

Traffic Impact Study





Traffic Impact Study

for:

2014 – 2021 Housing Element Update

Prepared for:

The City of Encinitas

May, 2018

Kimley»»Horn

TRAFFIC IMPACT STUDY
FOR THE
2014 - 2021 HOUSING ELEMENT UPDATE

Prepared for:

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May 2018

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TRAFFIC IMPACT STUDY FOR THE CITY OF ENCINITAS 2014 - 2021 HOUSING ELEMENT UPDATE

INTRODUCTION

The purpose of this report is to address the traffic-related impacts associated with the 2014 - 2021 Housing Element Update in the City of Encinitas. This report supplements the *City of Encinitas Housing Element Traffic Impact Study* (Chen Ryan, April 2016) prepared for the City of Encinitas Housing Element Program Environmental Impact Report (2016 PEIR).

The 2014 - 2021 Housing Element Update project consists of 17 candidate housing sites (candidate sites) throughout the City of Encinitas, and would result in the addition of 2,494 Low-Income housing units. The location of each of the candidate sites is depicted on Figure 1.

This traffic study includes evaluation of Future Year 2035 conditions without and with the Project, and identification of project-related impacts and mitigation. The traffic impact analysis will include analysis of the project-related traffic impacts at 53 study intersections and 130 roadway segments.

STUDY METHODOLOGY AND SIGNIFICANCE CRITERIA

A description of the analysis methodologies, Level of Service standards, and impact significance criteria applied in this traffic impact analysis is provided below.

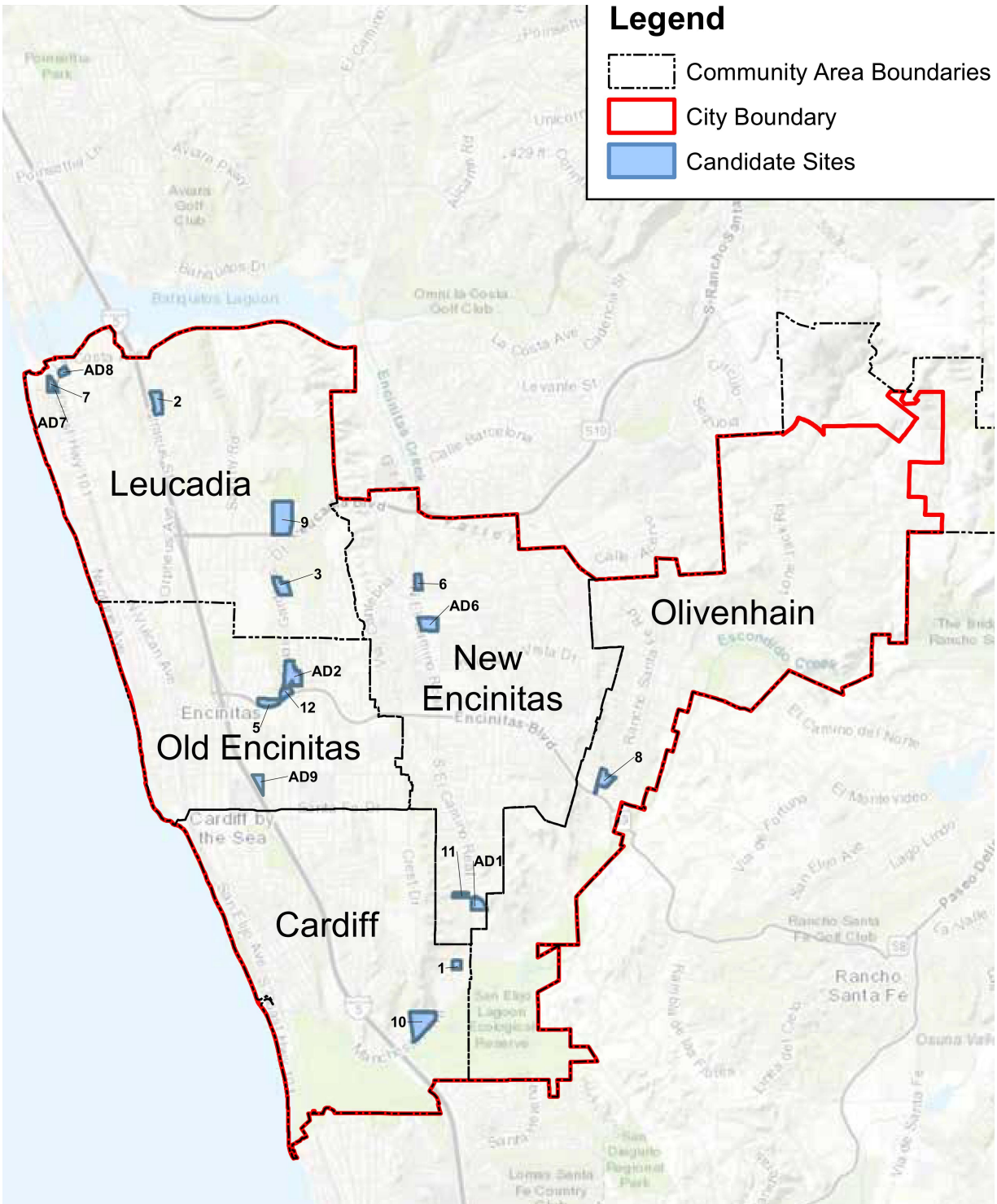
Traffic Impact Analysis Scenarios

The traffic impact analysis has been conducted to evaluate morning and evening peak hour conditions at the study intersections and daily operating conditions on the study roadway segments for the following scenarios:

- Existing Conditions
- Future Year 2035 without Project Conditions
- Future Year 2035 with Project Conditions

Study Area

The study area consists of 53 arterial intersections and 130 roadway segments in the City of Encinitas and neighboring jurisdictions. Of the 53 study intersections, 9 are located in the City of Carlsbad. Study area roadway segments include all roadway segments within the adopted City of Encinitas Circulation Element. The study area was extended just beyond the City boundaries into the Cities of Carlsbad, Solana Beach, and unincorporated San Diego County, to account for the potential impacts outside the City boundaries.



**FIGURE 1
LOCATION OF
CANDIDATE HOUSING SITES**

Intersection Analysis Methodology

Peak hour operating conditions at the study intersections were evaluated using the Highway Capacity Manual (HCM) delay methodology. The HCM methodology estimates the average delay (in average seconds per vehicle) for each of the movements through the intersection, depending on a number of factors, including the number of through and turn lanes, volume of traffic, and signal cycle length and timing at signalized intersections. The delay forecast translates to a Level of Service designation, ranging from LOS "A" to LOS "F". A summary description of each Level of Service for the HCM intersection methodology for signalized and unsignalized intersections, and the corresponding delay, expressed in seconds per vehicle, is provided on the following chart.

Intersection Level of Service Definitions			
Level of Service	Average Delay (sec/veh)		Description
	Signalized	Unsignalized	
A	≤ 10.0	≤ 10.0	Primarily free-flow operation. Vehicles are unimpeded in their ability to maneuver within the traffic stream. Controlled delay at the boundary intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.
B	10.1 – 20.0	10.1 – 15.0	Reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.
C	20.1 – 35.0	15.1 – 25.0	Stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.
D	35.1 – 55.0	25.1 – 35.0	Less stable condition in which small increase in flow may cause substantial increases in delay and decreases in travel speed. The operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed.
E	55.1 - 80.0	35.1 - 50.0	Unstable operation and significant delay. Such operations may be due to some combination of adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed.
F	> 80.0	> 50.0	Flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed. Also, LOS F is assigned to the subsection direction of travel if the through movement at one or more boundary intersections have a volume-to-capacity ratio greater than 1.0

Source: Highway Capacity Manual 2010

The HCM 2010 methodology sets 1,900 passenger cars per hour per lane (pcphpl) as the ideal saturation flow rate at signalized intersections based upon the minimum headway that can be sustained between departing vehicles at a signalized intersection. The ideal saturation flow rate is then adjusted to reflect actual conditions at each study location, to account for lane widths, on-street parking, bus stops, pedestrian volume, traffic composition (including percentage of heavy vehicles), and shared lane movements.

Unsignalized intersections, including side-street stop-controlled (SSSC) and all-way stop-controlled (AWSC) intersections, were analyzed using the HCM 2010 delay methodologies, Chapters 19 and 20, respectively. The Level of Service for a side-street stop-controlled intersection is determined by the computed or measured control delay at each minor-street movement.

Roadway Segment Analysis

Roadway segment Level of Service is determined by the average daily traffic traveling along that roadway segment; and the daily roadway capacity, which is based on the functional classification of the roadway, number of travel lanes, and roadway geometrics. Roadway segments are evaluated by comparing the daily traffic volume to the daily capacity of that segment, to determine the volume-to-capacity (v/c) ratio. Daily capacity is based on the roadway classification, as shown in the following chart.

CITY OF ENCINITAS DAILY ROADWAY CAPACITY AND LEVEL OF SERVICE THRESHOLDS				
Facility Type	Lane Configuration	ADT Capacity		
		LOS C	LOS D	LOS E
Prime Arterial	6 Lanes – Divided	46,000	51,200	57,000
Prime Arterial – Augmented ¹	6+ Lanes - Divided	53,000	60,000	66,000
Major Roadway	4 Lanes - Divided	28,200	31,600	35,200
Major Roadway – Augmented ¹	4+ Lanes - Divided	36,300	41,000	45,400
Collector Roadway	4 lanes - Undivided	26,000	29,200	32,400
Local Roadway	2 Lanes	11,200	12,600	14,000
Local Roadway – Augmented ¹	2+ Lanes	16,000	18,000	20,000
¹ The intent of the Augmented designation is to provide a means of increasing the capacity of a given type of arterial by maximizing the utilization of the base lane configuration. Such augmentation can range from simply adding lanes at intersections to adding or expanding a median and/or other midblock measures to improve traffic flow and reduce side friction.				

Source: City of Encinitas *General Plan Circulation Element*

Level of Service Standard and Performance Criteria

The City of Encinitas Circulation Element of the General Plan has established that the Level of Service standard for intersection and roadway operation in the City is LOS D.

The project impact was determined by comparing Future Year 2035 Adopted General Plan Conditions (No Project) to the Future Year 2035 with the 2014 - 2021 Housing Element Update Project Conditions (Future Year 2035 With Project). The applicable thresholds of significance for each of the jurisdictions in the study area are summarized below.

Cities of Encinitas, Carlsbad, and Solana Beach

The Cities of Encinitas, Carlsbad, and Solana Beach follow the traffic study requirements identified in the SANTEC/ITE Guidelines, which are summarized in the following chart:

Measure of Significant Project Traffic Impacts						
Level of Service with Project	Allowable Change Due to Project Impact					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E or F (or ramp meter delays above 15 min.)	0.01	1	0.02	1	2	2

Source: SANTEC/ITE Guidelines for Traffic Impact Studies (TIS) in the San Diego Region

In addition, a project impact would be considered significant per SANTEC/ITE Guidelines if it caused a roadway segment, freeway segment, intersection, or freeway ramp Level of Service to worsen from an acceptable to unacceptable Level of Service.

County of San Diego Mobility Element Roads

The County of San Diego applies the following significance criteria for Mobility Element Roadways:

Measure of Significant Project Impacts to Congestion on Road Segments: Allowable Increases on Congested Road Segments			
Level of Service	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

EXISTING CONDITIONS

The existing area circulation network and transit service within the study area was described in Section 3.1 of the 2016 Traffic Impact Study (2016 PEIR TIS), which is Appendix N of the 2016 PEIR. Existing traffic operating conditions for study area roadways, intersections, freeway mainline, and freeway ramp intersections were discussed in Sections 3.2 – 3.5, respectively. The location of the study intersections and roadway segments are shown on Figure 2-1, and existing intersection lane configurations and traffic control are shown on Figure 3-3 of the 2016 PEIR TIS.

PROJECT TRAFFIC

The 2014 - 2021 Housing Element Update project consists of the development of 2,494 Low-Income housing units, distributed throughout the City in 17 candidate sites.

Some of the sites are currently developed with existing, occupied and operating uses. For a conservative approach, existing traffic associated with the existing uses was not deducted from the project trip generation potential. Trip generation for the 2014 - 2021 Housing Element Update development, therefore, represents the net new trip-making potential, over and above traffic currently being generated by existing uses.

Table 1 presents the daily trip generation for the Future Year 2035 Adopted General Plan (No Project) and With Project Conditions, and the net ADT change compared to the No Project scenario.

Table 1 – 2014 – 2021 Housing Element Update Trip Generation Summary

Table 1 2014 – 2021 Housing Element Update Trip Generation Summary		
Scenario	Daily Trip Generation	ADT Change from No Project
Adopted General Plan (No Project)	696,144	-
2014 - 2021 Housing Element Update	711,109	14,965

FUTURE YEAR 2035 TRAFFIC CONDITIONS

Analysis of projected traffic conditions at build-out of the study area was conducted to determine if the transportation system can accommodate the future traffic demands in the study area, including the traffic associated with the Housing Element Update development potential. If intersection or roadway segment deficiencies are projected to occur as a result of build-out of the housing land uses, then improvements needed to accommodate future traffic volumes will be identified.

Future Year 2035 Without Project Conditions

Future Year 2035 Without Project (Adopted General Plan) conditions represent build-out of the adopted General Plan without the Housing Element Update development. Forecast traffic data for this scenario was obtained from the 2016 PEIR TIS, which indicates that the City of Encinitas General Plan Update SANDAG Series 12 Year 2035 Sub-Area model was used as a base to develop the Year 2035 No Project forecasts.

Roadway Segment Analysis

The results of the Future Year 2035 Without Project roadway segment analysis are summarized on Table 2. Review of this table shows that the following 28 roadway segments are forecasted to operate at an unacceptable Level of Service E or F, with 22 segments located in the City of Encinitas, five in the City of Carlsbad, and one in the County of San Diego:

City of Encinitas (22 segments)

- South Coast Highway 101: Swami's Parking to San Elijo State Beach – LOS F
- Via Cantabria: Town Center Drive to Garden View Road – LOS F
- Rancho Santa Fe Road: 9th Street to 8th Street – LOS E
- Rancho Santa Fe Road: 8th Street to 7th Street – LOS E
- Manchester Avenue: I-5 NB Ramps to I-5 SB Ramps – LOS F
- La Costa Avenue: N. Coast Highway 101 to Vulcan Avenue – LOS F
- La Costa Avenue: Vulcan Avenue to Sheridan Road – LOS F
- La Costa Avenue: Sheridan Road to I-5 SB Ramps – LOS F
- Leucadia Boulevard: Hymettus Avenue to Orpheus Avenue – LOS E
- Leucadia Boulevard: Piraeus Street to Urania Avenue – LOS E
- Leucadia Boulevard: Urania Avenue to Saxony Road – LOS E
- Leucadia Boulevard: Saxony Road to Sidonia Street – LOS E
- Leucadia Boulevard: Sidonia Street to Quail Gardens Drive – LOS E
- Leucadia Boulevard: Quail Gardens Drive to Garden View Road – LOS F
- Encinitas Boulevard: I-5 SB Ramps to I-5 NB Ramps – LOS F
- Encinitas Boulevard: I-5 NB Ramps to Saxony Road – LOS F
- Encinitas Boulevard: Quail Gardens Drive to Delphinium Street – LOS F
- Encinitas Boulevard: Delphinium Street to Balour Drive – LOS F

- Encinitas Boulevard: Balour Drive to Via Cantebria – LOS F
- S. Rancho Santa Fe Road: Manchester Avenue to City Limits – LOS E
- Santa Fe Drive: Balour Drive to Lake Drive – LOS E; and
- Birmingham Drive: I-5 SB Ramps to I-5 NB Ramps – LOS F

City of Carlsbad (5 segments)

- El Camino Real: Aviara Parkway to La Costa Avenue – LOS F
- La Costa Avenue: I-5 NB Ramps to Piraeus Street – LOS E
- La Costa Avenue: Piraeus Street to Saxony Road – LOS E
- La Costa Avenue: Saxony Road to El Camino Real – LOS F; and
- La Costa Avenue: Fairway Lane to Calle Madero – LOS E

County of San Diego (1 segment)

- S. Rancho Santa Fe Road: City of Encinitas Limits to El Mirlo – LOS F

Intersection Analysis

Future Year 2035 Without Project peak hour intersection volumes were obtained from the 2016 PEIR TIS. The results of the Future Year 2035 Without Project intersection analysis are summarized on Table 3. Review of this table shows that the following 14 intersections are forecasted to operate at an unacceptable Level of Service E or F, with 13 of the intersections located in the City of Encinitas, and one in the City of Carlsbad:

City of Encinitas (13 intersections)

- Int. # 6 – Vulcan Avenue at La Costa Avenue – AM LOS E, PM LOS E
- Int. # 17 – Saxony Road at Leucadia Boulevard – AM LOS E, PM LOS E
- Int. # 21 – El Camino Real at Leucadia Boulevard – PM LOS E
- Int. # 25 – Rancho Santa Fe Road at Lone Jack Road – AM LOS E, PM LOS E
- Int. # 27 – Rancho Santa Fe Road at El Camino del Norte – PM LOS E
- Int. # 36 – El Camino Real at Encinitas Boulevard – PM LOS E
- Int. # 39 – Rancho Santa Fe Road at Encinitas Boulevard – AM LOS E
- Int. # 40 – San Elijo Avenue at Santa Fe Drive – AM LOS E
- Int. # 45 – Balour Drive at Santa Fe Drive – AM LOS F, PM LOS F
- Int. # 49 – I-5 SB Ramps at Birmingham Drive – AM LOS E, PM LOS E
- Int. # 50 – I-5 NB Ramps at Birmingham Drive – AM LOS E, PM LOS E
- Int. # 51 – I-5 SB Ramps at Manchester Avenue – AM LOS F, PM LOS E
- Int. # 52 – I-5 NB Ramps at Manchester Avenue – AM LOS E

City of Carlsbad (1 intersection)

