AED'S SHALL BE MOUNTED SUCH THAT THE TOP OF THE AED IS NO MORE THAN FIVE (5) FEET ABOVE FLOOR LEVEL.
3 WHEN REQUIRED PURSUANT TO THIS DIVISION, AEDS SHALL BE LOCATED IN BUILDINGS TO OPTIMALLY ACHIEVE A THREE MINUTE RESPONSE TIME TO THE PERSON IN NEED OF EMERGENCY CARE USING THE AED.
4 WHEN REQUIRED ON EVERY FLOOR OF A BUILDING PURSUANT TO SECTION 145.3910 AND TABLE 145-3910, AEDS SHALL BE LOCATED AS FOLLOWS: (1) ONE AED SHALL BE PLACED AT THE MAIN ENTRANCE OF EVERY FLOOR; (2) AEDS SHALL BE LOCATED ON EACH FLOOR SUCH THAT THE MAXIMUM LENGTH OF TRAVEL MEASURED FROM THE MOST REMOTE POINT ON A FLOOR TO ANY AED, SHALL NOT EXCEED 300 FEET; AND (3) AEDS SHALL BE LOCATED ON EACH FLOOR SUCH THAT THE MAXIMUM LENGTH OF TRAVEL BETWEEN ANY TWO AEDS SHALL NOT EXCEED 600 FEET.
5 WHEN NOT REQUIRED ON EVERY FLOOR OF A BUILDING PURSUANT TO SECTION 145.3910 AND TABLE 145-3910, AEDS SHALL BE LOCATED AS FOLLOWS: (1) ONE AED SHALL BE PLACED AT THE MAIN ENTRANCE OF EVERY FLOOR REQUIRED TO HAVE ONE OR MORE AEDS; AND (2) AEDS SHALL BE LOCATED SUCH THAT THE MAXIMUM LENGTH OF VERTICAL TRAVEL BETWEEN ANY TWO AEDS ON ANY TWO FLOORS WITH AN AED SHALL NOT EXCEED 450 FEET.

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△	Date	Description
1	Date 1	Revision 1

Seal/Signature

NOT FOR CONSTRUCTION

Project Name
COSTA AZUL CARMEL VALLEY

Project Number
55.7604.000

Description
GENERAL NOTES - SAN DIEGO

Scale

A6.02

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