- Int. # 11 – El Camino Real at La Costa Avenue – PM LOS E

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Carlsbad Blvd	Poinsettia Lane to Avenida Encinas	4-Lane Major Arterial	25,300	40,000	0.633	C	Carlsbad
	Avenida Encinas to La Costa Avenue	4-Lane Major Arterial	24,700	40,000	0.618	C	Carlsbad
North Coast Highway 101	La Costa Avenue to 600 feet south of La Costa Avenue	4-Lane Major Roadway	19,900	35,200	0.565	C or better	Encinitas
	600 feet south of La Costa Avenue to Leucadia Blvd	4-Lane Major Roadway	18,100	26,400	0.686	C or better	Encinitas
	Leucadia Blvd to Cadmus Street	4-Lane Major Roadway	19,900	35,200	0.565	C or better	Encinitas
	Cadmus Street to Marcheta Street	4-Lane Major Roadway	19,900	35,200	0.565	C or better	Encinitas
	Marcheta Street to 660 feet south of Marcheta Street	4-Lane Major Roadway	19,900	35,200	0.565	C or better	Encinitas
	660 feet south of Marcheta Street to Encinitas Blvd	4-Lane Major Roadway	19,900	35,200	0.565	C or better	Encinitas
	Encinitas Blvd to D Street	4-Lane Major Roadway	19,400	35,200	0.551	C or better	Encinitas
	D Street to E Street	4-Lane Major Roadway	19,400	35,200	0.551	C or better	Encinitas
	E Street to F Street	4-Lane Major Roadway	19,400	35,200	0.551	C or better	Encinitas
	F Street to H Street	4-Lane Major Roadway	19,400	35,200	0.551	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
South Coast Highway 101	H Street to J Street	4-Lane Major Roadway	21,100	35,200	0.599	C or better	Encinitas
	J Street to Swami's Parking	3-Lane Major Roadway	21,100	26,400	0.799	C or better	Encinitas
	Swami's Parking to San Elijo State Beach	2-Lane Local Roadway	21,300	14,000	1.521	F	Encinitas
	San Elijo State Beach to Chesterfield	4-Lane Major Roadway	21,300	35,200	0.605	C or better	Encinitas
	Chesterfield to Cardiff State Beach traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	Encinitas
	Cardiff Beach State to Chart House traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	Encinitas
	Chart House traffic signal to Las Olas Mexican Restaurant traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	Encinitas
	Las Olas Mexican Restaurant to City of Solana Beach boundary	4-Lane Major Roadway	23,200	35,200	0.659	C or better	Encinitas
North Highway 101	City of Solana Beach boundary to West Cliff Street	4-Lane Major Arterial	22,500	40,000	0.563	C	Solana Beach
	West Cliff to Lomas Santa Fe	4-Lane Major Arterial	25,000	40,000	0.625	C	Solana Beach
	Lomas Santa Fe Drive to Via De La Valle	4-Lane Major Arterial	23,600	40,000	0.590	C	Solana Beach
	La Costa Avenue to Leucadia Boulevard	2-Lane Local Roadway	7,000	14,000	0.500	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Vulcan Avenue	Leucadia Blvd to Encinitas Boulevard	2-Lane Local Roadway	7,500	14,000	0.536	C or better	Encinitas
	Encinitas Boulevard to D Street	4-Lane Collector	12,900	32,400	0.398	C or better	Encinitas
	D Street to E Street	4-Lane Collector	12,900	32,400	0.398	C or better	Encinitas
	E Street to Santa Fe Drive	2-Lane Local Roadway - Augmented	13,100	20,000	0.655	C or better	Encinitas
San Elijo Avenue	Santa Fe Drive to Birmingham Drive	2-Lane Local Roadway	10,100	14,000	0.721	C or better	Encinitas
	Birmingham Drive to Chesterfield Drive	2-Lane Local Roadway - Augmented	12,500	20,000	0.625	C or better	Encinitas
	Chesterfield Drive to Manchester Avenue	2-Lane Local Roadway - Augmented	9,500	20,000	0.475	C or better	Encinitas
Saxony Road	La Costa Avenue to Quail Gardens Drive	2-Lane Local Roadway	4,600	14,000	0.329	C or better	Encinitas
	Quail Hollow Drive to Normandy Road	2-Lane Local Roadway	3,400	14,000	0.243	C or better	Encinitas
	Normandy Road to Brittany Avenue	2-Lane Local Roadway	3,900	14,000	0.279	C or better	Encinitas
	Brittany Avenue to Leucadia Blvd	2-Lane Local Roadway	3,500	14,000	0.250	C or better	Encinitas
	Leucadia Blvd to Silver Berry Place	2-Lane Local Roadway	11,800	14,000	0.843	D	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
	Silver Berry Place to Encinitas Blvd	2-Lane Local Roadway - Augmented	13,800	20,000	0.690	C or better	Encinitas
Quail Hollow Drive	Swallow Tail Road to Saxony Road	2-Lane Local Roadway	5,000	14,000	0.357	C or better	Encinitas
Quail Gardens Drive	Swallow Tail Road to Lauren Court	2-Lane Local Roadway - Augmented	4,900	20,000	0.245	C or better	Encinitas
	Lauren Court to Leucadia Boulevard	2-Lane Local Roadway - Augmented	5,300	20,000	0.265	C or better	Encinitas
	Leucadia Boulevard to Paseo De Las Flores	2-Lane Local Roadway - Augmented	9,100	20,000	0.455	C or better	Encinitas
	Paseo De Las Flores to Paseo De Las Verdes	2-Lane Local Roadway - Augmented	8,900	20,000	0.445	C or better	Encinitas
	Paseo De Las Verdes to Encinitas Boulevard	2-Lane Local Roadway - Augmented	8,200	20,000	0.410	C or better	Encinitas
Westlake Street	Encinitas Boulevard to Requeza Street	2-Lane Local Roadway - Augmented	11,800	20,000	0.590	C or better	Encinitas
Nardo Drive	Requeza Street to Melba Road	2-Lane Local Roadway	5,100	14,000	0.364	C or better	Encinitas
	Melba Road Santa Fe Drive	2-Lane Local Roadway	5,100	14,000	0.364	C or better	Encinitas
MacKinnon Avenue	Santa Fe Drive to Villa Cardiff Drive	2-Lane Local Roadway	6,200	14,000	0.443	C or better	Encinitas
Villa Cardiff	MacKinnon Avenue to Windsor Road	2-Lane Local Roadway	6,500	14,000	0.464	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Drive	Windsor Road to Birmingham Drive	2-Lane Local Roadway	5,700	14,000	0.407	C or better	Encinitas
Garden View Road	Leucadia Boulevard to Via Cantebria	4-Lane Major Roadway	11,500	35,200	0.327	C or better	Encinitas
	Via Cantebria to El Camino Real	4-Lane Major Roadway	12,900	35,200	0.366	C or better	Encinitas
Town Center Place	Leucadia Boulevard to Town Center Place	4-Lane Collector (Not a CE)	20,000	32,400	0.617	C or better	Encinitas
	Town Center Place to Town Center Drive	4-Lane Collector (Not a CE)	17,800	32,400	0.549	C or better	Encinitas
Via Cantebria	Town Center Drive to Garden View Road	2-Lane Local Roadway (Not a CE)	15,800	14,000	1.129	F	Encinitas
	Garden View Road to Forrest Bluff	3-Lane Collector	14,900	24,300	0.613	C or better	Encinitas
	Forrest Bluff to Via Montoro	4-Lane Collector	15,200	32,400	0.469	C or better	Encinitas
	Via Montoro to Via Molena	4-Lane Collector	17,900	32,400	0.552	C or better	Encinitas
	Via Molena to Encinitas Boulevard	4-Lane Collector	17,500	32,400	0.540	C or better	Encinitas
Balour Drive	Encinitas Blvd to Melba Road	2-Lane Local Roadway	11,200	14,000	0.800	C or better	Encinitas
	Melba Road to Santa Fe Drive	2-Lane Local Roadway	10,700	14,000	0.764	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Lake Drive	Santa Fe Drive to Woodlake Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	Encinitas
	Woodlake Drive to Birmingham Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	Encinitas
El Camino Real	Aviara Parkway to La Costa Avenue	5-Lane Prime Arterial	54,300	50,000	1.086	F	Carlsbad
	La Costa Avenue to Calle Barcelona	6-Lane Prime Arterial	38,400	60,000	0.640	C	Carlsbad
	Calle Barcelona to City of Carlsbad boundary	6-Lane Prime Arterial	36,500	60,000	0.608	C	Carlsbad
	City of Carlsbad boundary to Leucadia Boulevard	6-Lane Prime Arterial - Augmented	46,700	66,000	0.708	C or better	Encinitas
	Leucadia Boulevard to Town Center Drive	6-Lane Prime Arterial - Augmented	58,600	66,000	0.888	D	Encinitas
	Town Center Drive to Garden View Road	6-Lane Prime Arterial - Augmented	54,200	66,000	0.821	D	Encinitas
	Garden View Road to 331-339 El Camino Real	6-Lane Prime Arterial - Augmented	42,900	66,000	0.650	C or better	Encinitas
	331-339 El Camino Real to Via Montoro	6-Lane Prime Arterial - Augmented	48,900	66,000	0.741	C or better	Encinitas
	Via Montoro to Mountain Vista	6-Lane Prime Arterial - Augmented	44,300	66,000	0.671	C or better	Encinitas
	Mountain Vista to Via Molena	6-Lane Prime Arterial - Augmented	47,000	66,000	0.712	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
	Via Molena to Encinitas Boulevard	6-Lane Prime Arterial - Augmented	56,900	66,000	0.862	D	Encinitas
	Encinitas Boulevard to 213 S El Camino Real	6-Lane Prime Arterial	39,400	57,000	0.691	C or better	Encinitas
	213 S El Camino to Crest Drive	6-Lane Prime Arterial	33,800	57,000	0.593	C or better	Encinitas
	Crest Drive to Willowspring Drive	6-Lane Prime Arterial	36,200	57,000	0.635	C or better	Encinitas
	Willowspring Drive to Santa Fe Drive	4-Lane Major Roadway - Augmented	37,500	45,400	0.826	D	Encinitas
	Santa Fe Drive to Sage Canyon Drive	4-Lane Major Roadway - Augmented	28,400	45,400	0.626	C or better	Encinitas
	Sage Canyon Drive to Manchester Avenue	4-Lane Major Roadway	27,700	35,200	0.787	C or better	Encinitas
Village Park Way	Mountain Vista Drive to Parkdale Drive	4-Lane Major Roadway	10,900	35,200	0.310	C or better	Encinitas
	Parkdale Drive to Encinitas Boulevard	4-Lane Major Roadway	14,200	35,200	0.403	C or better	Encinitas
	Olivenhain Road to Calle Acervo	4-Lane Major Arterial	17,400	40,000	0.435	C or better	Encinitas
	Calle Acervo/Avenida La Posta to Olive Crest Drive	2-Lane Local Roadway - Augmented	15,900	20,000	0.795	C or better	Encinitas
	Olive Crest Drive to 13th Street	2-Lane Local Roadway - Augmented	15,800	20,000	0.790	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Rancho Santa Fe Road	13th Street to 11th Street	2-Lane Local Roadway - Augmented	15,700	20,000	0.785	C or better	Encinitas
	11th Street to El Camino Del Norte	2-Lane Local Roadway - Augmented	15,800	20,000	0.790	C or better	Encinitas
	El Camino Del Norte to 9th Street	2-Lane Local Roadway - Augmented	13,300	20,000	0.665	C or better	Encinitas
	9th Street to 8th Street	2-Lane Local Roadway	13,500	14,000	0.964	E	Encinitas
	8th Street to 7th Street	2-Lane Local Roadway	13,900	14,000	0.993	E	Encinitas
	7th Street to Encinitas Boulevard	2-Lane Local Roadway - Augmented	15,200	20,000	0.760	C or better	Encinitas
Manchester Avenue	Encinitas Boulevard to El Camino Real	2-Lane Local Roadway - Augmented	12,300	20,000	0.615	C or better	Encinitas
	Manchester Avenue to Mira Costa College	4-Lane Major Roadway - Augmented	35,400	45,400	0.780	C or better	Encinitas
	Mira Costa College to I-5 NB On-Ramp	4-Lane Major Roadway - Augmented	35,700	45,400	0.786	C or better	Encinitas
	I-5 NB Ramps to I-5 SB Ramps	2-Lane Major Roadway - Augmented	40,200	20,000	2.010	F	Encinitas
	I-5 SB Ramps to Ocean Cove Drive	2-Lane Major Roadway - Augmented	11,900	20,000	0.595	C or better	Encinitas
	Ocean Cove Drive to Seaside Cardiff-by-the-sea residential area driveway	2-Lane Local Roadway	11,900	14,000	0.850	D	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
	Seaside Cardiff-by-the-sea residential area driveway to San Elijo Water Reclamation Facility Driveway	2-Lane Local Roadway - Augmented	11,900	20,000	0.595	C or better	Encinitas
	San Elijo Water Reclamation Facility Driveway to Manchester Avenue	2-Lane Local Roadway	11,800	14,000	0.843	D	Encinitas
La Costa Avenue	North Coast Highway 101 to Vulcan Avenue	2-Lane Local Roadway	16,400	14,000	1.171	F	Encinitas
	Vulcan Avenue to Sheridan Road	2-Lane Local Roadway	16,300	14,000	1.164	F	Encinitas
	Sheridan Road to I-5 SB Ramps	2-Lane Local Roadway - Augmented	22,000	20,000	1.100	F	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	4-Lane Major Arterial	29,300	40,000	0.733	C	Carlsbad
	I-5 NB Ramps to Piraeus Street	5-Lane Major Arterial	39,500	41,667	0.948	E	Carlsbad
	Piraeus Street to Saxony Road	4-Lane Major Arterial	39,600	40,000	0.990	E	Carlsbad
	Saxony Road to El Camino Real	4-Lane Major Arterial	42,000	40,000	1.050	F	Carlsbad
	El Camino Real to La Costa Towne Center traffic signal	4-Lane Major Arterial	20,700	40,000	0.518	B	Carlsbad
	La Costa Towne Center traffic signal to Fairway Lane	4-Lane Major Arterial	20,900	40,000	0.523	B	Carlsbad
	Fairway Lane to Calle Madero	3-Lane Collector	20,700	22,500	0.920	E	Carlsbad

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Leucadia Blvd	North Coast Highway 101 to Vulcan Avenue	4-Lane Collector	14,300	32,400	0.441	C or better	Encinitas
	Vulcan Avenue to Hermes Avenue	2-Lane Local Roadway - Augmented	16,300	20,000	0.815	D	Encinitas
	Hermes Avenue to Hygeia Avenue	2-Lane Local Roadway - Augmented	15,700	20,000	0.785	C or better	Encinitas
	Hygeia Avenue to Hymettus Avenue	2-Lane Local Roadway - Augmented	17,400	20,000	0.870	D	Encinitas
	Hymettus Avenue to Orpheus Avenue	2-Lane Local Roadway - Augmented	19,200	20,000	0.960	E	Encinitas
	Orpheus Avenue to I-5 SB Ramps	4-Lane Major Roadway	17,700	35,200	0.503	C or better	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	4-Lane Major Roadway	28,600	35,200	0.813	D	Encinitas
	Piraeus Street to Urania Avenue	4-Lane Major Roadway - Augmented	44,100	45,400	0.971	E	Encinitas
	Urania Avenue to Saxony Road	4-Lane Major Roadway - Augmented	44,100	45,400	0.971	E	Encinitas
	Saxony Road to Sidonia Street	4-Lane Major Roadway - Augmented	42,400	45,400	0.934	E	Encinitas
	Sidonia Street to Quail Gardens Drive	4-Lane Major Roadway - Augmented	42,400	45,400	0.934	E	Encinitas
	Quail Gardens Drive to Garden View Road	4-Lane Major Roadway - Augmented	47,100	45,400	1.037	F	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
	Garden View Road to Town Center Place	4-Lane Major Roadway - Augmented	34,700	45,400	0.764	C or better	Encinitas
	Town Center Place to El Camino Real	6-Lane Prime Arterial	39,000	57,000	0.684	C or better	Encinitas
Mountain Vista Drive	El Camino Real to Wandering Road	2-Lane Local Roadway - Augmented	15,000	20,000	0.750	C or better	Encinitas
	Wandering Road to Village Park Way	2-Lane Local Roadway - Augmented	9,300	20,000	0.465	C or better	Encinitas
Lone Jack Drive	Rancho Santa Fe Road to northern terminus	2-Lane Local Roadway	8,400	14,000	0.600	C or better	Encinitas
El Camino Del Norte	Rancho Santa Fe Road to San Dieguito CPA boundary	2-Lane Local Roadway	7,900	14,000	0.564	C or better	Encinitas
	San Dieguito CPA boundary to Via De Fortuna	1-Lane Light Collector with Reduced Shoulder	7,800	9,700	0.804	D	San Diego
	North Coast Highway 101 to Vulcan Avenue	4-Lane Collector	22,300	32,400	0.688	C or better	Encinitas
	Vulcan Avenue to I-5 SB Ramps	4-Lane Major Roadway - Augmented	34,100	45,400	0.751	C or better	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	4-Lane Major Roadway	38,500	35,200	1.094	F	Encinitas
	I-5 NB Ramps to Saxony Road	4-Lane Major Roadway	41,400	35,200	1.176	F	Encinitas
	Saxony Road to Calle Magdalena	6-Lane Prime Arterial - Augmented	35,400	66,000	0.536	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Encinitas Blvd	Calle Magdalena to Encinitas Town Country traffic signal	6-Lane Prime Arterial	40,000	57,000	0.702	C or better	Encinitas
	Encinitas Town Country traffic signal to Quail Gardens Drive	4-Lane Major Roadway - Augmented	36,000	45,400	0.793	C or better	Encinitas
	Quail Gardens Drive to Delphinium Street	4-Lane Major Roadway	37,700	35,200	1.071	F	Encinitas
	Delphinium Street to Balour Drive	4-Lane Major Roadway	38,300	35,200	1.088	F	Encinitas
	Balour Drive to Via Cantebria	4-Lane Major Roadway	47,500	35,200	1.349	F	Encinitas
	Via Cantebria to El Camino Real	4-Lane Major Roadway	29,400	35,200	0.835	D	Encinitas
	El Camino Real to Village Square Drive	4-Lane Major Roadway	31,000	35,200	0.881	D	Encinitas
	Village Square Drive to Turner Avenue	4-Lane Major Roadway	29,300	35,200	0.832	D	Encinitas
	Turner Avenue to Cerro Street	4-Lane Major Roadway	29,300	35,200	0.832	D	Encinitas
	Cerro Street to Village Park Way	4-Lane Major Roadway	29,700	35,200	0.844	D	Encinitas
	Village Park Way to Willowspring Drive	4-Lane Major Roadway	27,900	35,200	0.793	C or better	Encinitas
	Willowspring Drive to Rancho Santa Fe Road	4-Lane Major Roadway	22,700	35,200	0.645	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
South Rancho Santa Fe Road	Manchester Avenue to City of Encinitas Limits	2-Lane Local Roadway - Augmented	18,580	20,000	0.929	E	Encinitas
	City of Encinitas Limits to El Mirlo	2-Lane Light Collector with Reduced Shoulder	18,580	9,700	1.915	F	San Diego
F Street	Vulcan Avenue to Cornish Drive	2-Lane Local Roadway	6,200	14,000	0.443	C or better	Encinitas
Requeza Street	Cornish Drive to San Dieguito Drive	2-Lane Local Roadway	6,300	14,000	0.450	C or better	Encinitas
	San Dieguito Drive to Stratford Drive	2-Lane Local Roadway	6,300	14,000	0.450	C or better	Encinitas
	Stratford Drive to Regal Road	2-Lane Local Roadway	6,800	14,000	0.486	C or better	Encinitas
	Regal Road to West Lake Drive	2-Lane Local Roadway	6,400	14,000	0.457	C or better	Encinitas
	West Lake Drive to Nardo Drive	2-Lane Local Roadway	4,800	14,000	0.343	C or better	Encinitas
	Vulcan Avenue to Cornish Drive	2-Lane Local Roadway	9,000	14,000	0.643	C or better	Encinitas
	Cornish Drive to Summit Avenue	2-Lane Local Roadway	9,000	14,000	0.643	C or better	Encinitas
	Summit Avenue to Devonshire	2-Lane Local Roadway	10,100	14,000	0.721	C or better	Encinitas
	Devonshire Drive to Scripps Memorial Encinitas traffic signal	2-Lane Local Roadway - Augmented	15,200	20,000	0.760	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Santa Fe Drive	Scripps Memorial Hospital Encinitas traffic signal to I-5 SB Ramps	4-Lane Collector	15,200	32,400	0.469	C or better	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	3-Lane Major Roadway	22,400	26,400	0.848	D	Encinitas
	I-5 NB Ramps to Regal Road	2-Lane Local Roadway - Augmented	16,100	20,000	0.805	D	Encinitas
	Regal Road to Gardena Road	2-Lane Local Roadway - Augmented	16,100	20,000	0.805	D	Encinitas
	Gardena Road to Nardo Road	2-Lane Local Roadway - Augmented	16,100	20,000	0.805	D	Encinitas
	Nardo Road to Windsor Road/Bonita Drive	2-Lane Local Roadway - Augmented	17,700	20,000	0.885	D	Encinitas
	Windsor Road/Bonita Drive to Balour Drive	2-Lane Local Roadway - Augmented	17,700	20,000	0.885	D	Encinitas
	Balour Drive to Lake Drive	2-Lane Local Roadway - Augmented	18,600	20,000	0.930	E	Encinitas
	Lake Drive to Crest Drive	2-Lane Local Roadway - Augmented	17,700	20,000	0.885	D	Encinitas
	Crest Drive to El Camino Real	2-Lane Local Roadway - Augmented	17,700	20,000	0.885	D	Encinitas
	San Elijo Avenue to MacKinnon Avenue	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	Encinitas
	MacKinnon Avenue to Carol View Drive	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	Encinitas

TABLE 2
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Roadway	Segment	Functional Classification	Future ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Birmingham Drive	Carol View Drive to I-5 SB Ramps	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	2-Lane Local Roadway	17,400	14,000	1.243	F	Encinitas
	I-5 NB Ramps to Villa Cardiff Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	Encinitas
	Villa Cardiff to Playa Riviera	2-Lane Local Roadway	8,800	14,000	0.629	C or better	Encinitas
	Playa Riviera to Freda Lane	2-Lane Local Roadway	8,800	14,000	0.629	C or better	Encinitas
	Freda Lane to Lake Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	Encinitas

TABLE 3
SUMMARY OF INTERSECTION OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Carlsbad Blvd & Poinsettia Ln	S	11.7	B	10.6	B
2	I-5 SB Ramp/I-5 SB Ramp & Poinsettia Ln	S	15.2	B	21.6	C
3	I-5 NB Ramp/I-5 NB Ramp & Poinsettia Ln	S	32.4	C	29.7	C
4	Aviara Parkway & Poinsettia Ln	S	29.1	C	30.8	C
5	Highway 101/Carlsbad Blvd & La Costa Ave	S	18.8	B	16.8	B
6	Vulcan Ave & La Costa Ave	U	45.2	E	99.1	F
7	I-5 SB Ramp/I-5 SB Ramp & La Costa Ave	S	44.3	D	34.1	C
8	I-5 NB Ramp/I-5 NB Ramp & La Costa Ave	S	28.2	C	31.2	C
9	Piraeus Street & La Costa Ave	S	22.4	C	34.9	C
10	Saxony Rd & La Costa Ave	S	19.2	B	28.3	C
11	El Camino Real & La Costa Ave	S	51.7	D	58.3	E
12	Highway 101 & Leucadia Blvd	S	30.1	C	35.3	D
13	Vulcan Ave & Leucadia Blvd	S	12.5	B	11.9	B
14	Orpheus Ave & Leucadia Blvd	S	17.1	B	16.5	B
15	I-5 SB Ramp/I-5 SB Ramp & Leucadia Blvd	S	14.5	B	16.3	B
16	I-5 NB Ramp/I-5 NB Ramp & Leucadia Blvd	S	13.3	B	36.4	D
17	Saxony Rd & Leucadia Blvd	S	60.8	E	79.4	E
18	Quail Gardens Dr & Leucadia Blvd	S	31.8	C	42.8	D
19	Garden View Rd/Barcelona & Leucadia Blvd	S	47.1	D	53.7	D
20	Town Center Place & Leucadia Blvd	S	24.6	C	43.9	D
21	El Camino Real & Leucadia Blvd/Olivenhain Rd	S	48.7	D	67.3	E
22	El Camino Real & Town Center Dr	S	11.6	B	23.5	C
23	El Camino Real & Garden View Rd	S	27.7	C	49.6	D
24	El Camino Real & Mountain Vista Dr	S	49.4	D	30.9	C
25	Rancho Santa Fe Rd & Lone Jack Rd	U	40.1	E	41.1	E
26	El Camino Real & Via Molena	S	27.0	C	35.1	D
27	Rancho Santa Fe Rd & El Camino Del Norte	U	34.6	D	41.9	E
28	Highway 101 & Encinitas Blvd	S	35.3	D	34.0	C
29	Vulcan Ave & Encinitas Blvd	S	39.1	D	32.3	C
30	I-5 SB Ramp/I-5 SB Ramp & Encinitas Blvd	S	29.1	C	47.8	D

TABLE 3
SUMMARY OF INTERSECTION OPERATION
FUTURE YEAR 2035 WITHOUT PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
31	I-5 NB Ramp/I-5 NB Ramp & Encinitas Blvd	S	20.9	C	27.5	C
32	Encinitas Blvd & Saxony Rd	S	32.0	C	17.3	B
33	Westlake Dr/Quail Gardens Dr & Encinitas Blvd	S	32.2	C	53.9	D
34	Balour Dr & Encinitas Blvd	S	12.1	B	17.7	B
35	Encinitas Blvd & Via Cantebria	S	21.5	C	20.7	C
36	El Camino Real & Encinitas Blvd	S	50.7	D	70.4	E
37	Village Square Dr & Encinitas Blvd	S	18.4	B	44.5	D
38	Encinitas Blvd & Village Park Way	S	26.0	C	44.8	D
39	Manchester/Rancho Santa Fe & Encinitas Blvd	S	77.1	E	48.0	D
40	San Elijo Ave/Vulcan Ave & Santa Fe Dr	U	37.0	E	18.8	C
41	I-5 SB Ramp/I-5 SB Ramp & Santa Fe Dr	S	24.3	C	30.7	C
42	Santa Fe Dr & I-5 NB Ramp	S	5.5	A	4.1	A
43	I-5 NB Ramp/Regal Rd & Santa Fe Dr	S	38.5	D	42.9	D
44	MacKinnon Ave/Nardo Rd & Santa Fe Dr	S	28.5	C	20.1	C
45	Santa Fe Dr & Balour Dr	U	84.7	F	51.7	F
46	Lake Dr & Santa Fe Dr	S	9.3	A	8.9	A
47	El Camino Real & Santa Fe Dr	S	20.0	B	23.4	C
48	San Elijo Ave & Birmingham Dr	S	13.0	B	24.2	C
49	I-5 SB Ramp/I-5 SB Ramp & Birmingham Dr	U	250.6	F	47.5	E
50	I-5 NB Ramp/I-5 NB Ramp & Birmingham Dr	U	45.5	E	41.1	E
51	Manchester Ave & I-5 SB Ramps	U	54.5	F	35.5	E
52	Manchester Ave & I-5 NB Ramps	S	57.5	E	45.0	D
53	Manchester Ave & El Camino Real	S	36.2	D	38.8	D

Notes:

Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.

Delay values are based on the methodology outlined in the 2010 Highway Capacity Manual.

At a signalized intersection and an all-way stop-controlled intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the worst movement.

S = Signalized; U = Unsignalized; LOS = Level of Service

Future Year 2035 With Project Conditions

Roadway Segment Analysis

The results of the Future Year 2035 With Project Conditions roadway segment analysis are summarized on Table 4. The table shows the Without Project and With Project daily forecast volumes and v/c ratios for each roadway segment, and the change in v/c due to the project. Review of this table indicates that the 28 roadway segments forecasted to operate at an unacceptable Level of Service E or F without the project would continue to do so with the implementation of the project. In addition, four additional roadway segments would worsen to an unacceptable Level of Service E or F with implementation of the project:

City of Encinitas (4 additional segments)

- Santa Fe Drive: Nardo Road to Windsor Road/Bonita Drive – LOS E
- Santa Fe Drive: Windsor Road/Bonita Drive to Balour Drive – LOS E
- Santa Fe Drive: Lake Drive to Crest Drive – LOS E
- Santa Fe Drive: Crest Drive to El Camino Real – LOS E

Of the 32 deficient roadway segments, the project impact would be significant on the following 13 segments:

- La Costa Avenue: N. Coast Highway 101 to Vulcan Avenue – LOS F
- La Costa Avenue: Vulcan Avenue to Sheridan Road – LOS F
- Encinitas Boulevard: I-5 SB Ramps to I-5 NB Ramps – LOS F
- Encinitas Boulevard: I-5 NB Ramps to Saxony Road – LOS F
- Encinitas Boulevard: Quail Gardens Drive to Delphinium Street – LOS F
- Encinitas Boulevard: Delphinium Street to Balour Drive – LOS F
- Encinitas Boulevard: Balour Drive to Via Cantabria – LOS F
- Santa Fe Drive: Nardo Road to Windsor Road/Bonita Drive – LOS E
- Santa Fe Drive: Windsor Road/Bonita Drive to Balour Drive – LOS E
- Santa Fe Drive: Balour Drive to Lake Drive – LOS E
- Santa Fe Drive: Lake Drive to Crest Drive – LOS E
- Santa Fe Drive: Crest Drive to El Camino Real – LOS E
- S. Rancho Santa Fe Road: City of Encinitas Limits to El Mirlo – LOS F

Each of these roadway segments was identified as being significantly impacted by the project previously analyzed in the 2016 PEIR TIS. Mitigation measures to address the roadway segments impacts are presented in the Mitigation Measures section of this report.

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
Carlsbad Blvd	Poinsettia Lane to Avenida Encinas	4-Lane Major Arterial	25,300	200	25,500	40,000	0.638	C	0.005	No	Carlsbad
	Avenida Encinas to La Costa Avenue	4-Lane Major Arterial	24,700	200	24,900	40,000	0.623	C	0.005	No	Carlsbad
North Coast Highway 101	La Costa Avenue to 600 feet south of La Costa Avenue	4-Lane Major Roadway	19,900	300	20,200	35,200	0.574	C or better	0.009	No	Encinitas
	600 feet south of La Costa Avenue to Leucadia Blvd	4-Lane Major Roadway	18,100	600	18,700	26,400	0.708	C or better	0.023	No	Encinitas
	Leucadia Blvd to Cadmus Street	4-Lane Major Roadway	19,900	400	20,300	35,200	0.577	C or better	0.011	No	Encinitas
	Cadmus Street to Marcheta Street	4-Lane Major Roadway	19,900	400	20,300	35,200	0.577	C or better	0.011	No	Encinitas
	Marcheta Street to 660 feet south of Marcheta Street	4-Lane Major Roadway	19,900	400	20,300	35,200	0.577	C or better	0.011	No	Encinitas
	660 feet south of Marcheta Street to Encinitas Blvd	4-Lane Major Roadway	19,900	400	20,300	35,200	0.577	C or better	0.011	No	Encinitas
South Coast Highway 101	Encinitas Blvd to D Street	4-Lane Major Roadway	19,400	700	20,100	35,200	0.571	C or better	0.020	No	Encinitas
	D Street to E Street	4-Lane Major Roadway	19,400	700	20,100	35,200	0.571	C or better	0.020	No	Encinitas
	E Street to F Street	4-Lane Major Roadway	19,400	700	20,100	35,200	0.571	C or better	0.020	No	Encinitas
	F Street to H Street	4-Lane Major Roadway	19,400	100	19,500	35,200	0.554	C or better	0.003	No	Encinitas
	H Street to J Street	4-Lane Major Roadway	21,100	100	21,200	35,200	0.602	C or better	0.003	No	Encinitas
	J Street to Swami's Parking	3-Lane Major Roadway	21,100	100	21,200	26,400	0.803	D	0.004	No	Encinitas
	Swami's Parking to San Elijo State Beach	2-Lane Local Roadway	21,300	100	21,400	14,000	1.529	F	0.007	No	Encinitas

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
	San Elijo State Beach to Chesterfield	4-Lane Major Roadway	21,300	100	21,400	35,200	0.608	C or better	0.003	No	Encinitas
	Chesterfield to Cardiff State Beach traffic signal	4-Lane Major Roadway	23,200	100	23,300	35,200	0.662	C or better	0.003	No	Encinitas
	Cardiff Beach State to Chart House traffic signal	4-Lane Major Roadway	23,200	100	23,300	35,200	0.662	C or better	0.003	No	Encinitas
	Chart House traffic signal to Las Olas Mexican Restaurant traffic signal	4-Lane Major Roadway	23,200	100	23,300	35,200	0.662	C or better	0.003	No	Encinitas
	Las Olas Mexican Restaurant to City of Solana Beach boundary	4-Lane Major Roadway	23,200	100	23,300	35,200	0.662	C or better	0.003	No	Encinitas
North Highway 101	City of Solana Beach boundary to West Cliff Street	4-Lane Major Arterial	22,500	100	22,600	40,000	0.565	C	0.002	No	Solana Beach
	West Cliff to Lomas Santa Fe	4-Lane Major Arterial	25,000	100	25,100	40,000	0.628	C	0.002	No	Solana Beach
	Lomas Santa Fe Drive to Via De La Valle	4-Lane Major Arterial	23,600	100	23,700	40,000	0.593	C	0.003	No	Solana Beach
Vulcan Avenue	La Costa Avenue to Leucadia Boulevard	2-Lane Local Roadway	7,000	300	7,300	14,000	0.521	C or better	0.021	No	Encinitas
	Leucadia Blvd to Encinitas Boulevard	2-Lane Local Roadway	7,500	600	8,100	14,000	0.579	C or better	0.043	No	Encinitas
	Encinitas Boulevard to D Street	4-Lane Collector	12,900	300	13,200	32,400	0.407	C or better	0.009	No	Encinitas
	D Street to E Street	4-Lane Collector	12,900	300	13,200	32,400	0.407	C or better	0.009	No	Encinitas
	E Street to Santa Fe Drive	2-Lane Local Roadway - Augmented	13,100	300	13,400	20,000	0.670	C or better	0.015	No	Encinitas
San Elijo Avenue	Santa Fe Drive to Birmingham Drive	2-Lane Local Roadway	10,100	0	10,100	14,000	0.721	C or better	0.000	No	Encinitas
	Birmingham Drive to Chesterfield Drive	2-Lane Local Roadway - Augmented	12,500	0	12,500	20,000	0.625	C or better	0.000	No	Encinitas

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
	Chesterfield Drive to Manchester Avenue	2-Lane Local Roadway - Augmented	9,500	0	9,500	20,000	0.475	C or better	0.000	No	Encinitas
Saxony Road	La Costa Avenue to Quail Gardens Drive	2-Lane Local Roadway	4,600	200	4,800	14,000	0.343	C or better	0.014	No	Encinitas
	Quail Hollow Drive to Normandy Road	2-Lane Local Roadway	3,400	100	3,500	14,000	0.250	C or better	0.007	No	Encinitas
	Normandy Road to Brittany Avenue	2-Lane Local Roadway	3,900	100	4,000	14,000	0.286	C or better	0.007	No	Encinitas
	Brittany Avenue to Leucadia Blvd	2-Lane Local Roadway	3,500	100	3,600	14,000	0.257	C or better	0.007	No	Encinitas
	Leucadia Blvd to Silver Berry Place	2-Lane Local Roadway	11,800	100	11,900	14,000	0.850	D	0.007	No	Encinitas
	Silver Berry Place to Encinitas Blvd	2-Lane Local Roadway - Augmented	13,800	300	14,100	20,000	0.705	C or better	0.015	No	Encinitas
Quail Hollow Drive	Swallow Tail Road to Saxony Road	2-Lane Local Roadway	5,000	200	5,200	14,000	0.371	C or better	0.014	No	Encinitas
Quail Gardens Drive	Swallow Tail Road to Lauren Court	2-Lane Local Roadway - Augmented	4,900	200	5,100	20,000	0.255	C or better	0.010	No	Encinitas
	Lauren Court to Leucadia Boulevard	2-Lane Local Roadway - Augmented	5,300	200	5,500	20,000	0.275	C or better	0.010	No	Encinitas
	Leucadia Boulevard to Paseo De Las Flores	2-Lane Local Roadway - Augmented	9,100	800	9,900	20,000	0.495	C or better	0.040	No	Encinitas
	Paseo De Las Flores to Paseo De Las Verdes	2-Lane Local Roadway - Augmented	8,900	700	9,600	20,000	0.480	C or better	0.035	No	Encinitas
	Paseo De Las Verdes to Encinitas Boulevard	2-Lane Local Roadway - Augmented	8,200	700	8,900	20,000	0.445	C or better	0.035	No	Encinitas
Westlake Street	Encinitas Boulevard to Requeza Street	2-Lane Local Roadway - Augmented	11,800	1,800	13,600	20,000	0.680	C or better	0.090	No	Encinitas
Nardo Drive	Requeza Street to Melba Road	2-Lane Local Roadway	5,100	0	5,100	14,000	0.364	C or better	0.000	No	Encinitas

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
	Melba Road Santa Fe Drive	2-Lane Local Roadway	5,100	0	5,100	14,000	0.364	C or better	0.000	No	Encinitas
MacKinnon Avenue	Santa Fe Drive to Villa Cardiff Drive	2-Lane Local Roadway	6,200	0	6,200	14,000	0.443	C or better	0.000	No	Encinitas
Villa Cardiff Drive	MacKinnon Avenue to Windsor Road	2-Lane Local Roadway	6,500	0	6,500	14,000	0.464	C or better	0.000	No	Encinitas
	Windsor Road to Birmingham Drive	2-Lane Local Roadway	5,700	0	5,700	14,000	0.407	C or better	0.000	No	Encinitas
Garden View Road	Leucadia Boulevard to Via Cantebria	4-Lane Major Roadway	11,500	0	11,500	35,200	0.327	C or better	0.000	No	Encinitas
	Via Cantebria to El Camino Real	4-Lane Major Roadway	12,900	0	12,900	35,200	0.366	C or better	0.000	No	Encinitas
Town Center Place	Leucadia Boulevard to Town Center Place	4-Lane Collector (Not a CE)	20,000	100	20,100	32,400	0.620	C or better	0.003	No	Encinitas
	Town Center Place to Town Center Drive	4-Lane Collector (Not a CE)	17,800	100	17,900	32,400	0.552	C or better	0.003	No	Encinitas
Via Cantebria	Town Center Drive to Garden View Road	2-Lane Local Roadway (Not a CE)	15,800	100	15,900	14,000	1.136	F	0.007	No	Encinitas
	Garden View Road to Forrest Bluff	3-Lane Collector	14,900	0	14,900	24,300	0.613	C or better	0.000	No	Encinitas
	Forrest Bluff to Via Montoro	4-Lane Collector	15,200	0	15,200	32,400	0.469	C or better	0.000	No	Encinitas
	Via Montoro to Via Molena	4-Lane Collector	17,900	0	17,900	32,400	0.552	C or better	0.000	No	Encinitas
	Via Molena to Encinitas Boulevard	4-Lane Collector	17,500	0	17,500	32,400	0.540	C or better	0.000	No	Encinitas
Balour Drive	Encinitas Blvd to Melba Road	2-Lane Local Roadway	11,200	800	12,000	14,000	0.857	D	0.057	No	Encinitas
	Melba Road to Santa Fe Drive	2-Lane Local Roadway	10,700	700	11,400	14,000	0.814	D	0.050	No	Encinitas

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
Lake Drive	Santa Fe Drive to Woodlake Drive	2-Lane Local Roadway	6,600	0	6,600	14,000	0.471	C or better	0.000	No	Encinitas
	Woodlake Drive to Birmingham Drive	2-Lane Local Roadway	6,600	0	6,600	14,000	0.471	C or better	0.000	No	Encinitas
El Camino Real	Aviara Parkway to La Costa Avenue	5-Lane Prime Arterial	54,300	100	54,400	50,000	1.088	F	0.002	No	Carlsbad
	La Costa Avenue to Calle Barcelona	6-Lane Prime Arterial	38,400	300	38,700	60,000	0.645	C	0.005	No	Carlsbad
	Calle Barcelona to City of Carlsbad boundary	6-Lane Prime Arterial	36,500	300	36,800	60,000	0.613	C	0.005	No	Carlsbad
	City of Carlsbad boundary to Leucadia Boulevard	6-Lane Prime Arterial - Augmented	46,700	300	47,000	66,000	0.712	C or better	0.005	No	Encinitas
	Leucadia Boulevard to Town Center Drive	6-Lane Prime Arterial - Augmented	58,600	700	59,300	66,000	0.898	D	0.011	No	Encinitas
	Town Center Drive to Garden View Road	6-Lane Prime Arterial - Augmented	54,200	700	54,900	66,000	0.832	D	0.011	No	Encinitas
	Garden View Road to 331-339 El Camino Real	6-Lane Prime Arterial - Augmented	42,900	800	43,700	66,000	0.662	C or better	0.012	No	Encinitas
	331-339 El Camino Real to Via Montoro	6-Lane Prime Arterial - Augmented	48,900	800	49,700	66,000	0.753	C or better	0.012	No	Encinitas
	Via Montoro to Mountain Vista	6-Lane Prime Arterial - Augmented	44,300	800	45,100	66,000	0.683	C or better	0.012	No	Encinitas
	Mountain Vista to Via Molena	6-Lane Prime Arterial - Augmented	47,000	900	47,900	66,000	0.726	C or better	0.014	No	Encinitas
	Via Molena to Encinitas Boulevard	6-Lane Prime Arterial - Augmented	56,900	900	57,800	66,000	0.876	D	0.014	No	Encinitas
	Encinitas Boulevard to 213 S El Camino Real	6-Lane Prime Arterial	39,400	1,200	40,600	57,000	0.712	C or better	0.021	No	Encinitas
213 S El Camino to Crest Drive	6-Lane Prime Arterial	33,800	1,200	35,000	57,000	0.614	C or better	0.021	No	Encinitas	

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
	Crest Drive to Willowspring Drive	6-Lane Prime Arterial	36,200	1,200	37,400	57,000	0.656	C or better	0.021	No	Encinitas
	Willowspring Drive to Santa Fe Drive	4-Lane Major Roadway - Augmented	37,500	1,200	38,700	45,400	0.852	D	0.026	No	Encinitas
	Santa Fe Drive to Sage Canyon Drive	4-Lane Major Roadway - Augmented	28,400	1,800	30,200	45,400	0.665	C or better	0.040	No	Encinitas
	Sage Canyon Drive to Manchester Avenue	4-Lane Major Roadway	27,700	1,300	29,000	35,200	0.824	D	0.037	No	Encinitas
Village Park Way	Mountain Vista Drive to Parkdale Drive	4-Lane Major Roadway	10,900	200	11,100	35,200	0.315	C or better	0.006	No	Encinitas
	Parkdale Drive to Encinitas Boulevard	4-Lane Major Roadway	14,200	100	14,300	35,200	0.406	C or better	0.003	No	Encinitas
Rancho Santa Fe Road	Olivenhain Road to Calle Acervo	4-Lane Major Arterial	17,400	400	17,800	40,000	0.445	C or better	0.010	No	Encinitas
	Calle Acervo/Avenida La Posta to Olive Crest Drive	2-Lane Local Roadway - Augmented	15,900	100	16,000	20,000	0.800	C or better	0.005	No	Encinitas
	Olive Crest Drive to 13th Street	2-Lane Local Roadway - Augmented	15,800	100	15,900	20,000	0.795	C or better	0.005	No	Encinitas
	13th Street to 11th Street	2-Lane Local Roadway - Augmented	15,700	100	15,800	20,000	0.790	C or better	0.005	No	Encinitas
	11th Street to El Camino Del Norte	2-Lane Local Roadway - Augmented	15,800	100	15,900	20,000	0.795	C or better	0.005	No	Encinitas
	El Camino Del Norte to 9th Street	2-Lane Local Roadway - Augmented	13,300	100	13,400	20,000	0.670	C or better	0.005	No	Encinitas
	9th Street to 8th Street	2-Lane Local Roadway	13,500	100	13,600	14,000	0.971	E	0.007	No	Encinitas
	8th Street to 7th Street	2-Lane Local Roadway	13,900	100	14,000	14,000	1.000	E	0.007	No	Encinitas
	7th Street to Encinitas Boulevard	2-Lane Local Roadway - Augmented	15,200	100	15,300	20,000	0.765	C or better	0.005	No	Encinitas

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
Manchester Avenue	Encinitas Boulevard to El Camino Real	2-Lane Local Roadway - Augmented	12,300	20,000	32,300	45,400	0.711	C or better	0.096	No	Encinitas
	Manchester Avenue to Mira Costa College	4-Lane Major Roadway - Augmented	35,400	1,400	36,800	45,400	0.811	D	0.031	No	Encinitas
	Mira Costa College to I-5 NB On-Ramp	4-Lane Major Roadway - Augmented	35,700	300	36,000	45,400	0.793	C or better	0.007	No	Encinitas
	I-5 NB Ramps to I-5 SB Ramps	2-Lane Major Roadway - Augmented	40,200	100	40,300	20,000	2.015	F	0.005	No	Encinitas
	I-5 SB Ramps to Ocean Cove Drive	2-Lane Major Roadway - Augmented	11,900	100	12,000	20,000	0.600	C or better	0.005	No	Encinitas
	Ocean Cove Drive to Seaside Cardiff-by-the-sea residential area driveway	2-Lane Local Roadway	11,900	100	12,000	14,000	0.857	D	0.007	No	Encinitas
	Seaside Cardiff-by-the-sea residential area driveway to San Elijo Water Reclamation Facility Driveway	2-Lane Local Roadway - Augmented	11,900	100	12,000	20,000	0.600	C or better	0.005	No	Encinitas
	San Elijo Water Reclamation Facility Driveway to Manchester Avenue	2-Lane Local Roadway	11,800	100	11,900	14,000	0.850	D	0.007	No	Encinitas
La Costa Avenue	North Coast Highway 101 to Vulcan Avenue	2-Lane Local Roadway	16,400	300	16,700	14,000	1.193	F	0.021	Yes	Encinitas
	Vulcan Avenue to Sheridan Road	2-Lane Local Roadway	16,300	400	16,700	14,000	1.193	F	0.029	Yes	Encinitas
	Sheridan Road to I-5 SB Ramps	2-Lane Local Roadway - Augmented	22,000	400	22,400	20,000	1.120	F	0.020	No	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	4-Lane Major Arterial	29,300	600	29,900	40,000	0.748	C	0.015	No	Carlsbad
	I-5 NB Ramps to Piraeus Street	5-Lane Major Arterial	39,500	600	40,100	41,667	0.962	E	0.014	No	Carlsbad
	Piraeus Street to Saxony Road	4-Lane Major Arterial	39,600	300	39,900	40,000	0.998	E	0.008	No	Carlsbad
	Saxony Road to El Camino Real	4-Lane Major Arterial	42,000	300	42,300	40,000	1.058	F	0.008	No	Carlsbad

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
	El Camino Real to La Costa Towne Center traffic signal	4-Lane Major Arterial	20,700	100	20,800	40,000	0.520	B	0.003	No	Carlsbad
	La Costa Towne Center traffic signal to Fairway Lane	4-Lane Major Arterial	20,900	100	21,000	40,000	0.525	C	0.003	No	Carlsbad
	Fairway Lane to Calle Madero	3-Lane Collector	20,700	100	20,800	22,500	0.924	E	0.004	No	Carlsbad
Leucadia Blvd	North Coast Highway 101 to Vulcan Avenue	4-Lane Collector	14,300	400	14,700	32,400	0.454	C or better	0.012	No	Encinitas
	Vulcan Avenue to Hermes Avenue	2-Lane Local Roadway - Augmented	16,300	200	16,500	20,000	0.825	D	0.010	No	Encinitas
	Hermes Avenue to Hygeia Avenue	2-Lane Local Roadway - Augmented	15,700	200	15,900	20,000	0.795	C or better	0.010	No	Encinitas
	Hygeia Avenue to Hymettus Avenue	2-Lane Local Roadway - Augmented	17,400	200	17,600	20,000	0.880	D	0.010	No	Encinitas
	Hymettus Avenue to Orpheus Avenue	2-Lane Local Roadway - Augmented	19,200	200	19,400	20,000	0.970	E	0.010	No	Encinitas
	Orpheus Avenue to I-5 SB Ramps	4-Lane Major Roadway	17,700	200	17,900	35,200	0.509	C or better	0.006	No	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	4-Lane Major Roadway	28,600	400	29,000	35,200	0.824	D	0.011	No	Encinitas
	Piraeus Street to Urania Avenue	4-Lane Major Roadway - Augmented	44,100	600	44,700	45,400	0.985	E	0.013	No	Encinitas
	Urania Avenue to Saxony Road	4-Lane Major Roadway - Augmented	44,100	800	44,900	45,400	0.989	E	0.018	No	Encinitas
	Saxony Road to Sidonia Street	4-Lane Major Roadway - Augmented	42,400	800	43,200	45,400	0.952	E	0.018	No	Encinitas
	Sidonia Street to Quail Gardens Drive	4-Lane Major Roadway - Augmented	42,400	800	43,200	45,400	0.952	E	0.018	No	Encinitas
	Quail Gardens Drive to Garden View Road	4-Lane Major Roadway - Augmented	47,100	500	47,600	45,400	1.048	F	0.011	No	Encinitas

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOSE)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
	Garden View Road to Town Center Place	4-Lane Major Roadway - Augmented	34,700	400	35,100	45,400	0.773	C or better	0.009	No	Encinitas
	Town Center Place to El Camino Real	6-Lane Prime Arterial	39,000	500	39,500	57,000	0.693	C or better	0.009	No	Encinitas
Mountain Vista Drive	El Camino Real to Wandering Road	2-Lane Local Roadway - Augmented	15,000	200	15,200	20,000	0.760	C or better	0.010	No	Encinitas
	Wandering Road to Village Park Way	2-Lane Local Roadway - Augmented	9,300	300	9,600	20,000	0.480	C or better	0.015	No	Encinitas
Lone Jack Drive	Rancho Santa Fe Road to northern terminus	2-Lane Local Roadway	8,400	0	8,400	14,000	0.600	C or better	0.000	No	Encinitas
El Camino Del Norte	Rancho Santa Fe Road to San Dieguito CPA boundary	2-Lane Local Roadway	7,900	0	7,900	14,000	0.564	C or better	0.000	No	Encinitas
	San Dieguito CPA boundary to Via De Fortuna	2-Lane Light Collector with Reduced Shoulder	7,800	0	7,800	9,700	0.804	D	0.000	No	San Diego
	North Coast Highway 101 to Vulcan Avenue	4-Lane Collector	22,300	700	23,000	32,400	0.710	C or better	0.022	No	Encinitas
	Vulcan Avenue to I-5 SB Ramps	4-Lane Major Roadway - Augmented	34,100	1,100	35,200	45,400	0.775	C or better	0.024	No	Encinitas

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
Encinitas Blvd	I-5 SB Ramps to I-5 NB Ramps	4-Lane Major Roadway	38,500	1,400	39,900	35,200	1.134	F	0.040	Yes	Encinitas
	I-5 NB Ramps to Saxony Road	4-Lane Major Roadway	41,400	1,800	43,200	35,200	1.227	F	0.051	Yes	Encinitas
	Saxony Road to Calle Magdalena	6-Lane Prime Arterial - Augmented	35,400	1,900	37,300	66,000	0.565	C or better	0.029	No	Encinitas
	Calle Magdalena to Encinitas Town Country traffic signal	6-Lane Prime Arterial	40,000	1,900	41,900	57,000	0.735	C or better	0.033	No	Encinitas
	Encinitas Town Country traffic signal to Quail Gardens Drive	4-Lane Major Roadway - Augmented	36,000	1,900	37,900	45,400	0.835	D	0.042	No	Encinitas
	Quail Gardens Drive to Delphinium Street	4-Lane Major Roadway	37,700	1,600	39,300	35,200	1.116	F	0.045	Yes	Encinitas
	Delphinium Street to Balour Drive	4-Lane Major Roadway	38,300	1,600	39,900	35,200	1.134	F	0.045	Yes	Encinitas
	Balour Drive to Via Cantabria	4-Lane Major Roadway	47,500	800	48,300	35,200	1.372	F	0.023	Yes	Encinitas
	Via Cantabria to El Camino Real	4-Lane Major Roadway	29,400	900	30,300	35,200	0.861	D	0.026	No	Encinitas
	El Camino Real to Village Square Drive	4-Lane Major Roadway	31,000	400	31,400	35,200	0.892	D	0.011	No	Encinitas
	Village Square Drive to Turner Avenue	4-Lane Major Roadway	29,300	400	29,700	35,200	0.844	D	0.011	No	Encinitas
	Turner Avenue to Cerro Street	4-Lane Major Roadway	29,300	400	29,700	35,200	0.844	D	0.011	No	Encinitas
	Cerro Street to Village Park Way	4-Lane Major Roadway	29,700	400	30,100	35,200	0.855	D	0.011	No	Encinitas
	Village Park Way to Willowspring Drive	4-Lane Major Roadway	27,900	600	28,500	35,200	0.810	D	0.017	No	Encinitas
Willowspring Drive to Rancho Santa Fe Road	4-Lane Major Roadway	22,700	600	23,300	35,200	0.662	C or better	0.017	No	Encinitas	

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOSE)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
South Rancho Santa Fe Road	Manchester Avenue to City of Encinitas Limits	2-Lane Local Roadway - Augmented	18,580	300	18,880	20,000	0.944	E	0.015	No	Encinitas
	City of Encinitas Limits to El Mirlo	2-Lane Light Collector with Reduced Shoulder	18,580	300	18,880	9,700	1.946	F	0.031	Yes	San Diego
F Street	Vulcan Avenue to Cornish Drive	2-Lane Local Roadway	6,200	0	6,200	14,000	0.443	C or better	0.000	No	Encinitas
Requeza Street	Cornish Drive to San Dieguito Drive	2-Lane Local Roadway	6,300	0	6,300	14,000	0.450	C or better	0.000	No	Encinitas
	San Dieguito Drive to Stratford Drive	2-Lane Local Roadway	6,300	0	6,300	14,000	0.450	C or better	0.000	No	Encinitas
	Stratford Drive to Regal Road	2-Lane Local Roadway	6,800	0	6,800	14,000	0.486	C or better	0.000	No	Encinitas
	Regal Road to West Lake Drive	2-Lane Local Roadway	6,400	0	6,400	14,000	0.457	C or better	0.000	No	Encinitas
	West Lake Drive to Nardo Drive	2-Lane Local Roadway	4,800	0	4,800	14,000	0.343	C or better	0.000	No	Encinitas
Santa Fe Drive	Vulcan Avenue to Cornish Drive	2-Lane Local Roadway	9,000	300	9,300	14,000	0.664	C or better	0.021	No	Encinitas
	Cornish Drive to Summit Avenue	2-Lane Local Roadway	9,000	300	9,300	14,000	0.664	C or better	0.021	No	Encinitas
	Summit Avenue to Devonshire	2-Lane Local Roadway	10,100	300	10,400	14,000	0.743	C or better	0.021	No	Encinitas
	Devonshire Drive to Scripps Memorial Encinitas traffic signal	2-Lane Local Roadway - Augmented	15,200	300	15,500	20,000	0.775	C or better	0.015	No	Encinitas
	Scripps Memorial Hospital Encinitas traffic signal to I-5 SB Ramps	4-Lane Collector	15,200	800	16,000	32,400	0.494	C or better	0.025	No	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	3-Lane Major Roadway	22,400	900	23,300	26,400	0.883	D	0.034	No	Encinitas
	I-5 NB Ramps to Regal Road	2-Lane Local Roadway - Augmented	16,100	1,000	17,100	20,000	0.855	D	0.050	No	Encinitas

TABLE 4
SUMMARY OF ROADWAY SEGMENT OPERATION
FUTURE YEAR 2035 WITH PROJECT

Roadway	Segment	Functional Classification	Year 2035 Future ADT	Project ADT	Future With Project ADT	Capacity (LOS E)	V/C	LOS	Change in V/C	Signif Impact?	Jurisdiction
Santalitas Drive	Regal Road to Gardena Road	2-Lane Local Roadway - Augmented	16,100	900	17,000	20,000	0.850	D	0.045	No	Encinitas
	Gardena Road to Nardo Road	2-Lane Local Roadway - Augmented	16,100	900	17,000	20,000	0.850	D	0.045	No	Encinitas
	Nardo Road to Windsor Road/Bonita Drive	2-Lane Local Roadway - Augmented	17,700	900	18,600	20,000	0.930	E	0.045	Yes	Encinitas
	Windsor Road/Bonita Drive to Balour Drive	2-Lane Local Roadway - Augmented	17,700	1,000	18,700	20,000	0.935	E	0.050	Yes	Encinitas
	Balour Drive to Lake Drive	2-Lane Local Roadway - Augmented	18,600	1,100	19,700	20,000	0.985	E	0.055	Yes	Encinitas
	Lake Drive to Crest Drive	2-Lane Local Roadway - Augmented	17,700	1,100	18,800	20,000	0.940	E	0.055	Yes	Encinitas
	Crest Drive to El Camino Real	2-Lane Local Roadway - Augmented	17,700	1,100	18,800	20,000	0.940	E	0.055	Yes	Encinitas
Birmingham Drive	San Elijo Avenue to MacKinnon Avenue	2-Lane Local Roadway - Augmented	15,500	0	15,500	20,000	0.775	C or better	0.000	No	Encinitas
	MacKinnon Avenue to Carol View Drive	2-Lane Local Roadway - Augmented	15,500	0	15,500	20,000	0.775	C or better	0.000	No	Encinitas
	Carol View Drive to I-5 SB Ramps	2-Lane Local Roadway - Augmented	15,500	0	15,500	20,000	0.775	C or better	0.000	No	Encinitas
	I-5 SB Ramps to I-5 NB Ramps	2-Lane Local Roadway	17,400	0	17,400	14,000	1.243	F	0.000	No	Encinitas
	I-5 NB Ramps to Villa Cardiff Drive	2-Lane Local Roadway	8,800	0	8,800	14,000	0.629	C or better	0.000	No	Encinitas
	Villa Cardiff to Playa Riviera	2-Lane Local Roadway	8,800	0	8,800	14,000	0.629	C or better	0.000	No	Encinitas
	Playa Riviera to Freda Lane	2-Lane Local Roadway	8,800	0	8,800	14,000	0.629	C or better	0.000	No	Encinitas
	Freda Lane to Lake Drive	2-Lane Local Roadway	8,800	0	8,800	14,000	0.629	C or better	0.000	No	Encinitas

Intersection Analysis

The results of the Future Year 2035 With Project Conditions intersection analysis are summarized on Table 5. This table shows the Without Project and With Project delay for each intersection, and the change in delay due to the project. Review of this table indicates that the 14 intersections forecasted to operate at an unacceptable Level of Service E or F without the project would continue to do so with the implementation of the project. Of the 14 deficient intersections, the project impact would be significant at the following 3 intersections:

- Int. # 6 – Vulcan Avenue at La Costa Avenue – AM LOS E, PM LOS E
- Int. # 17 – Saxony Road at Leucadia Boulevard – AM LOS E, PM LOS E
- Int. # 45 – Balour Drive at Santa Fe Drive – AM LOS F, PM LOS F

Of these three intersections, Intersection #6 and #51 were identified as being significantly impacted by the project previously analyzed in the 2016 PEIR TIS. Intersection #17 is a new significantly impacted location. Mitigation measures to address the intersection impacts are presented in the Mitigation Measures section of this report.

MITIGATION MEASURES

Roadway Segment Mitigation

Improvements were identified that would achieve improved Level of Service under Future Year 2035 conditions for the impacted roadway segments. In each case, these improvements were identified previously as mitigation in the 2016 PEIR TIS. The significant traffic impact associated with the currently proposed project would be fully mitigated with the implementation of the recommended improvements.

La Costa Avenue: N. Coast Highway 101 to Vulcan Avenue – Provide additional right-of-way and widen the roadway to a 4-Lane Collector. This improvement is consistent with the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

La Costa Avenue: Vulcan Avenue to Sheridan Road – Provide additional right-of-way and widen the roadway to a 4-Lane Collector. This improvement is consistent with the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Encinitas Boulevard: I-5 SB Ramps to I-5 NB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Major Roadway Augmented. This improvement exceeds the roadway classification designation in the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

TABLE 5
SUMMARY OF INTERSECTION OPERATION
FUTURE YEAR 2035 WITH PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Impact	Impact Sig?	Without Project		With Project		Project Impact	Impact Sig?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Carlsbad Blvd & Poinsettia Ln	S	11.7	B	11.7	B	0.0	No	10.6	B	10.6	B	0.0	No
2	I-5 SB Ramp/I-5 SB Ramp & Poinsettia Ln	S	15.2	B	15.2	B	0.0	No	21.6	C	21.6	C	0.0	No
3	I-5 NB Ramp/I-5 NB Ramp & Poinsettia Ln	S	32.4	C	32.4	C	0.0	No	29.7	C	29.7	C	0.0	No
4	Aviara Parkway & Poinsettia Ln	S	29.1	C	29.1	C	0.0	No	30.8	C	30.8	C	0.0	No
5	Highway 101/Carlsbad Blvd & La Costa Ave	S	18.8	B	19.1	B	0.3	No	16.8	B	17.5	B	0.7	No
6	Vulcan Ave & La Costa Ave	U	45.2	E	58.6	F	13.4	Yes	99.1	F	124.5	F	25.4	Yes
7	I-5 SB Ramp/I-5 SB Ramp & La Costa Ave	S	44.3	D	44.9	D	0.6	No	34.1	C	34.6	C	0.5	No
8	I-5 NB Ramp/I-5 NB Ramp & La Costa Ave	S	28.2	C	28.5	C	0.3	No	31.2	C	31.6	C	0.4	No
9	Piraeus Street & La Costa Ave	S	22.4	C	23.3	C	0.9	No	34.9	C	37.2	D	2.3	No
10	Saxony Rd & La Costa Ave	S	19.2	B	20.0	B	0.8	No	28.3	C	29.6	C	1.3	No
11	El Camino Real & La Costa Ave	S	51.7	D	51.8	D	0.1	No	58.3	E	59.0	E	0.7	No
12	Highway 101 & Leucadia Blvd	S	30.1	C	31.3	C	1.2	No	35.3	D	39.8	D	4.5	No
13	Vulcan Ave & Leucadia Blvd	S	12.5	B	13.0	B	0.5	No	11.9	B	12.5	B	0.6	No
14	Orpheus Ave & Leucadia Blvd	S	17.1	B	17.1	B	0.0	No	16.5	B	16.5	B	0.0	No
15	I-5 SB Ramp/I-5 SB Ramp & Leucadia Blvd	S	14.5	B	14.8	B	0.3	No	16.3	B	16.5	B	0.2	No
16	I-5 NB Ramp/I-5 NB Ramp & Leucadia Blvd	S	13.3	B	13.3	B	0.0	No	36.4	D	38.3	D	1.9	No
17	Saxony Rd & Leucadia Blvd	S	60.8	E	62.2	E	1.4	No	79.4	E	84.0	F	4.6	Yes
18	Quail Gardens Dr & Leucadia Blvd	S	31.8	C	35.8	D	4.0	No	42.8	D	49.2	D	6.4	No
19	Garden View Rd/Barcelona & Leucadia Blvd	S	47.1	D	46.8	D	-0.3	No	53.7	D	55.0	D	1.3	No
20	Town Center Place & Leucadia Blvd	S	24.6	C	24.2	C	-0.4	No	43.9	D	43.7	D	-0.2	No
21	El Camino Real & Leucadia Blvd/Olivenhain R	S	48.7	D	49.9	D	1.2	No	67.3	E	68.5	E	1.2	No
22	El Camino Real & Town Center Dr	S	11.6	B	11.5	B	-0.1	No	23.5	C	23.4	C	-0.1	No
23	El Camino Real & Garden View Rd	S	27.7	C	27.7	C	0.0	No	49.6	D	50.1	D	0.5	No
24	El Camino Real & Mountain Vista Dr	S	49.4	D	49.5	D	0.1	No	30.9	C	31.5	C	0.6	No
25	Rancho Santa Fe Rd & Lone Jack Rd	U	40.1	E	40.6	E	0.5	No	41.1	E	41.8	E	0.7	No
26	El Camino Real & Via Molena	S	27.0	C	26.7	C	-0.3	No	35.1	D	33.8	C	-1.3	No
27	Rancho Santa Fe Rd & El Camino Del Norte	U	34.6	D	35.0	D	0.4	No	41.9	E	42.4	E	0.5	No
28	Highway 101 & Encinitas Blvd	S	35.3	D	39.8	D	4.5	No	34.0	C	35.2	D	1.2	No
29	Vulcan Ave & Encinitas Blvd	S	39.1	D	40.9	D	1.8	No	32.3	C	35.6	D	3.3	No
30	I-5 SB Ramp/I-5 SB Ramp & Encinitas Blvd	S	29.1	C	31.2	C	2.1	No	47.8	D	53.8	D	6.0	No

TABLE 5
SUMMARY OF INTERSECTION OPERATION
FUTURE YEAR 2035 WITH PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Impact	Impact Sig?	Without Project		With Project		Project Impact	Impact Sig?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
31	I-5 NB Ramp/I-5 NB Ramp & Encinitas Blvd	S	20.9	C	20.7	C	-0.2	No	27.5	C	29.3	C	1.8	No
32	Encinitas Blvd & Saxony Rd	S	32.0	C	30.9	C	-1.1	No	17.3	B	17.1	B	-0.2	No
33	Westlake Dr/Quail Gardens Dr & Encinitas Bl	S	32.2	C	35.3	D	3.1	No	53.9	D	53.6	D	-0.3	No
34	Balour Dr & Encinitas Blvd	S	12.1	B	12.8	B	0.7	No	17.7	B	22.7	C	5.0	No
35	Encinitas Blvd & Via Cantabria	S	21.5	C	21.8	C	0.3	No	20.7	C	21.4	C	0.7	No
36	El Camino Real & Encinitas Blvd	S	50.7	D	48.8	D	-1.9	No	70.4	E	70.9	E	0.5	No
37	Village Square Dr & Encinitas Blvd	S	18.4	B	18.6	B	0.2	No	44.5	D	44.4	D	-0.1	No
38	Encinitas Blvd & Village Park Way	S	26.0	C	26.5	C	0.5	No	44.8	D	46.8	D	2.0	No
39	Manchester/Rancho Santa Fe & Encinitas Blv	S	77.1	E	77.7	E	0.6	No	48.0	D	49.3	D	1.3	No
40	San Elijo Ave/Vulcan Ave & Santa Fe Dr	U	37.0	E	38.5	E	1.5	No	18.8	C	19.8	C	1.0	No
41	I-5 SB Ramp/I-5 SB Ramp & Santa Fe Dr	S	24.3	C	27.6	C	3.3	No	30.7	C	32.0	C	1.3	No
42	Santa Fe Dr & I-5 NB Ramp	S	5.5	A	5.6	A	0.1	No	4.1	A	4.0	A	-0.1	No
43	I-5 NB Ramp/Regal Rd & Santa Fe Dr	S	38.5	D	40.1	D	1.6	No	42.9	D	42.3	D	-0.6	No
44	MacKinnon Ave/Nardo Rd & Santa Fe Dr	S	28.5	C	30.3	C	1.8	No	20.1	C	21.8	C	1.7	No
45	Santa Fe Dr & Balour Dr	U	84.7	F	137.5	F	52.8	Yes	51.7	F	117.9	F	66.2	Yes
46	Lake Dr & Santa Fe Dr	S	9.3	A	9.8	A	0.5	No	8.9	A	9.4	A	0.5	No
47	El Camino Real & Santa Fe Dr	S	20.0	B	23.6	C	3.6	No	23.4	C	29.3	C	5.9	No
48	San Elijo Ave & Birmingham Dr	S	13.0	B	13.0	B	0.0	No	24.2	C	24.2	C	0.0	No
49	I-5 SB Ramp/I-5 SB Ramp & Birmingham Dr	U	250.6	F	250.6	F	0.0	No	47.5	E	47.5	E	0.0	No
50	I-5 NB Ramp/I-5 NB Ramp & Birmingham Dr	U	45.5	E	45.5	E	0.0	No	41.1	E	41.1	E	0.0	No
51	Manchester Ave & I-5 SB Ramps	U	54.5	F	54.5	F	0.0	No	35.5	E	35.5	E	0.0	No
52	Manchester Ave & I-5 NB Ramps	S	57.5	E	58.2	E	0.7	No	45.0	D	45.3	D	0.3	No
53	Manchester Ave & El Camino Real	S	36.2	D	37.4	D	1.2	No	38.8	D	40.8	D	2.0	No

Notes:
 Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.
 Delay values are based on the methodology outlined in the 2010 Highway Capacity Manual.
 At a signalized intersection and an all-way stop-controlled intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
 At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the worst movement.
 S = Signalized; U = Unsignalized; LOS = Level of Service

Encinitas Boulevard: I-5 NB Ramps to Saxony Road – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial. This improvement is consistent with the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Encinitas Boulevard: Quail Gardens Drive to Delphinium Street – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial. This improvement is consistent with the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Encinitas Boulevard: Delphinium Street to Balour Drive – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial. This improvement is consistent with the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Encinitas Boulevard: Balour Drive to Via Cantabria – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial. This improvement is consistent with the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS D.

Santa Fe Drive: Nardo Road to Windsor Road/Bonita Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector. This improvement exceeds the roadway classification designation in the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Santa Fe Drive: Windsor Road/Bonita Drive to Balour – Provide additional right-of-way and widen the roadway to a 4-Lane Collector. This improvement exceeds the roadway classification designation in the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Santa Fe Drive: Balour Drive to Lake Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector. This improvement exceeds the roadway classification designation in the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Santa Fe Drive: Lake Drive to Crest Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector. This improvement exceeds the roadway classification designation in the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Santa Fe Drive: Crest Drive to El Camino Real – Provide additional right-of-way and widen the roadway to a 4-Lane Collector. This improvement exceeds the roadway classification designation in the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

S. Rancho Santa Fe Road: City of Encinitas Limits to El Mirlo – Provide additional right-of-way and widen the roadway to a 2-Lane Community Collector with Improvement Options. This improvement exceeds the roadway classification designation in the currently adopted Circulation Element. The resulting Level of Service with implementation of this improvement would be LOS C or better.

Intersection Mitigation

The project would have a significant impact at three study intersections. The following intersection improvements would fully mitigate the project impacts.

Int. # 6 – Vulcan Avenue at La Costa Avenue – Signalization of the intersection would improve the peak hour operations to LOS C in both the morning and evening peak hours.

Int. # 17 – Saxony Road at Leucadia Boulevard – The project would have a significant impact on this intersection in the PM peak hour, adding 4.6 seconds of delay per vehicle, and causing the intersection to worsen from LOS E to LOS F. The recommended mitigation is modification of the signal operation to convert the northbound and southbound approaches from protected left-turn operation to protected-permissive left-turn operation. This improvement would reduce the peak hour delay by 10.0 seconds in the evening peak hour, and would improve the Level of Service back to LOS E. The final PM peak hour delay would be 5.4 seconds per vehicle better (less) than the Without Project condition in the PM peak hour. The project impact would be fully mitigated with this improvement.
























Int. # 45 – Balour Drive at Santa Fe Drive – Signalization of the intersection and the addition of a 2nd eastbound left-turn lane would mitigate the project impact and would improve the intersection operations to LOS D in the morning peak hour and LOS C in the evening peak hour.

APPENDIX A

INTERSECTION ANALYSIS WORKSHEETS

Future AM - No_Project
 1: Carlsbad Boulevard & Poinsettia Lane

05/08/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	20	10	370	0	90	10	280	130	160	1050	30
Future Volume (veh/h)	10	20	10	370	0	90	10	280	130	160	1050	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	0	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	22	11	402	0	98	11	304	141	174	1141	33
Adj No. of Lanes	1	1	1	2	0	1	1	2	1	2	2	1
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	0	2	2	2	2	2	2	2
Cap, veh/h	319	335	271	0	0	0	20	1455	635	282	1705	739
Arrive On Green	0.18	0.18	0.18	0.00	0.00	0.00	0.01	0.41	0.41	0.08	0.48	0.48
Sat Flow, veh/h	1774	1863	1509		0		1774	3539	1543	3442	3539	1533
Grp Volume(v), veh/h	11	22	11		0.0		11	304	141	174	1141	33
Grp Sat Flow(s),veh/h/ln	1774	1863	1509				1774	1770	1543	1721	1770	1533
Q Serve(g_s), s	0.3	0.5	0.3				0.3	2.8	3.0	2.5	12.4	0.6
Cycle Q Clear(g_c), s	0.3	0.5	0.3				0.3	2.8	3.0	2.5	12.4	0.6
Prop In Lane	1.00		1.00				1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	319	335	271				20	1455	635	282	1705	739
V/C Ratio(X)	0.03	0.07	0.04				0.55	0.21	0.22	0.62	0.67	0.04
Avail Cap(c_a), veh/h	1197	1256	1018				141	2205	961	451	2387	1034
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	17.1	17.2	17.1				24.8	9.6	9.6	22.4	10.0	6.9
Incr Delay (d2), s/veh	0.1	0.1	0.1				8.3	0.1	0.2	0.8	0.5	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	0.1	0.3	0.1				0.2	1.4	1.3	1.2	6.1	0.2
LnGrp Delay(d),s/veh	17.1	17.3	17.2				33.1	9.6	9.8	23.2	10.5	6.9
LnGrp LOS	B	B	B				C	A	A	C	B	A
Approach Vol, veh/h		44						456			1348	
Approach Delay, s/veh		17.2						10.2			12.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	8.6	27.2		14.6	5.1	30.8						
Change Period (Y+Rc), s	4.5	6.5		5.5	4.5	6.5						
Max Green Setting (Gmax), s	6.6	31.4		34.0	4.0	34.0						
Max Q Clear Time (g_c+I1), s	4.5	5.0		2.5	2.3	14.4						
Green Ext Time (p_c), s	0.1	11.4		0.2	0.0	9.8						
Intersection Summary												
HCM 2010 Ctrl Delay			11.7									
HCM 2010 LOS			B									

Future AM - No_Project
 2: I-5 SB On-Ramp/I-5 SB Off-Ramp & Poinsettia Lane

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	530	120	460	780	0	0	0	0	230	5	245
Future Volume (veh/h)	0	530	120	460	780	0	0	0	0	230	5	245
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	576	130	500	848	0				254	0	266
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
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	1144	494	617	2100	0				744	0	332
Arrive On Green	0.00	0.32	0.32	0.18	0.59	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3632	1528	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	576	130	500	848	0				254	0	266
Grp Sat Flow(s),veh/h/ln	0	1770	1528	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	6.8	3.3	7.2	6.6	0.0				3.2	0.0	8.3
Cycle Q Clear(g_c), s	0.0	6.8	3.3	7.2	6.6	0.0				3.2	0.0	8.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1144	494	617	2100	0				744	0	332
V/C Ratio(X)	0.00	0.50	0.26	0.81	0.40	0.00				0.34	0.00	0.80
Avail Cap(c_a), veh/h	0	1326	573	645	2311	0				1097	0	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.2	13.0	20.4	5.6	0.0				17.4	0.0	19.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	6.8	0.3	0.0				0.1	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	1.4	4.0	3.3	0.0				1.6	0.0	3.9
LnGrp Delay(d),s/veh	0.0	14.3	13.1	27.2	5.9	0.0				17.5	0.0	22.8
LnGrp LOS		B	B	C	A					B		C
Approach Vol, veh/h		706			1348						520	
Approach Delay, s/veh		14.1			13.8						20.2	
Approach LOS		B			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	4.0	21.8		16.0		35.8						
Change Period (Y+Rc), s	4.7	5.1		5.1		5.1						
Max Green Setting (Gmax), s	19.4			16.0		33.8						
Max Q Clear Time (g_c+I), s	8.8			10.3		8.6						
Green Ext Time (p_c), s	0.1	7.6		0.6		14.1						
Intersection Summary												
HCM 2010 Ctrl Delay				15.2								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 3: I-5 NB Off-Ramp/I-5 NB On-Ramp & Poinsettia Lane

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖↗	↖		↖	↗			
Traffic Volume (veh/h)	150	610	0	0	1010	460	320	5	780	0	0	0
Future Volume (veh/h)	150	610	0	0	1010	460	320	5	780	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	163	663	0	0	1098	500	348	5	848			
Adj No. of Lanes	1	2	0	0	3	1	0	1	2			
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	205	1886	0	0	1710	513	510	7	812			
Arrive On Green	0.12	0.53	0.00	0.00	0.34	0.34	0.29	0.29	0.29			
Sat Flow, veh/h	1774	3632	0	0	5253	1526	1750	25	2787			
Grp Volume(v), veh/h	163	663	0	0	1098	500	353	0	848			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1526	1775	0	1393			
Q Serve(g_s), s	5.2	6.2	0.0	0.0	10.6	18.8	10.2	0.0	16.9			
Cycle Q Clear(g_c), s	5.2	6.2	0.0	0.0	10.6	18.8	10.2	0.0	16.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	205	1886	0	0	1710	513	517	0	812			
V/C Ratio(X)	0.80	0.35	0.00	0.00	0.64	0.97	0.68	0.00	1.04			
Avail Cap(c_a), veh/h	266	2008	0	0	1710	513	517	0	812			
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.0	7.8	0.0	0.0	16.3	19.0	18.2	0.0	20.6			
Incr Delay (d2), s/veh	8.9	0.2	0.0	0.0	0.6	33.1	3.0	0.0	43.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.0	3.1	0.0	0.0	5.0	12.5	5.4	0.0	11.4			
LnGrp Delay(d),s/veh	33.9	8.0	0.0	0.0	16.9	52.1	21.2	0.0	64.3			
LnGrp LOS	C	A			B	D	C		F			
Approach Vol, veh/h		826			1598			1201				
Approach Delay, s/veh		13.1			27.9			51.7				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.0			11.4	24.6		22.0				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		32.9			* 8.7	19.5		16.9				
Max Q Clear Time (g_c+l1), s		8.2			7.2	20.8		18.9				
Green Ext Time (p_c), s		15.6			0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					32.4							
HCM 2010 LOS					C							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
4: Aviara Parkway & Poinsettia Lane

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑	↔	↔	↕		↔	↕		↔	↕	
Traffic Volume (veh/h)	390	360	230	20	400	190	250	270	30	110	230	120
Future Volume (veh/h)	390	360	230	20	400	190	250	270	30	110	230	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	424	391	250	22	435	207	272	293	26	120	250	34
Adj No. of Lanes	2	1	2	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	514	524	1051	225	617	291	357	594	52	153	512	69
Arrive On Green	0.15	0.28	0.28	0.13	0.27	0.27	0.10	0.18	0.18	0.09	0.16	0.16
Sat Flow, veh/h	3442	1863	2709	1774	2322	1093	3442	3284	289	1774	3130	420
Grp Volume(v), veh/h	424	391	250	22	331	311	272	157	162	120	140	144
Grp Sat Flow(s),veh/h/ln	1721	1863	1354	1774	1770	1645	1721	1770	1804	1774	1770	1781
Q Serve(g_s), s	8.7	13.8	1.8	0.8	12.2	12.4	5.6	5.8	5.9	4.8	5.2	5.3
Cycle Q Clear(g_c), s	8.7	13.8	1.8	0.8	12.2	12.4	5.6	5.8	5.9	4.8	5.2	5.3
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.16	1.00		0.24
Lane Grp Cap(c), veh/h	514	524	1051	225	471	437	357	320	326	153	289	291
V/C Ratio(X)	0.83	0.75	0.24	0.10	0.70	0.71	0.76	0.49	0.50	0.79	0.48	0.49
Avail Cap(c_a), veh/h	547	965	1692	225	734	682	357	758	773	233	807	812
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	1.00	1.00
Uniform Delay (d), s/veh	29.9	23.7	4.2	27.9	24.0	24.1	31.6	26.6	26.7	32.4	27.5	27.6
Incr Delay (d2), s/veh	9.6	3.0	0.2	0.1	2.7	3.1	9.0	1.4	1.4	7.4	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	7.5	1.0	0.4	6.3	6.0	3.1	2.9	3.1	2.6	2.6	2.7
LnGrp Delay(d),s/veh	39.4	26.7	4.3	28.1	26.7	27.1	40.6	28.0	28.1	39.9	29.0	29.1
LnGrp LOS	D	C	A	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1065			664			591			404	
Approach Delay, s/veh		26.5			26.9			33.8			32.3	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	19.1	15.2	26.4	13.0	17.8	16.3	25.2				
Change Period (Y+Rc), s	5.5	6.0	6.0	* 6	5.5	6.0	5.5	6.0				
Max Green Setting (Gmax), s	31.0	4.0	* 38	7.5	33.0	11.5	30.0					
Max Q Clear Time (g_c+I), s	7.9	2.8	15.8	7.6	7.3	10.7	14.4					
Green Ext Time (p_c), s	0.0	4.4	0.6	4.5	0.0	4.5	0.2	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			29.1									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 5: Highway 101/Carlsbad Boulevard & La Costa Avenue

05/08/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	390	130	230	220	360	1250		
Future Volume (veh/h)	390	130	230	220	360	1250		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	424	0	250	0	391	1359		
Adj No. of Lanes	1	1	2	1	1	2		
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	490	437	865	387	439	1970		
Arrive On Green	0.28	0.00	0.24	0.00	0.25	0.56		
Sat Flow, veh/h	1774	1583	3632	1583	1774	3632		
Grp Volume(v), veh/h	424	0	250	0	391	1359		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1774	1770		
Q Serve(g_s), s	14.0	0.0	3.5	0.0	13.1	17.0		
Cycle Q Clear(g_c), s	14.0	0.0	3.5	0.0	13.1	17.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	490	437	865	387	439	1970		
V/C Ratio(X)	0.87	0.00	0.29	0.00	0.89	0.69		
Avail Cap(c_a), veh/h	778	694	1247	558	490	2454		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	21.2	0.0	18.9	0.0	22.4	9.8		
Incr Delay (d2), s/veh	6.1	0.0	0.2	0.0	16.0	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.7	0.0	1.8	0.0	8.4	8.3		
LnGrp Delay(d),s/veh	27.3	0.0	19.1	0.0	38.3	10.4		
LnGrp LOS	C		B		D	B		
Approach Vol, veh/h	424		250			1750		
Approach Delay, s/veh	27.3		19.1			16.7		
Approach LOS	C		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.2	20.3		22.0		39.6		
Change Period (Y+Rc), s	4.0	5.3		5.0		5.3		
Max Green Setting (Gmax), s	17.0	21.7		27.0		42.7		
Max Q Clear Time (g_c+1),s	11.0	5.5		16.0		19.0		
Green Ext Time (p_c), s	0.1	9.5		1.0		11.9		
Intersection Summary								
HCM 2010 Ctrl Delay			18.8					
HCM 2010 LOS			B					

Future AM - No_Project
6: Vulcan Avenue & La Costa Avenue

05/08/2018

Intersection

Int Delay, s/veh 9.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	450	110	230	470	60	230
Future Vol, veh/h	450	110	230	470	60	230
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	489	120	250	511	65	250

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	612	0	1563
Stage 1	-	-	-	-	552
Stage 2	-	-	-	-	1011
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	967	-	123
Stage 1	-	-	-	-	577
Stage 2	-	-	-	-	352
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	967	-	78
Mov Cap-2 Maneuver	-	-	-	-	78
Stage 1	-	-	-	-	576
Stage 2	-	-	-	-	225

Approach



















	EB	WB	NB
HCM Control Delay, s	0	3.3	45.2
HCM LOS			E

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	78	532	-	-	967	-
HCM Lane V/C Ratio	0.836	0.47	-	-	0.259	-
HCM Control Delay (s)	151.1	17.6	-	-	10	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	4.2	2.5	-	-	1	-

Future AM - No_Project
 7: I-5 SB On-Ramp/I-5 SB Off-Ramp & La Costa Avenue

05/08/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	750	240	640	490	0	0	0	0	700	15	340
Future Volume (veh/h)	0	750	240	640	490	0	0	0	0	700	15	340
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	815	261	696	533	0				772	0	207
Adj No. of Lanes	0	2	0	2	2	0				2	0	1
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	870	279	1003	2365	0				853	0	381
Arrive On Green	0.00	0.33	0.33	0.29	0.67	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	2732	845	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	546	530	696	533	0				772	0	207
Grp Sat Flow(s),veh/h/ln	0	1770	1714	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	34.4	34.5	20.7	6.8	0.0				24.3	0.0	13.1
Cycle Q Clear(g_c), s	0.0	34.4	34.5	20.7	6.8	0.0				24.3	0.0	13.1
Prop In Lane	0.00		0.49	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	584	565	1003	2365	0				853	0	381
V/C Ratio(X)	0.00	0.94	0.94	0.69	0.23	0.00				0.90	0.00	0.54
Avail Cap(c_a), veh/h	0	609	590	1003	2365	0				1006	0	449
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	37.4	37.4	36.2	7.5	0.0				42.4	0.0	38.2
Incr Delay (d2), s/veh	0.0	24.4	25.1	1.8	0.2	0.0				9.4	0.0	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	0.0	20.8	20.3	10.0	3.3	0.0				13.0	0.0	5.8
LnGrp Delay(d),s/veh	0.0	61.8	62.5	37.9	7.7	0.0				51.8	0.0	38.6
LnGrp LOS		E	E	D	A					D		D
Approach Vol, veh/h		1076			1229						979	
Approach Delay, s/veh		62.1			24.8						49.0	
Approach LOS		E			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	38.9	43.3		32.8		82.2						
Change Period (Y+Rc), s	5.4	* 5.4		5.1		5.4						
Max Green Setting (Gmax), s	27.6	* 40		32.6		71.9						
Max Q Clear Time (g_c+l1), s	22.7	36.5		26.3		8.8						
Green Ext Time (p_c), s	1.9	1.5		1.4		3.8						
Intersection Summary												
HCM 2010 Ctrl Delay			44.3									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

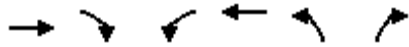


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖↗	↖		↖	↗			
Traffic Volume (veh/h)	280	1160	0	0	1040	610	90	5	600	0	0	0
Future Volume (veh/h)	280	1160	0	0	1040	610	90	5	600	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	304	1261	0	0	1130	89	98	5	390			
Adj No. of Lanes	1	2	0	0	3	1	0	1	2			
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	340	2614	0	0	2574	802	276	14	454			
Arrive On Green	0.19	0.74	0.00	0.00	0.17	0.17	0.16	0.16	0.16			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1692	86	2787			
Grp Volume(v), veh/h	304	1261	0	0	1130	89	103	0	390			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1778	0	1393			
Q Serve(g_s), s	19.2	16.6	0.0	0.0	23.0	5.5	5.9	0.0	15.7			
Cycle Q Clear(g_c), s	19.2	16.6	0.0	0.0	23.0	5.5	5.9	0.0	15.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.95		1.00			
Lane Grp Cap(c), veh/h	340	2614	0	0	2574	802	290	0	454			
V/C Ratio(X)	0.89	0.48	0.00	0.00	0.44	0.11	0.36	0.00	0.86			
Avail Cap(c_a), veh/h	437	2614	0	0	2574	802	462	0	725			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(l)	1.00	1.00	0.00	0.00	0.94	0.94	1.00	0.00	1.00			
Uniform Delay (d), s/veh	45.3	6.1	0.0	0.0	33.2	25.9	42.8	0.0	46.8			
Incr Delay (d2), s/veh	18.7	0.6	0.0	0.0	0.5	0.3	0.3	0.0	3.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	8.3	0.0	0.0	10.9	2.5	2.9	0.0	6.2			
LnGrp Delay(d),s/veh	64.0	6.7	0.0	0.0	33.7	26.2	43.0	0.0	50.3			
LnGrp LOS	E	A			C	C	D		D			
Approach Vol, veh/h		1565			1219			493				
Approach Delay, s/veh		17.9			33.2			48.8				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		91.2			26.7	64.4		23.8				
Change Period (Y+Rc), s		* 6.2			* 4.7	6.2		5.1				
Max Green Setting (Gmax), s		* 74			* 28	40.8		29.9				
Max Q Clear Time (g_c+l1), s		18.6			21.2	25.0		17.7				
Green Ext Time (p_c), s		17.4			0.8	10.0		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay					28.2							
HCM 2010 LOS					C							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 9: Piraeus Street & La Costa Avenue

05/08/2018

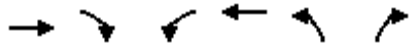


Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑↑	↵	↵		
Traffic Volume (veh/h)	1550	220	85	1475	130	90		
Future Volume (veh/h)	1550	220	85	1475	130	90		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1685	212	92	1603	141	98		
Adj No. of Lanes	2	0	1	4	1	1		
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	1837	226	258	5054	185	165		
Arrive On Green	0.58	0.58	0.15	0.79	0.10	0.10		
Sat Flow, veh/h	3256	389	1774	6669	1774	1583		
Grp Volume(v), veh/h	926	971	92	1603	141	98		
Grp Sat Flow(s),veh/h/ln	1770	1782	1774	1602	1774	1583		
Q Serve(g_s), s	53.0	57.7	5.4	8.1	8.9	6.8		
Cycle Q Clear(g_c), s	53.0	57.7	5.4	8.1	8.9	6.8		
Prop In Lane		0.22	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1028	1035	258	5054	185	165		
V/C Ratio(X)	0.90	0.94	0.36	0.32	0.76	0.59		
Avail Cap(c_a), veh/h	1136	1144	258	5054	214	191		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.72	0.72	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.2	22.2	44.3	3.4	50.1	49.2		
Incr Delay (d2), s/veh	9.5	12.9	0.3	0.2	10.5	1.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh	28.4	31.8	2.7	3.6	4.9	3.0		
LnGrp Delay(d),s/veh	30.7	35.1	44.6	3.6	60.6	50.8		
LnGrp LOS	C	D	D	A	E	D		
Approach Vol, veh/h	1897			1695	239			
Approach Delay, s/veh	32.9			5.8	56.6			
Approach LOS	C			A	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	33.9	74.0				97.9		17.1
Change Period (Y+Rc), s	7.2	* 7.2				7.2		5.1
Max Green Setting (Gmax), s	10.3	* 74				88.8		13.9
Max Q Clear Time (g_c+I1), s	17.4	59.7				10.1		10.9
Green Ext Time (p_c), s	2.8	7.1				58.5		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			22.4					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 10: Saxony Road & La Costa Avenue

05/08/2018



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	1460	180	175	1490	70	120		
Future Volume (veh/h)	1460	180	175	1490	70	120		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1587	196	190	1620	76	130		
Adj No. of Lanes	2	0	1	2	1	1		
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	1800	219	219	2668	196	175		
Arrive On Green	0.57	0.57	0.12	0.75	0.11	0.11		
Sat Flow, veh/h	3261	385	1774	3632	1774	1583		
Grp Volume(v), veh/h	875	908	190	1620	76	130		
Grp Sat Flow(s),veh/h/ln	1770	1783	1774	1770	1774	1583		
Q Serve(g_s), s	34.1	36.3	8.5	16.8	3.2	6.4		
Cycle Q Clear(g_c), s	34.1	36.3	8.5	16.8	3.2	6.4		
Prop In Lane		0.22	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1006	1013	219	2668	196	175		
V/C Ratio(X)	0.87	0.90	0.87	0.61	0.39	0.74		
Avail Cap(c_a), veh/h	1006	1014	219	2669	614	548		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	14.9	15.4	34.8	4.5	33.4	34.9		
Incr Delay (d2), s/veh	8.9	11.0	27.5	0.6	1.3	6.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	19.0	20.8	5.8	8.3	1.7	3.1		
LnGrp Delay(d),s/veh	23.8	26.4	62.3	5.1	34.7	41.0		
LnGrp LOS	C	C	E	A	C	D		
Approach Vol, veh/h	1783			1810	206			
Approach Delay, s/veh	25.1			11.1	38.7			
Approach LOS	C			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		13.9	15.0	52.0				67.0
Change Period (Y+Rc), s		5.0	5.0	6.0				6.0
Max Green Setting (Gmax), s		28.0	10.0	46.0				61.0
Max Q Clear Time (g_c+l1), s		8.4	10.5	38.3				18.8
Green Ext Time (p_c), s		0.6	0.0	7.7				41.5
Intersection Summary								
HCM 2010 Ctrl Delay			19.2					
HCM 2010 LOS			B					

Future AM - No_Project
 11: El Camino Real & La Costa Avenue

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↖	↑↑	↗	↖↖	↑↑↔		↖↖	↑↑↑	↗
Traffic Volume (veh/h)	720	320	380	220	800	270	255	940	90	100	1220	590
Future Volume (veh/h)	720	320	380	220	800	270	255	940	90	100	1220	590
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	783	348	304	239	870	239	277	1022	87	109	1326	641
Adj No. of Lanes	2	2	1	1	2	1	2	3	0	2	3	1
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	819	1259	554	262	897	395	317	1222	104	534	1686	894
Arrive On Green	0.24	0.36	0.36	0.15	0.25	0.25	0.15	0.43	0.43	0.26	0.55	0.55
Sat Flow, veh/h	3442	3539	1558	1774	3539	1561	3442	4765	405	3442	5085	1559
Grp Volume(v), veh/h	783	348	304	239	870	239	277	727	382	109	1326	641
Grp Sat Flow(s),veh/h/ln	1721	1770	1558	1774	1770	1561	1721	1695	1779	1721	1695	1559
Q Serve(g_s), s	33.7	10.5	23.4	19.9	36.5	20.2	11.8	28.6	28.7	3.7	30.9	15.8
Cycle Q Clear(g_c), s	33.7	10.5	23.4	19.9	36.5	20.2	11.8	28.6	28.7	3.7	30.9	15.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	819	1259	554	262	897	395	317	869	456	534	1686	894
V/C Ratio(X)	0.96	0.28	0.55	0.91	0.97	0.60	0.87	0.84	0.84	0.20	0.79	0.72
Avail Cap(c_a), veh/h	821	1259	554	375	897	395	317	1049	550	534	1686	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	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	56.4	34.5	38.7	63.0	55.4	49.4	62.6	40.1	40.1	48.3	29.3	7.3
Incr Delay (d2), s/veh	21.4	0.1	0.9	16.8	23.0	2.6	22.0	9.4	16.6	0.1	3.8	4.9
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	18.4	5.2	10.2	11.0	20.7	9.0	6.5	14.4	16.1	1.8	14.9	8.2
LnGrp Delay(d),s/veh	77.7	34.6	39.6	79.7	78.4	52.0	84.6	49.4	56.7	48.4	33.1	12.2
LnGrp LOS	E	C	D	E	E	D	F	D	E	D	C	B
Approach Vol, veh/h		1435			1348			1386			2076	
Approach Delay, s/veh		59.2			74.0			58.5			27.4	
Approach LOS		E			E			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.3	44.5	26.3	59.2	18.0	55.7	41.5	44.0				
Change Period (Y+Rc), s	6.0	* 6	* 4.2	5.8	* 4.2	6.0	5.8	* 6				
Max Green Setting (Gmax), s	45	* 46	* 32	42.3	* 14	42.0	35.8	* 38				
Max Q Clear Time (g_c+I), s	30.7	30.7	21.9	25.4	13.8	32.9	35.7	38.5				
Green Ext Time (p_c), s	3.3	7.7	0.2	6.5	0.0	7.6	0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			51.7									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 12: Highway 101 & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	30	70	20	210	60	130	10	200	90	330	1220	40
Future Volume (veh/h)	30	70	20	210	60	130	10	200	90	330	1220	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	76	22	217	80	141	11	217	98	359	1326	43
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	96	28	360	118	208	19	891	699	400	1524	49
Arrive On Green	0.09	0.09	0.09	0.20	0.20	0.20	0.01	0.25	0.25	0.23	0.44	0.44
Sat Flow, veh/h	443	1020	295	1774	582	1026	1774	3539	1501	1774	3494	113
Grp Volume(v), veh/h	131	0	0	217	0	221	11	217	98	359	671	698
Grp Sat Flow(s),veh/h/ln	1759	0	0	1774	0	1609	1774	1770	1501	1774	1770	1838
Q Serve(g_s), s	6.0	0.0	0.0	9.1	0.0	10.4	0.5	4.0	3.1	16.1	28.2	28.3
Cycle Q Clear(g_c), s	6.0	0.0	0.0	9.1	0.0	10.4	0.5	4.0	3.1	16.1	28.2	28.3
Prop In Lane	0.25		0.17	1.00		0.64	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	166	0	0	360	0	327	19	891	699	400	772	801
V/C Ratio(X)	0.79	0.00	0.00	0.60	0.00	0.68	0.57	0.24	0.14	0.90	0.87	0.87
Avail Cap(c_a), veh/h	344	0	0	607	0	551	87	891	699	596	889	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	0.0	0.0	29.6	0.0	30.1	40.3	24.4	13.0	30.7	21.0	21.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.6	0.0	0.9	9.6	0.1	0.0	8.8	7.5	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	4.5	0.0	4.7	0.3	2.0	1.8	8.9	15.2	15.8
LnGrp Delay(d),s/veh	39.4	0.0	0.0	30.2	0.0	31.0	49.9	24.5	13.0	39.5	28.5	28.4
LnGrp LOS	D			C		C	D	C	B	D	C	C
Approach Vol, veh/h		131			438			326			1728	
Approach Delay, s/veh		39.4			30.6			21.9			30.8	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.0	25.9		12.2	6.9	41.0		21.7				
Change Period (Y+Rc), s	3.5	5.3		4.5	6.0	5.3		5.1				
Max Green Setting (Gmax), s	20.1			16.0	4.0	41.1		28.0				
Max Q Clear Time (g_c+1),s	6.0			8.0	2.5	30.3		12.4				
Green Ext Time (p_c), s	0.4	6.4		0.2	0.0	5.4		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				30.1								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

Future AM - No_Project
 13: Vulcan Avenue & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	40	270	190	120	330	40	40	60	100	50	350	50
Future Volume (veh/h)	40	270	190	120	330	40	40	60	100	50	350	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.97	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	293	207	130	359	43	43	65	87	54	380	54
Adj No. of Lanes	1	1	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	496	350	402	1163	138	249	230	308	457	507	72
Arrive On Green	0.05	0.49	0.49	0.37	0.37	0.37	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	1006	711	889	3175	377	949	721	965	1225	1591	226
Grp Volume(v), veh/h	43	0	500	130	199	203	43	0	152	54	0	434
Grp Sat Flow(s),veh/h/ln	1774	0	1716	889	1770	1783	949	0	1686	1225	0	1817
Q Serve(g_s), s	0.6	0.0	10.1	5.9	3.9	3.9	2.1	0.0	3.3	1.7	0.0	10.3
Cycle Q Clear(g_c), s	0.6	0.0	10.1	9.9	3.9	3.9	12.4	0.0	3.3	4.9	0.0	10.3
Prop In Lane	1.00		0.41	1.00		0.21	1.00		0.57	1.00		0.12
Lane Grp Cap(c), veh/h	523	0	846	402	648	653	249	0	538	457	0	580
V/C Ratio(X)	0.08	0.00	0.59	0.32	0.31	0.31	0.17	0.00	0.28	0.12	0.00	0.75
Avail Cap(c_a), veh/h	1031	0	1489	480	804	810	414	0	833	671	0	897
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.6	0.0	8.8	14.5	10.9	11.0	20.3	0.0	12.3	14.2	0.0	14.7
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.7	0.4	0.4	0.1	0.0	0.1	0.0	0.0	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	0.3	0.0	4.9	1.5	1.9	2.0	0.5	0.0	1.5	0.6	0.0	5.3
LnGrp Delay(d),s/veh	7.6	0.0	9.7	15.2	11.3	11.4	20.4	0.0	12.4	14.2	0.0	15.5
LnGrp LOS	A		A	B	B	B	C		B	B		B
Approach Vol, veh/h		543			532			195			488	
Approach Delay, s/veh		9.5			12.3			14.2			15.3	
Approach LOS		A			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		27.9		20.5	6.1	21.7		20.5				
Change Period (Y+Rc), s		4.0		5.1	3.5	4.0		5.1				
Max Green Setting (Gmax), s		42.0		23.9	16.5	22.0		23.9				
Max Q Clear Time (g_c+I1), s		12.1		12.3	2.6	11.9		14.4				
Green Ext Time (p_c), s		11.0		2.1	0.0	5.8		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				12.5								
HCM 2010 LOS				B								

Future AM - No_Project
 14: Orpheus Avenue & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗		↖	↗	
Traffic Volume (veh/h)	30	540	30	210	540	210	20	20	170	195	60	40
Future Volume (veh/h)	30	540	30	210	540	210	20	20	170	195	60	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	587	33	228	587	228	22	22	151	212	65	43
Adj No. of Lanes	1	2	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	930	52	481	1208	525	469	64	438	405	324	214
Arrive On Green	0.07	0.27	0.27	0.14	0.34	0.34	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1774	3404	191	3442	3539	1537	1279	205	1408	1206	1041	689
Grp Volume(v), veh/h	33	305	315	228	587	228	22	0	173	212	0	108
Grp Sat Flow(s),veh/h/ln	1774	1770	1825	1721	1770	1537	1279	0	1613	1206	0	1730
Q Serve(g_s), s	1.0	8.4	8.4	3.4	7.3	6.4	0.7	0.0	4.6	9.1	0.0	2.5
Cycle Q Clear(g_c), s	1.0	8.4	8.4	3.4	7.3	6.4	3.3	0.0	4.6	13.7	0.0	2.5
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.87	1.00		0.40
Lane Grp Cap(c), veh/h	127	484	499	481	1208	525	469	0	502	405	0	538
V/C Ratio(X)	0.26	0.63	0.63	0.47	0.49	0.43	0.05	0.00	0.34	0.52	0.00	0.20
Avail Cap(c_a), veh/h	320	692	713	496	1256	546	878	0	1017	790	0	1091
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	24.4	17.7	17.7	22.0	14.4	14.1	15.2	0.0	14.8	20.0	0.0	14.0
Incr Delay (d2), s/veh	0.4	0.5	0.5	0.3	0.1	0.2	0.0	0.0	0.2	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.1	4.3	1.6	3.5	2.7	0.3	0.0	2.0	3.0	0.0	1.2
LnGrp Delay(d),s/veh	24.8	18.2	18.2	22.3	14.5	14.3	15.3	0.0	14.9	20.4	0.0	14.1
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		653			1043			195			320	
Approach Delay, s/veh		18.5			16.2			14.9			18.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.9	20.3		22.4	9.1	24.0		22.4				
Change Period (Y+Rc), s	5.1	5.1		5.1	5.1	5.1		5.1				
Max Green Setting (Gmax), s	21.7			35.0	10.0	19.7		35.0				
Max Q Clear Time (g_c+I), s	10.4			15.7	3.0	9.3		6.6				
Green Ext Time (p_c), s	0.1	4.6		1.5	0.0	4.4		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay				17.1								
HCM 2010 LOS				B								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	730	270	600	670	0	0	0	0	220	5	140
Future Volume (veh/h)	0	730	270	600	670	0	0	0	0	220	5	140
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	793	293	652	728	0				243	0	152
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
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	1184	521	805	2354	0				504	0	225
Arrive On Green	0.00	0.33	0.33	0.23	0.66	0.00				0.14	0.00	0.14
Sat Flow, veh/h	0	3632	1558	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	793	293	652	728	0				243	0	152
Grp Sat Flow(s),veh/h/ln	0	1770	1558	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	10.2	8.1	9.5	4.6	0.0				3.3	0.0	4.8
Cycle Q Clear(g_c), s	0.0	10.2	8.1	9.5	4.6	0.0				3.3	0.0	4.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1184	521	805	2354	0				504	0	225
V/C Ratio(X)	0.00	0.67	0.56	0.81	0.31	0.00				0.48	0.00	0.68
Avail Cap(c_a), veh/h	0	1446	637	1179	3000	0				2350	0	1049
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.1	14.4	19.1	3.7	0.0				20.9	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.5	0.4	1.7	0.0	0.0				0.3	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	0.0	5.0	3.6	4.6	2.2	0.0				1.6	0.0	2.2
LnGrp Delay(d),s/veh	0.0	15.6	14.8	20.8	3.8	0.0				21.2	0.0	22.8
LnGrp LOS		B	B	C	A					C		C
Approach Vol, veh/h		1086			1380						395	
Approach Delay, s/veh		15.4			11.8						21.8	
Approach LOS		B			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.5	22.8		12.6		40.2						
Change Period (Y+Rc), s	5.1	5.1		5.1		5.1						
Max Green Setting (Gmax), s	10.5	21.6		35.0		44.8						
Max Q Clear Time (g_c+1),s	11.5	12.2		6.8		6.6						
Green Ext Time (p_c), s	0.9	5.4		0.7		10.2						
Intersection Summary												
HCM 2010 Ctrl Delay				14.5								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗			
Traffic Volume (veh/h)	240	660	0	0	1110	450	170	80	310	0	0	0
Future Volume (veh/h)	240	660	0	0	1110	450	170	80	310	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863			
Adj Flow Rate, veh/h	261	717	0	0	1207	489	136	156	337			
Adj No. of Lanes	1	2	0	0	3	0	1	1	2			
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	293	2647	0	0	1858	750	240	252	429			
Arrive On Green	0.28	1.00	0.00	0.00	0.88	0.88	0.14	0.14	0.14			
Sat Flow, veh/h	1774	3632	0	0	3700	1425	1774	1863	3167			
Grp Volume(v), veh/h	261	717	0	0	1158	538	136	156	337			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1568	1774	1863	1583			
Q Serve(g_s), s	12.7	0.0	0.0	0.0	8.7	8.8	6.5	7.1	9.3			
Cycle Q Clear(g_c), s	12.7	0.0	0.0	0.0	8.7	8.8	6.5	7.1	9.3			
Prop In Lane	1.00		0.00	0.00		0.91	1.00		1.00			
Lane Grp Cap(c), veh/h	293	2647	0	0	1783	825	240	252	429			
V/C Ratio(X)	0.89	0.27	0.00	0.00	0.65	0.65	0.57	0.62	0.79			
Avail Cap(c_a), veh/h	392	2647	0	0	1783	825	333	350	595			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.67	1.67	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	0.59	0.59	1.00	1.00	1.00			
Uniform Delay (d), s/veh	31.8	0.0	0.0	0.0	3.1	3.1	36.4	36.7	37.6			
Incr Delay (d2), s/veh	10.9	0.2	0.0	0.0	1.1	2.4	0.8	0.9	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			
%ile BackOfQ(50%),veh/ln	7.0	0.1	0.0	0.0	4.0	4.0	3.2	3.7	4.3			
LnGrp Delay(d),s/veh	42.7	0.2	0.0	0.0	4.2	5.5	37.2	37.6	40.7			
LnGrp LOS	D	A			A	A	D	D	D			
Approach Vol, veh/h		978			1696			629				
Approach Delay, s/veh		11.5			4.6			39.2				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		72.7			20.0	52.7		17.3				
Change Period (Y+Rc), s		5.4			5.1	5.4		5.1				
Max Green Setting (Gmax), s		62.6			19.9	37.6		16.9				
Max Q Clear Time (g_c+I1), s		2.0			14.7	10.8		11.3				
Green Ext Time (p_c), s		21.7			0.2	15.4		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay					13.3							
HCM 2010 LOS					B							
Notes												

User approved volume balancing among the lanes for turning movement.

Future AM - No_Project
 17: Saxony Road & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	100	1070	310	290	1160	60	120	70	110	100	250	60
Future Volume (veh/h)	100	1070	310	290	1160	60	120	70	110	100	250	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	109	1163	282	315	1261	58	130	76	120	109	272	65
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	1217	292	312	1833	84	134	135	213	108	280	67
Arrive On Green	0.07	0.43	0.43	0.18	0.53	0.53	0.08	0.21	0.21	0.06	0.19	0.19
Sat Flow, veh/h	1774	2824	678	1774	3441	158	1774	648	1023	1774	1445	345
Grp Volume(v), veh/h	109	724	721	315	648	671	130	0	196	109	0	337
Grp Sat Flow(s),veh/h/ln	1774	1770	1732	1774	1770	1830	1774	0	1672	1774	0	1791
Q Serve(g_s), s	8.4	54.9	56.5	24.5	37.5	37.7	10.2	0.0	14.6	8.5	0.0	26.0
Cycle Q Clear(g_c), s	8.4	54.9	56.5	24.5	37.5	37.7	10.2	0.0	14.6	8.5	0.0	26.0
Prop In Lane	1.00		0.39	1.00		0.09	1.00		0.61	1.00		0.19
Lane Grp Cap(c), veh/h	132	762	746	312	943	975	134	0	348	108	0	347
V/C Ratio(X)	0.83	0.95	0.97	1.01	0.69	0.69	0.97	0.00	0.56	1.01	0.00	0.97
Avail Cap(c_a), veh/h	198	782	765	312	943	975	134	0	348	108	0	347
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	63.5	38.2	38.6	57.3	24.0	24.0	64.2	0.0	49.4	65.3	0.0	55.7
Incr Delay (d2), s/veh	10.2	20.5	24.0	53.1	2.0	1.9	68.4	0.0	1.3	88.1	0.0	40.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	31.1	32.0	16.6	18.9	19.5	7.5	0.0	6.9	6.8	0.0	16.7
LnGrp Delay(d),s/veh	73.7	58.7	62.6	110.5	25.9	25.9	132.6	0.0	50.7	153.4	0.0	95.6
LnGrp LOS	E	E	E	F	C	C	F		D	F		F
Approach Vol, veh/h		1554			1634			326			446	
Approach Delay, s/veh		61.6			42.2			83.3			109.8	
Approach LOS		E			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.0	65.3	14.0	31.9	13.8	79.4	12.0	33.9				
Change Period (Y+Rc), s	3.5	5.3	3.5	* 4.9	3.5	5.3	3.5	4.9				
Max Green Setting (Gmax), s	20.5	61.5	10.5	* 27	15.5	70.5	8.5	28.3				
Max Q Clear Time (g_c+Tb), s	20.5	58.5	12.2	28.0	10.4	39.7	10.5	16.6				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.1	22.2	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				60.8								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 18: Quail Gardens Drive & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	930	160	390	1180	110	135	55	160	100	100	60
Future Volume (veh/h)	60	930	160	390	1180	110	135	55	160	100	100	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	65	1011	150	424	1283	111	147	60	174	109	109	65
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	83	1139	169	455	1907	165	270	386	327	286	386	323
Arrive On Green	0.05	0.37	0.37	0.26	0.58	0.58	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3087	458	1774	3298	285	1203	1863	1579	1139	1863	1558
Grp Volume(v), veh/h	65	579	582	424	687	707	147	60	174	109	109	65
Grp Sat Flow(s),veh/h/ln	1774	1770	1775	1774	1770	1813	1203	1863	1579	1139	1863	1558
Q Serve(g_s), s	3.3	27.7	27.8	21.1	24.1	24.3	10.6	2.4	8.9	7.8	4.4	3.1
Cycle Q Clear(g_c), s	3.3	27.7	27.8	21.1	24.1	24.3	15.0	2.4	8.9	10.2	4.4	3.1
Prop In Lane	1.00		0.26	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	83	653	655	455	1023	1048	270	386	327	286	386	323
V/C Ratio(X)	0.78	0.89	0.89	0.93	0.67	0.67	0.54	0.16	0.53	0.38	0.28	0.20
Avail Cap(c_a), veh/h	128	675	677	462	1023	1048	381	557	472	391	557	466
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	1.00	1.00
Uniform Delay (d), s/veh	42.5	26.7	26.7	32.8	13.1	13.2	36.4	29.3	31.8	33.5	30.1	29.6
Incr Delay (d2), s/veh	6.8	13.9	14.1	25.3	1.8	1.8	0.6	0.1	0.5	0.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	16.0	16.1	13.4	12.2	12.5	3.6	1.2	3.9	2.5	2.3	1.4
LnGrp Delay(d),s/veh	49.4	40.7	40.8	58.1	14.9	15.0	37.1	29.4	32.3	33.8	30.2	29.7
LnGrp LOS	D	D	D	E	B	B	D	C	C	C	C	C
Approach Vol, veh/h		1226			1818			381			283	
Approach Delay, s/veh		41.2			25.0			33.7			31.5	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.6	40.0		23.6	7.7	58.9		23.6				
Change Period (Y+Rc), s	3.5	6.7		4.9	3.5	6.7		4.9				
Max Green Setting (Gmax), s	20.5	34.4		27.0	6.5	51.4		27.0				
Max Q Clear Time (g_c+20),s	29.8	29.8		12.2	5.3	26.3		17.0				
Green Ext Time (p_c), s	0.0	3.5		1.4	0.0	22.4		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				31.8								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔↔	↕↔		↔↔	↕↔	
Traffic Volume (veh/h)	170	710	280	200	1210	90	210	90	50	40	160	330
Future Volume (veh/h)	170	710	280	200	1210	90	210	90	50	40	160	330
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	185	772	218	217	1315	86	228	98	54	43	174	359
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	1412	399	270	1432	93	279	539	277	83	323	288
Arrive On Green	0.26	0.87	0.87	0.13	0.71	0.71	0.08	0.24	0.24	0.02	0.18	0.18
Sat Flow, veh/h	3442	2716	767	3442	3373	220	3442	2251	1157	3442	1770	1581
Grp Volume(v), veh/h	185	503	487	217	689	712	228	76	76	43	174	359
Grp Sat Flow(s),veh/h/ln	1721	1770	1714	1721	1770	1824	1721	1770	1639	1721	1770	1581
Q Serve(g_s), s	5.7	9.3	9.3	8.0	42.0	42.5	8.5	4.4	4.8	1.6	11.6	23.7
Cycle Q Clear(g_c), s	5.7	9.3	9.3	8.0	42.0	42.5	8.5	4.4	4.8	1.6	11.6	23.7
Prop In Lane	1.00		0.45	1.00		0.12	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	539	920	891	270	751	775	279	423	392	83	323	288
V/C Ratio(X)	0.34	0.55	0.55	0.80	0.92	0.92	0.82	0.18	0.20	0.52	0.54	1.25
Avail Cap(c_a), veh/h	539	920	891	357	903	930	304	423	392	146	323	288
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	4.7	4.7	55.5	17.0	17.1	58.8	39.3	39.5	62.7	48.2	53.2
Incr Delay (d2), s/veh	0.4	2.3	2.4	8.0	15.5	15.5	14.7	0.2	0.2	4.8	1.8	136.3
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	2.7	4.7	4.6	4.1	23.0	24.1	4.6	2.2	2.2	0.8	5.8	21.2
LnGrp Delay(d),s/veh	43.0	7.1	7.2	63.6	32.4	32.6	73.5	39.5	39.7	67.5	50.0	189.4
LnGrp LOS	D	A	A	E	C	C	E	D	D	E	D	F
Approach Vol, veh/h		1175			1618			380			576	
Approach Delay, s/veh		12.8			36.7			59.9			138.2	
Approach LOS		B			D			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	73.3	14.1	29.0	26.0	60.9	6.7	36.4				
Change Period (Y+Rc), s	3.5	5.7	3.5	5.3	5.7	* 5.7	3.5	5.3				
Max Green Setting (Gmax), s	10.5	63.3	11.5	23.7	10.5	* 66	5.5	29.7				
Max Q Clear Time (g_c+10), s	10.0	11.3	10.5	25.7	7.7	44.5	3.6	6.8				
Green Ext Time (p_c), s	0.2	9.5	0.1	0.0	1.8	10.7	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay				47.1								
HCM 2010 LOS				D								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 20: Town Center Place & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	70	680	150	280	1160	260	95	55	155	100	70	100
Future Volume (veh/h)	70	680	150	280	1160	260	95	55	155	100	70	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	76	739	163	304	1261	283	82	90	168	92	99	109
Adj No. of Lanes	2	2	1	2	2	1	1	1	1	1	1	1
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	695	1986	876	357	1589	845	214	225	191	151	159	135
Arrive On Green	0.34	0.94	0.94	0.17	0.75	0.75	0.12	0.12	0.12	0.09	0.09	0.09
Sat Flow, veh/h	3442	3539	1561	3442	3539	1581	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	76	739	163	304	1261	283	82	90	168	92	99	109
Grp Sat Flow(s),veh/h/ln	1721	1770	1561	1721	1770	1581	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.0	2.6	1.0	11.1	28.6	7.0	5.5	5.8	13.6	6.5	6.7	8.8
Cycle Q Clear(g_c), s	2.0	2.6	1.0	11.1	28.6	7.0	5.5	5.8	13.6	6.5	6.7	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	695	1986	876	357	1589	845	214	225	191	151	159	135
V/C Ratio(X)	0.11	0.37	0.19	0.85	0.79	0.33	0.38	0.40	0.88	0.61	0.62	0.81
Avail Cap(c_a), veh/h	695	1986	876	543	2006	1031	232	244	207	205	215	183
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	1.9	1.8	52.7	12.5	7.1	52.7	52.8	56.2	57.4	57.5	58.4
Incr Delay (d2), s/veh	0.0	0.4	0.4	3.0	2.5	0.6	0.4	0.4	29.1	1.5	1.5	12.7
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	10.9	1.3	0.5	5.4	13.9	3.7	2.7	3.0	7.5	3.3	3.5	4.3
LnGrp Delay(d),s/veh	35.0	2.3	2.2	55.8	15.0	7.8	53.1	53.2	85.3	58.9	59.0	71.1
LnGrp LOS	D	A	A	E	B	A	D	D	F	E	E	E
Approach Vol, veh/h		978			1848			340			300	
Approach Delay, s/veh		4.8			20.6			69.0			63.3	
Approach LOS		A			C			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	78.2		15.1	31.6	63.7		19.7				
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0				
Max Green Setting (Gmax), s	20.5	60.7		15.0	7.5	* 7.4		17.0				
Max Q Clear Time (g_c+1),s	10.5	4.6		10.8	4.0	30.6		15.6				
Green Ext Time (p_c), s	0.4	15.0		0.3	2.5	27.8		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				24.6								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 21: El Camino Real & Leucadia Boulevard/Olivenhain Road

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑		↔↔	↑↑↑	↔	↔↔	↑↑↑	
Traffic Volume (veh/h)	130	650	190	1160	1390	160	145	665	500	190	1320	140
Future Volume (veh/h)	130	650	190	1160	1390	160	145	665	500	190	1320	140
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	141	707	207	1261	1511	174	158	723	543	207	1435	132
Adj No. of Lanes	2	3	1	2	3	0	2	3	1	2	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	746	229	1290	2159	248	184	1022	902	341	1567	144
Arrive On Green	0.09	0.24	0.24	0.37	0.47	0.47	0.09	0.34	0.34	0.17	0.44	0.44
Sat Flow, veh/h	3442	5085	1564	3442	4627	532	3442	5085	1537	3442	6010	552
Grp Volume(v), veh/h	141	707	207	1261	1107	578	158	723	543	207	1147	420
Grp Sat Flow(s),veh/h/ln	1721	1695	1564	1721	1695	1769	1721	1695	1537	1721	1602	1756
Q Serve(g_s), s	5.4	18.5	17.3	48.8	34.9	35.0	6.1	16.7	18.8	7.5	30.2	30.4
Cycle Q Clear(g_c), s	5.4	18.5	17.3	48.8	34.9	35.0	6.1	16.7	18.8	7.5	30.2	30.4
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	189	746	229	1290	1582	825	184	1022	902	341	1253	458
V/C Ratio(X)	0.75	0.95	0.90	0.98	0.70	0.70	0.86	0.71	0.60	0.61	0.92	0.92
Avail Cap(c_a), veh/h	260	746	229	1290	1582	825	184	1254	973	341	1253	458
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	50.5	50.0	41.6	28.5	28.5	61.0	41.4	5.4	53.9	36.7	36.7
Incr Delay (d2), s/veh	3.9	19.9	32.5	19.7	1.5	2.8	29.2	3.9	2.8	7.8	11.8	25.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	10.0	9.6	26.7	16.6	17.7	3.6	8.2	8.3	4.0	14.6	17.9
LnGrp Delay(d),s/veh	64.3	70.4	82.5	61.4	30.0	31.3	90.2	45.3	8.2	61.7	48.6	62.5
LnGrp LOS	E	E	F	E	C	C	F	D	A	E	D	E
Approach Vol, veh/h		1055			2946			1424			1774	
Approach Delay, s/veh		72.0			43.7			36.2			53.4	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	55.2	26.3	11.8	41.7	12.0	69.5	19.9	33.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	6.5	* 6.5				
Max Green Setting (Gm), s	50.6	19.8	7.2	35.2	10.2	60.2	9.1	* 33				
Max Q Clear Time (g_c+5), s	50.8	20.5	8.1	32.4	7.4	37.0	9.5	20.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.1	19.9	0.0	6.3				
Intersection Summary												
HCM 2010 Ctrl Delay			48.7									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	40	70	120	30	80	65	955	125	160	2450	140
Future Volume (veh/h)	150	40	70	120	30	80	65	955	125	160	2450	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	103	127	76	82	101	87	71	1038	136	174	2663	139
Adj No. of Lanes	1	1	1	1	1	1	2	4	0	2	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	161	135	126	132	112	642	3650	473	222	3123	162
Arrive On Green	0.09	0.09	0.09	0.07	0.07	0.07	0.37	1.00	1.00	0.13	0.99	0.99
Sat Flow, veh/h	1774	1863	1560	1774	1863	1583	3442	5775	749	3442	6280	326
Grp Volume(v), veh/h	103	127	76	82	101	87	71	862	312	174	2035	767
Grp Sat Flow(s),veh/h/ln	1774	1863	1560	1774	1863	1583	1721	1602	1719	1721	1602	1800
Q Serve(g_s), s	7.6	9.0	6.3	6.1	7.2	7.3	1.8	0.0	0.0	6.6	2.0	2.1
Cycle Q Clear(g_c), s	7.6	9.0	6.3	6.1	7.2	7.3	1.8	0.0	0.0	6.6	2.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		0.18
Lane Grp Cap(c), veh/h	154	161	135	126	132	112	642	3037	1086	222	2390	895
V/C Ratio(X)	0.67	0.79	0.56	0.65	0.76	0.77	0.11	0.28	0.29	0.78	0.85	0.86
Avail Cap(c_a), veh/h	230	241	202	191	200	170	642	3037	1086	344	2698	1011
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	0.74	0.74	0.74	0.23	0.23	0.23
Uniform Delay (d), s/veh	59.8	60.4	59.2	61.1	61.6	61.6	35.0	0.0	0.0	57.9	0.2	0.2
Incr Delay (d2), s/veh	5.0	9.7	3.6	2.1	3.8	5.3	0.0	0.2	0.5	0.6	1.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	5.1	2.9	3.1	3.8	3.4	0.9	0.0	0.1	3.1	0.4	0.9
LnGrp Delay(d),s/veh	64.8	70.1	62.8	63.2	65.4	66.9	35.0	0.2	0.5	58.5	1.2	2.9
LnGrp LOS	E	E	E	E	E	E	C	A	A	E	A	A
Approach Vol, veh/h		306			270			1245			2976	
Approach Delay, s/veh		66.5			65.2			2.2			5.0	
Approach LOS		E			E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.2	91.5		16.2	31.4	73.3		14.1				
Change Period (Y+Rc), s	4.5	6.2		4.5	6.2	* 6.2		4.5				
Max Green Setting (Gmax), s	10.5	69.8		17.5	7.5	* 76		14.5				
Max Q Clear Time (g_c+I), s	10.6	2.0		11.0	3.8	4.1		9.3				
Green Ext Time (p_c), s	0.1	18.3		0.7	2.8	63.0		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay				11.6								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 23: El Camino Real & Garden View Road

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	190	150	160	210	250	100	760	160	290	2220	110
Future Volume (veh/h)	70	190	150	160	210	250	100	760	160	290	2220	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	76	207	34	174	228	272	109	826	174	315	2413	120
Adj No. of Lanes	1	2	0	1	2	0	1	3	1	1	3	1
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	260	42	242	316	276	131	1111	341	724	2880	884
Arrive On Green	0.05	0.09	0.09	0.14	0.18	0.18	0.12	0.36	0.36	0.82	1.00	1.00
Sat Flow, veh/h	1774	3044	491	1774	1770	1547	1774	5085	1561	1774	5085	1561
Grp Volume(v), veh/h	76	119	122	174	228	272	109	826	174	315	2413	120
Grp Sat Flow(s),veh/h/ln	1774	1770	1766	1774	1770	1547	1774	1695	1561	1774	1695	1561
Q Serve(g_s), s	5.7	8.9	9.2	12.7	16.4	23.7	8.1	19.1	11.7	6.8	0.0	0.0
Cycle Q Clear(g_c), s	5.7	8.9	9.2	12.7	16.4	23.7	8.1	19.1	11.7	6.8	0.0	0.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	151	151	242	316	276	131	1111	341	724	2880	884
V/C Ratio(X)	0.80	0.78	0.81	0.72	0.72	0.98	0.83	0.74	0.51	0.43	0.84	0.14
Avail Cap(c_a), veh/h	112	198	197	242	316	276	151	1872	575	724	2880	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	0.66	0.66	0.66
Uniform Delay (d), s/veh	63.1	60.5	60.6	55.8	52.3	55.3	58.4	39.6	37.2	7.9	0.0	0.0
Incr Delay (d2), s/veh	23.9	12.6	15.4	8.6	7.4	49.7	23.0	3.5	4.2	0.3	2.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.9	5.1	6.8	8.7	13.9	4.8	9.3	5.4	3.3	0.6	0.1
LnGrp Delay(d),s/veh	87.0	73.1	76.0	64.4	59.7	105.0	81.3	43.1	41.4	8.2	2.1	0.2
LnGrp LOS	F	E	E	E	E	F	F	D	D	A	A	A
Approach Vol, veh/h		317			674			1109			2848	
Approach Delay, s/veh		77.6			79.2			46.6			2.7	
Approach LOS		E			E			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	60.4	34.8	23.3	16.5	13.5	81.8	10.8	29.0				
Change Period (Y+Rc), s	5.3	* 5.3	4.9	* 4.9	3.5	5.3	3.5	4.9				
Max Green Setting (Gmax), s	30.5	* 50	17.5	* 15	11.5	73.7	8.5	24.1				
Max Q Clear Time (g_c+I), s	10.8	21.1	14.7	11.2	10.1	2.0	7.7	25.7				
Green Ext Time (p_c), s	23.3	8.4	0.8	0.4	0.0	51.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				27.7								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 24: El Camino Real & Mountain Vista Drive

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↔	↔	↔	↔	↔↔↔	↔↔↔		↔↔↔	↔↔↔	
Traffic Volume (veh/h)	30	40	50	320	100	260	140	810	150	200	1800	100
Future Volume (veh/h)	30	40	50	320	100	260	140	810	150	200	1800	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.99	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	60	43	228	276	283	152	880	163	217	1957	109
Adj No. of Lanes	0	2	1	1	1	1	1	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	50	99	60	345	363	305	178	1454	268	970	2632	146
Arrive On Green	0.04	0.04	0.04	0.19	0.19	0.19	0.03	0.11	0.11	0.19	0.36	0.36
Sat Flow, veh/h	1226	2438	1469	1774	1863	1566	1774	4298	792	3442	4923	273
Grp Volume(v), veh/h	48	45	43	228	276	283	152	693	350	217	1345	721
Grp Sat Flow(s),veh/h/ln	1801	1863	1469	1774	1863	1566	1774	1695	1699	1721	1695	1806
Q Serve(g_s), s	3.6	3.2	3.9	16.0	18.9	24.0	11.5	26.3	26.5	7.2	46.8	47.2
Cycle Q Clear(g_c), s	3.6	3.2	3.9	16.0	18.9	24.0	11.5	26.3	26.5	7.2	46.8	47.2
Prop In Lane	0.68		1.00	1.00		1.00	1.00		0.47	1.00		0.15
Lane Grp Cap(c), veh/h	73	76	60	345	363	305	178	1147	575	970	1813	966
V/C Ratio(X)	0.66	0.59	0.72	0.66	0.76	0.93	0.85	0.60	0.61	0.22	0.74	0.75
Avail Cap(c_a), veh/h	73	76	60	355	373	313	243	1796	900	970	1813	966
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	1.00	1.00	1.00	1.00	1.00	0.71	0.71	0.71	0.44	0.44	0.44
Uniform Delay (d), s/veh	63.8	63.6	64.0	50.2	51.4	53.4	64.3	51.3	51.4	42.3	35.2	35.3
Incr Delay (d2), s/veh	22.1	13.4	36.4	3.4	7.7	31.7	11.2	1.7	3.4	0.0	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	2.2	1.9	2.2	8.2	10.5	13.0	6.2	12.6	13.0	3.4	22.3	24.2
LnGrp Delay(d),s/veh	85.9	77.1	100.4	53.6	59.1	85.2	75.5	53.0	54.8	42.3	36.4	37.7
LnGrp LOS	F	E	F	D	E	F	E	D	D	D	D	D
Approach Vol, veh/h		136			787			1195			2283	
Approach Delay, s/veh		87.6			66.9			56.4			37.4	
Approach LOS		F			E			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.0	17.0	77.7		31.3	43.5	51.2				
Change Period (Y+Rc), s		3.5	3.5	5.5		5.0	5.5	* 5.5				
Max Green Setting (Gmax), s		5.5	18.5	66.5		27.0	13.5	* 72				
Max Q Clear Time (g_c+I1), s		5.9	13.5	49.2		26.0	9.2	28.5				
Green Ext Time (p_c), s		0.0	0.1	16.1		0.3	4.2	17.2				
Intersection Summary												
HCM 2010 Ctrl Delay			49.4									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 25: Rancho Santa Fe Road & Lone Jack Road

05/08/2018

Intersection

Intersection Delay, s/veh99.2

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕			↕	↕	↕	↕	
Traffic Vol, veh/h	20	10	20	200	30	220	25	330	25	140	620	30
Future Vol, veh/h	20	10	20	200	30	220	25	330	25	140	620	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	11	22	217	33	239	27	359	27	152	674	33
Number of Lanes	0	1	1	1	1	0	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	13.1	19.4	35.1	180.9
HCM LOS	B	C	E	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	7%	0%	67%	0%	100%	0%	100%	0%
Vol Thru, %	93%	0%	33%	0%	0%	12%	0%	95%
Vol Right, %	0%	100%	0%	100%	0%	88%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	355	25	30	20	200	250	140	650
LT Vol	25	0	20	0	200	0	140	0
Through Vol	330	0	10	0	0	30	0	620
RT Vol	0	25	0	20	0	220	0	30
Lane Flow Rate	386	27	33	22	217	272	152	707
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.807	0.051	0.083	0.049	0.495	0.535	0.327	1.41
Departure Headway (Hd)	8.094	7.334	10.117	9.03	8.869	7.712	7.729	7.184
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	451	491	356	399	409	470	463	509
Service Time	5.794	5.034	7.817	6.73	6.569	5.412	5.51	4.964
HCM Lane V/C Ratio	0.856	0.055	0.093	0.055	0.531	0.579	0.328	1.389
HCM Control Delay	36.8	10.4	13.7	12.2	20	18.9	14.3	216.8
HCM Lane LOS	E	B	B	B	C	C	B	F
HCM 95th-tile Q	7.4	0.2	0.3	0.2	2.7	3.1	1.4	33.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔		↔	↑↑↑		↔	↑↑↑	
Traffic Volume (veh/h)	80	30	80	50	20	40	170	1050	40	150	1910	140
Future Volume (veh/h)	80	30	80	50	20	40	170	1050	40	150	1910	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	87	33	87	54	22	43	185	1141	43	163	2076	152
Adj No. of Lanes	0	1	1	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	40	127	64	26	51	209	1469	55	696	2786	202
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.20	0.49	0.49	0.52	0.77	0.77
Sat Flow, veh/h	1303	494	1548	771	314	614	1774	5029	189	1774	4831	351
Grp Volume(v), veh/h	120	0	87	119	0	0	185	769	415	163	1452	776
Grp Sat Flow(s),veh/h/ln	1798	0	1548	1700	0	0	1774	1695	1829	1774	1695	1791
Q Serve(g_s), s	8.9	0.0	7.4	9.3	0.0	0.0	13.7	25.2	25.3	6.8	31.3	32.1
Cycle Q Clear(g_c), s	8.9	0.0	7.4	9.3	0.0	0.0	13.7	25.2	25.3	6.8	31.3	32.1
Prop In Lane	0.72		1.00	0.45		0.36	1.00		0.10	1.00		0.20
Lane Grp Cap(c), veh/h	147	0	127	142	0	0	209	990	534	696	1955	1033
V/C Ratio(X)	0.82	0.00	0.69	0.84	0.00	0.00	0.89	0.78	0.78	0.23	0.74	0.75
Avail Cap(c_a), veh/h	186	0	161	164	0	0	263	1700	917	696	1955	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.53	0.53	0.53	0.59	0.59	0.59
Uniform Delay (d), s/veh	61.0	0.0	60.3	61.0	0.0	0.0	53.4	30.9	30.9	21.2	10.3	10.4
Incr Delay (d2), s/veh	15.8	0.0	4.8	24.8	0.0	0.0	14.8	3.2	5.9	0.1	1.6	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	15.0	0.0	3.3	5.4	0.0	0.0	7.5	12.2	13.5	3.3	14.8	16.2
LnGrp Delay(d),s/veh	76.8	0.0	65.1	85.8	0.0	0.0	68.2	34.2	36.8	21.3	11.9	13.4
LnGrp LOS	E		E	F			E	C	D	C	B	B
Approach Vol, veh/h		207			119			1369			2391	
Approach Delay, s/veh		71.9			85.8			39.6			13.0	
Approach LOS		E			F			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	58.0	44.7		16.0	19.9	82.9		16.2				
Change Period (Y+Rc), s	5.0	* 5.3		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	* 68		14.0	20.0	69.0		13.0				
Max Q Clear Time (g_c+I), s	10.8	27.3		10.9	15.7	34.1		11.3				
Green Ext Time (p_c), s	10.9	12.2		0.2	0.2	26.8		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				27.0								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 27: Rancho Santa Fe Road & El Camino Del Norte

05/08/2018

Intersection

Intersection Delay, s/veh44.3

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕	↕	↕	↕	
Traffic Vol, veh/h	10	5	10	180	15	205	10	290	70	270	520	10
Future Vol, veh/h	10	5	10	180	15	205	10	290	70	270	520	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	11	196	16	223	11	315	76	293	565	11
Number of Lanes	0	1	0	1	1	0	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	12.6	16.7	22	69.4
HCM LOS	B	C	C	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	3%	0%	40%	100%	0%	100%	0%
Vol Thru, %	97%	0%	20%	0%	7%	0%	98%
Vol Right, %	0%	100%	40%	0%	93%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	300	70	25	180	220	270	530
LT Vol	10	0	10	180	0	270	0
Through Vol	290	0	5	0	15	0	520
RT Vol	0	70	10	0	205	0	10
Lane Flow Rate	326	76	27	196	239	293	576
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.671	0.141	0.065	0.442	0.464	0.602	1.098
Departure Headway (Hd)	7.66	6.923	8.936	8.399	7.216	7.389	6.864
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	476	521	403	432	502	487	530
Service Time	5.36	4.623	6.936	6.099	4.916	5.154	4.629
HCM Lane V/C Ratio	0.685	0.146	0.067	0.454	0.476	0.602	1.087
HCM Control Delay	24.6	10.8	12.6	17.6	16	20.8	94.2
HCM Lane LOS	C	B	B	C	C	C	F
HCM 95th-tile Q	4.9	0.5	0.2	2.2	2.4	3.9	18.2

Future AM - No_Project
 28: Highway 101 & Encinitas Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↗	↖	↖	↗↗	↖	↖	↗↗	
Traffic Volume (veh/h)	40	160	30	380	130	200	20	200	180	410	890	70
Future Volume (veh/h)	40	160	30	380	130	200	20	200	180	410	890	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	43	174	33	413	141	217	22	217	196	446	967	76
Adj No. of Lanes	0	2	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	274	54	460	483	828	32	672	694	477	1462	115
Arrive On Green	0.11	0.11	0.11	0.26	0.26	0.26	0.02	0.19	0.19	0.27	0.44	0.44
Sat Flow, veh/h	597	2508	494	1774	1863	1551	1774	3539	1493	1774	3318	261
Grp Volume(v), veh/h	132	0	118	413	141	217	22	217	196	446	516	527
Grp Sat Flow(s),veh/h/ln	1833	0	1766	1774	1863	1551	1774	1770	1493	1774	1770	1809
Q Serve(g_s), s	7.1	0.0	6.6	23.2	6.3	7.9	1.3	5.5	8.6	25.4	23.8	23.8
Cycle Q Clear(g_c), s	7.1	0.0	6.6	23.2	6.3	7.9	1.3	5.5	8.6	25.4	23.8	23.8
Prop In Lane	0.33		0.28	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	201	0	193	460	483	828	32	672	694	477	780	797
V/C Ratio(X)	0.66	0.00	0.61	0.90	0.29	0.26	0.68	0.32	0.28	0.94	0.66	0.66
Avail Cap(c_a), veh/h	479	0	461	534	561	892	103	894	788	567	909	930
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	44.2	0.0	43.9	36.9	30.6	13.4	50.4	36.1	18.0	36.9	22.8	22.8
Incr Delay (d2), s/veh	1.4	0.0	1.2	16.3	0.3	0.2	9.1	0.3	0.2	19.7	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	3.3	13.4	3.3	3.4	0.7	2.7	5.3	15.0	11.9	12.2
LnGrp Delay(d),s/veh	45.5	0.0	45.1	53.2	31.0	13.5	59.6	36.4	18.2	56.6	24.2	24.2
LnGrp LOS	D		D	D	C	B	E	D	B	E	C	C
Approach Vol, veh/h		250			771			435			1489	
Approach Delay, s/veh		45.3			38.0			29.4			33.9	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.8	24.5		15.3	5.9	50.4		31.7				
Change Period (Y+Rc), s	4.0	4.9		4.0	4.0	4.9		4.9				
Max Green Setting (Gmax), s	30.0	26.1		27.0	6.0	53.1		31.1				
Max Q Clear Time (g_c+27), s	27.0	10.6		9.1	3.3	25.8		25.2				
Green Ext Time (p_c), s	0.4	7.9		0.7	0.0	10.4		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay				35.3								
HCM 2010 LOS				D								

Future AM - No_Project
 29: Vulcan Avenue & Encinitas Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	30	540	110	360	580	80	65	140	160	225	610	100
Future Volume (veh/h)	30	540	110	360	580	80	65	140	160	225	610	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	33	587	120	391	630	62	71	152	174	245	663	109
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	44	691	141	423	1465	144	95	694	580	408	694	578
Arrive On Green	0.02	0.24	0.24	0.24	0.45	0.45	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1774	2918	595	1774	3249	319	695	1863	1556	1047	1863	1551
Grp Volume(v), veh/h	33	355	352	391	343	349	71	152	174	245	663	109
Grp Sat Flow(s),veh/h/ln	1774	1770	1743	1774	1770	1799	695	1863	1556	1047	1863	1551
Q Serve(g_s), s	1.7	18.1	18.2	20.3	12.4	12.5	2.5	5.2	7.4	19.7	32.6	4.5
Cycle Q Clear(g_c), s	1.7	18.1	18.2	20.3	12.4	12.5	35.1	5.2	7.4	24.9	32.6	4.5
Prop In Lane	1.00		0.34	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	419	413	423	798	811	95	694	580	408	694	578
V/C Ratio(X)	0.76	0.85	0.85	0.92	0.43	0.43	0.75	0.22	0.30	0.60	0.95	0.19
Avail Cap(c_a), veh/h	535	509	502	443	798	811	95	694	580	408	694	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	1.00	1.00
Uniform Delay (d), s/veh	45.6	34.3	34.3	35.0	17.6	17.6	46.8	20.2	20.9	28.7	28.8	19.9
Incr Delay (d2), s/veh	23.0	10.8	11.4	24.6	0.4	0.4	27.9	0.2	0.3	2.4	23.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.0	10.0	12.8	6.1	6.3	2.6	2.7	3.2	5.9	21.3	1.9
LnGrp Delay(d),s/veh	68.7	45.1	45.7	59.7	18.0	18.0	74.7	20.3	21.1	31.1	52.3	20.1
LnGrp LOS	E	D	D	E	B	B	E	C	C	C	D	C
Approach Vol, veh/h		740			1083			397			1017	
Approach Delay, s/veh		46.4			33.0			30.4			43.8	
Approach LOS		D			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.0	28.2		40.0	5.8	48.4		40.0				
Change Period (Y+Rc), s	3.5	5.9		4.9	3.5	5.9		4.9				
Max Green Setting (Gmax), s	20.5	27.1		35.1	28.4	22.2		35.1				
Max Q Clear Time (g_c+20), s	20.2	20.2		34.6	3.7	14.5		37.1				
Green Ext Time (p_c), s	0.2	2.2		0.3	0.1	4.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				39.1								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	740	480	520	990	0	0	0	0	220	5	210
Future Volume (veh/h)	0	740	480	520	990	0	0	0	0	220	5	210
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	406	565	1076	0				239	5	80
Adj No. of Lanes	0	2	0	1	2	0				0	1	1
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	854	429	635	2743	0				265	6	241
Arrive On Green	0.00	0.63	0.63	0.72	1.00	0.00				0.15	0.15	0.15
Sat Flow, veh/h	0	2344	1129	1774	3632	0				1739	36	1583
Grp Volume(v), veh/h	0	631	579	565	1076	0				244	0	80
Grp Sat Flow(s),veh/h/ln	0	1770	1610	1774	1770	0				1776	0	1583
Q Serve(g_s), s	0.0	46.8	47.7	36.1	0.0	0.0				19.6	0.0	6.5
Cycle Q Clear(g_c), s	0.0	46.8	47.7	36.1	0.0	0.0				19.6	0.0	6.5
Prop In Lane	0.00		0.70	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	672	611	635	2743	0				271	0	241
V/C Ratio(X)	0.00	0.94	0.95	0.89	0.39	0.00				0.90	0.00	0.33
Avail Cap(c_a), veh/h	0	688	626	635	2743	0				332	0	296
HCM Platoon Ratio	1.00	1.67	1.67	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.68	0.68	0.56	0.56	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.0	25.2	18.3	0.0	0.0				60.4	0.0	54.8
Incr Delay (d2), s/veh	0.0	17.4	19.7	8.6	0.2	0.0				21.1	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	25.7	24.2	18.6	0.1	0.0				11.2	0.0	2.9
LnGrp Delay(d),s/veh	0.0	42.4	44.9	27.0	0.2	0.0				81.4	0.0	55.1
LnGrp LOS		D	D	C	A					F		E
Approach Vol, veh/h		1210			1641						324	
Approach Delay, s/veh		43.6			9.4						74.9	
Approach LOS		D			A						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	57.3	60.4		27.2		117.8						
Change Period (Y+Rc), s	5.4	* 5.4		5.1		5.4						
Max Green Setting (Gmax), s	40.3	* 56		27.1		107.4						
Max Q Clear Time (g_c+R), s	49.7			21.6		2.0						
Green Ext Time (p_c), s	6.3	5.3		0.5		23.6						
Intersection Summary												
HCM 2010 Ctrl Delay				29.1								
HCM 2010 LOS				C								
Notes												

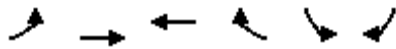
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	720	0	0	1160	380	370	0	430	0	0	0
Future Volume (veh/h)	230	720	0	0	1160	380	370	0	430	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	250	783	0	0	1261	342	402	0	87			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
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	271	2415	0	0	1750	783	435	0	378			
Arrive On Green	0.26	1.00	0.00	0.00	0.83	0.83	0.25	0.00	0.25			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1774	0	1541			
Grp Volume(v), veh/h	250	783	0	0	1261	342	402	0	87			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1541			
Q Serve(g_s), s	19.9	0.0	0.0	0.0	22.2	8.5	32.1	0.0	6.5			
Cycle Q Clear(g_c), s	19.9	0.0	0.0	0.0	22.2	8.5	32.1	0.0	6.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	271	2415	0	0	1750	783	435	0	378			
V/C Ratio(X)	0.92	0.32	0.00	0.00	0.72	0.44	0.92	0.00	0.23			
Avail Cap(c_a), veh/h	329	2415	0	0	1750	783	513	0	445			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.67	1.67	1.00	1.00	1.00			
Upstream Filter(l)	0.25	0.25	0.00	0.00	0.83	0.83	1.00	0.00	1.00			
Uniform Delay (d), s/veh	53.2	0.0	0.0	0.0	8.3	7.1	53.4	0.0	43.8			
Incr Delay (d2), s/veh	9.3	0.1	0.0	0.0	2.2	1.5	20.2	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	10.4	0.0	0.0	0.0	11.0	3.9	18.2	0.0	2.8			
LnGrp Delay(d),s/veh	62.5	0.1	0.0	0.0	10.5	8.6	73.6	0.0	44.0			
LnGrp LOS	E	A			B	A	E		D			
Approach Vol, veh/h		1033			1603			489				
Approach Delay, s/veh		15.2			10.1			68.4				
Approach LOS		B			B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		104.4			27.2	77.1		40.6				
Change Period (Y+Rc), s		5.4			5.1	5.4		5.1				
Max Green Setting (Gmax), s		92.6			26.9	60.6		41.9				
Max Q Clear Time (g_c+I1), s		2.0			21.9	24.2		34.1				
Green Ext Time (p_c), s		16.3			0.2	14.1		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay					20.9							
HCM 2010 LOS					C							

Future AM - No_Project
 32: Encinitas Boulevard & Saxony Road

05/08/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↗	↖↗	↖	↖↗	↖		
Traffic Volume (veh/h)	230	890	1080	250	405	480		
Future Volume (veh/h)	230	890	1080	250	405	480		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	250	967	1174	239	440	207		
Adj No. of Lanes	1	2	3	1	2	1		
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	842	2740	1334	405	528	243		
Arrive On Green	0.79	1.00	0.44	0.44	0.15	0.15		
Sat Flow, veh/h	1774	3632	5253	1542	3442	1583		
Grp Volume(v), veh/h	250	967	1174	239	440	207		
Grp Sat Flow(s),veh/h/ln	1774	1770	1695	1542	1721	1583		
Q Serve(g_s), s	5.6	0.0	30.6	17.0	18.0	18.5		
Cycle Q Clear(g_c), s	5.6	0.0	30.6	17.0	18.0	18.5		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	842	2740	1334	405	528	243		
V/C Ratio(X)	0.30	0.35	0.88	0.59	0.83	0.85		
Avail Cap(c_a), veh/h	842	2740	1704	517	1089	501		
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.00	1.00		
Upstream Filter(I)	0.84	0.84	0.63	0.63	1.00	1.00		
Uniform Delay (d), s/veh	8.5	0.0	38.6	34.8	59.6	59.8		
Incr Delay (d2), s/veh	0.1	0.3	5.6	4.0	2.6	6.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.7	0.1	14.8	7.6	8.7	15.8		
LnGrp Delay(d),s/veh	8.6	0.3	44.3	38.8	62.2	66.0		
LnGrp LOS	A	A	D	D	E	E		
Approach Vol, veh/h		1217	1413		647			
Approach Delay, s/veh		2.0	43.3		63.4			
Approach LOS		A	D		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		117.6		27.4	74.2	43.5		
Change Period (Y+Rc), s		5.4		5.1	5.4	* 5.4		
Max Green Setting (Gmax), s		88.6		45.9	34.9	* 49		
Max Q Clear Time (g_c+I1), s		2.0		20.5	7.6	32.6		
Green Ext Time (p_c), s		5.5		1.8	5.2	5.4		
Intersection Summary								
HCM 2010 Ctrl Delay			32.0					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

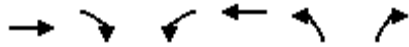


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	750	170	180	1160	80	120	100	150	180	280	180
Future Volume (veh/h)	110	750	170	180	1160	80	120	100	150	180	280	180
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	120	815	185	196	1261	73	130	109	136	196	304	158
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
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	147	1012	591	487	1748	781	157	203	167	284	345	288
Arrive On Green	0.08	0.29	0.29	0.46	0.82	0.82	0.09	0.11	0.11	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1575	1774	3539	1580	1774	1863	1537	1774	1863	1552
Grp Volume(v), veh/h	120	815	185	196	1261	73	130	109	136	196	304	158
Grp Sat Flow(s),veh/h/ln	1774	1770	1575	1774	1770	1580	1774	1863	1537	1774	1863	1552
Q Serve(g_s), s	7.3	23.5	3.3	8.1	16.9	0.5	7.9	6.1	9.5	11.5	17.5	10.2
Cycle Q Clear(g_c), s	7.3	23.5	3.3	8.1	16.9	0.5	7.9	6.1	9.5	11.5	17.5	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	1012	591	487	1748	781	157	203	167	284	345	288
V/C Ratio(X)	0.82	0.81	0.31	0.40	0.72	0.09	0.83	0.54	0.81	0.69	0.88	0.55
Avail Cap(c_a), veh/h	169	1277	709	487	1748	781	185	286	236	284	388	323
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	36.4	9.6	23.8	6.4	1.3	49.3	46.4	47.9	43.6	43.6	40.6
Incr Delay (d2), s/veh	18.2	6.0	1.2	0.2	2.6	0.2	19.5	2.2	13.5	5.9	18.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	12.3	2.2	3.9	8.5	0.3	4.8	3.3	4.7	6.1	10.8	4.5
LnGrp Delay(d),s/veh	67.9	42.4	10.8	24.0	9.0	1.6	68.8	48.6	61.4	49.5	62.4	42.3
LnGrp LOS	E	D	B	C	A	A	E	D	E	D	E	D
Approach Vol, veh/h		1120			1530			375			658	
Approach Delay, s/veh		39.9			10.5			60.2			53.7	
Approach LOS		D			B			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.5	36.8	13.3	24.5	12.6	59.6	21.7	16.1				
Change Period (Y+Rc), s	5.3	* 5.3	3.5	4.1	3.5	5.3	4.1	* 4.1				
Max Green Setting (Gmax), s	19.5	* 40	11.5	22.9	10.5	48.7	17.5	* 17				
Max Q Clear Time (g_c+10), s	10.5	25.5	9.9	19.5	9.3	18.9	13.5	11.5				
Green Ext Time (p_c), s	6.3	6.0	0.0	0.9	0.0	12.9	1.1	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				32.2								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 34: Balour Drive & Encinitas Boulevard

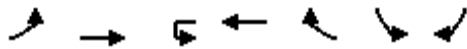
05/08/2018



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↔	↑↑	↔	↔		
Traffic Volume (veh/h)	840	180	580	1110	210	450		
Future Volume (veh/h)	840	180	580	1110	210	450		
Number	6	16	5	2	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	913	161	630	1207	228	489		
Adj No. of Lanes	2	0	2	2	1	1		
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	1305	230	765	2466	365	677		
Arrive On Green	0.73	0.73	0.44	1.00	0.21	0.21		
Sat Flow, veh/h	3090	528	3442	3632	1774	1583		
Grp Volume(v), veh/h	539	535	630	1207	228	489		
Grp Sat Flow(s),veh/h/ln	1770	1756	1721	1770	1774	1583		
Q Serve(g_s), s	15.2	15.2	14.4	0.0	10.5	18.5		
Cycle Q Clear(g_c), s	15.2	15.2	14.4	0.0	10.5	18.5		
Prop In Lane		0.30	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	771	765	765	2466	365	677		
V/C Ratio(X)	0.70	0.70	0.82	0.49	0.63	0.72		
Avail Cap(c_a), veh/h	771	765	822	2466	365	677		
HCM Platoon Ratio	1.67	1.67	2.00	2.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.64	0.64	1.00	1.00		
Uniform Delay (d), s/veh	9.0	9.0	23.5	0.0	32.6	21.3		
Incr Delay (d2), s/veh	5.2	5.3	5.0	0.4	2.5	3.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.1	8.0	7.2	0.2	5.4	10.6		
LnGrp Delay(d),s/veh	14.2	14.3	28.4	0.4	35.1	24.6		
LnGrp LOS	B	B	C	A	D	C		
Approach Vol, veh/h	1074			1837	717			
Approach Delay, s/veh	14.3			10.0	27.9			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		68.0			23.5	44.5		22.0
Change Period (Y+Rc), s		5.3			3.5	5.3		3.5
Max Green Setting (Gmax), s		62.7			21.5	37.7		18.5
Max Q Clear Time (g_c+l1), s		2.0			16.4	17.2		20.5
Green Ext Time (p_c), s		49.1			2.1	18.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			14.8					
HCM 2010 LOS			B					

Future AM - No_Project
 35: Encinitas Boulevard & Via Cantebria

05/08/2018



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR	
Lane Configurations	↖↖	↑↑	↔	↑↑		↖	↗↗	
Traffic Volume (veh/h)	460	830	5	1000	120	120	700	
Future Volume (veh/h)	460	830	5	1000	120	120	700	
Number	1	6		2	12	7	14	
Initial Q (Qb), veh	0	0		0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00				0.97	1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1863		1863	1900	1863	1863	
Adj Flow Rate, veh/h	500	902		1087	120	130	761	
Adj No. of Lanes	2	2		2	0	1	2	
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	1157	2817		1284	142	189	1233	
Arrive On Green	0.11	0.26		0.67	0.67	0.11	0.11	
Sat Flow, veh/h	3442	3632		3298	353	1774	2787	
Grp Volume(v), veh/h	500	902		600	607	130	761	
Grp Sat Flow(s),veh/h/ln	1721	1770		1770	1788	1774	1393	
Q Serve(g_s), s	12.2	18.5		23.2	23.3	6.4	0.0	
Cycle Q Clear(g_c), s	12.2	18.5		23.2	23.3	6.4	0.0	
Prop In Lane	1.00				0.20	1.00	1.00	
Lane Grp Cap(c), veh/h	1157	2817		709	717	189	1233	
V/C Ratio(X)	0.43	0.32		0.85	0.85	0.69	0.62	
Avail Cap(c_a), veh/h	1157	2817		808	817	266	1355	
HCM Platoon Ratio	0.33	0.33		1.67	1.67	1.00	1.00	
Upstream Filter(I)	0.66	0.66		1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	32.0	13.6		12.8	12.8	38.8	19.2	
Incr Delay (d2), s/veh	0.1	0.2		11.9	11.9	1.7	0.5	
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	15.8	9.1		13.1	13.6	3.2	9.5	
LnGrp Delay(d),s/veh	32.0	13.8		24.6	24.7	40.5	19.7	
LnGrp LOS	C	B		C	C	D	B	
Approach Vol, veh/h		1402		1207		891		
Approach Delay, s/veh		20.3		24.6		22.7		
Approach LOS		C		C		C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	35.6	41.4		13.1		76.9		
Change Period (Y+Rc), s	5.3	* 5.3		3.5		5.3		
Max Green Setting (Gmax), s	20.1	* 41		13.5		58.7		
Max Q Clear Time (g_c+1), s	11.2	25.3		8.4		20.5		
Green Ext Time (p_c), s	4.1	10.7		1.2		14.3		
Intersection Summary								
HCM 2010 Ctrl Delay				22.4				
HCM 2010 LOS				C				
Notes								

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 36: El Camino Real & Encinitas Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↔		↔↔	↑↔		↔↑↑↔			↔↔	↑↑↑	↔
Traffic Volume (veh/h)	280	570	170	320	570	320	190	670	190	690	1600	480
Future Volume (veh/h)	280	570	170	320	570	320	190	670	190	690	1600	480
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	304	620	185	348	620	264	207	728	207	750	1739	522
Adj No. of Lanes	2	2	0	2	2	0	1	3	0	2	3	1
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	334	665	198	379	655	279	262	1126	316	793	1835	563
Arrive On Green	0.16	0.41	0.41	0.11	0.27	0.27	0.25	0.48	0.48	0.38	0.60	0.60
Sat Flow, veh/h	3442	2677	798	3442	2408	1025	1774	3935	1105	3442	5085	1561
Grp Volume(v), veh/h	304	409	396	348	455	429	207	626	309	750	1739	522
Grp Sat Flow(s),veh/h/ln	1721	1770	1705	1721	1770	1664	1774	1695	1650	1721	1695	1561
Q Serve(g_s), s	12.2	30.9	31.0	14.0	35.3	35.4	15.3	19.5	19.9	29.5	44.4	32.9
Cycle Q Clear(g_c), s	12.2	30.9	31.0	14.0	35.3	35.4	15.3	19.5	19.9	29.5	44.4	32.9
Prop In Lane	1.00		0.47	1.00		0.62	1.00		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	334	439	423	379	481	452	262	970	472	793	1835	563
V/C Ratio(X)	0.91	0.93	0.93	0.92	0.95	0.95	0.79	0.65	0.66	0.95	0.95	0.93
Avail Cap(c_a), veh/h	334	461	445	379	484	455	262	970	472	870	1849	567
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.57	0.57	0.57	0.96	0.96	0.96	0.53	0.53	0.53
Uniform Delay (d), s/veh	58.0	39.9	39.9	61.7	50.0	50.0	50.7	31.2	31.3	42.2	26.6	15.9
Incr Delay (d2), s/veh	27.0	25.5	26.7	17.8	19.3	20.3	13.3	3.2	6.7	10.8	7.2	14.8
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	18.1	17.6	7.6	19.9	18.9	8.4	9.5	9.9	15.1	21.6	16.1
LnGrp Delay(d),s/veh	85.1	65.4	66.6	79.4	69.3	70.3	63.9	34.4	38.0	53.1	33.8	30.7
LnGrp LOS	F	E	E	E	E	E	E	C	D	D	C	C
Approach Vol, veh/h		1109			1232			1142			3011	
Approach Delay, s/veh		71.2			72.5			40.7			38.1	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.5	45.4	21.1	40.4	26.0	55.8	17.8	43.7				
Change Period (Y+Rc), s	4.2	5.3	5.7	* 5.7	5.3	* 5.3	* 4.2	5.7				
Max Green Setting (Gmax), s	33.3	15.4	* 37	17.8	* 51	* 14	38.3					
Max Q Clear Time (g_c+Rt), s	21.9	16.0	33.0	17.3	46.4	14.2	37.4					
Green Ext Time (p_c), s	0.8	5.3	0.0	1.7	0.1	4.2	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			50.7									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 37: Village Square Drive & Encinitas Boulevard

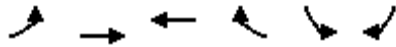
05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕		↖	↗	
Traffic Volume (veh/h)	130	980	10	90	1100	120	10	10	10	110	5	120
Future Volume (veh/h)	130	980	10	90	1100	120	10	10	10	110	5	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	1065	11	98	1196	120	11	11	11	120	5	130
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1985	20	125	1680	168	21	21	21	213	7	181
Arrive On Green	0.10	0.55	0.55	0.07	0.52	0.52	0.04	0.04	0.04	0.12	0.12	0.12
Sat Flow, veh/h	1774	3588	37	1774	3242	325	576	576	576	1774	58	1506
Grp Volume(v), veh/h	141	525	551	98	651	665	33	0	0	120	0	135
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1797	1729	0	0	1774	0	1564
Q Serve(g_s), s	5.8	14.0	14.0	4.0	20.8	21.0	1.4	0.0	0.0	4.7	0.0	6.2
Cycle Q Clear(g_c), s	5.8	14.0	14.0	4.0	20.8	21.0	1.4	0.0	0.0	4.7	0.0	6.2
Prop In Lane	1.00		0.02	1.00		0.18	0.33		0.33	1.00		0.96
Lane Grp Cap(c), veh/h	176	979	1026	125	917	931	63	0	0	213	0	187
V/C Ratio(X)	0.80	0.54	0.54	0.78	0.71	0.71	0.52	0.00	0.00	0.56	0.00	0.72
Avail Cap(c_a), veh/h	203	995	1043	191	971	986	583	0	0	574	0	506
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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.7	10.5	10.5	33.9	13.6	13.7	35.1	0.0	0.0	30.8	0.0	31.4
Incr Delay (d2), s/veh	15.4	0.7	0.7	5.0	2.6	2.6	2.5	0.0	0.0	0.9	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	6.9	7.2	2.1	10.8	11.0	0.7	0.0	0.0	2.4	0.0	2.8
LnGrp Delay(d),s/veh	48.1	11.3	11.2	38.9	16.2	16.3	37.6	0.0	0.0	31.7	0.0	33.4
LnGrp LOS	D	B	B	D	B	B	D			C		C
Approach Vol, veh/h		1217			1414			33			255	
Approach Delay, s/veh		15.5			17.8			37.6			32.6	
Approach LOS		B			B			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	46.3		12.9	10.9	43.7		6.7				
Change Period (Y+Rc), s	3.0	5.3		4.0	3.5	5.3		4.0				
Max Green Setting (Gmax), s	41.7			24.0	8.5	40.7		25.0				
Max Q Clear Time (g_c+I), s	16.0			8.2	7.8	23.0		3.4				
Green Ext Time (p_c), s	0.0	21.4		0.6	0.0	15.4		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				18.4								
HCM 2010 LOS				B								

Future AM - No_Project
 38: Encinitas Boulevard & Village Park Way

05/08/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	240	870	560	100	390	420		
Future Volume (veh/h)	240	870	560	100	390	420		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	261	946	609	83	424	457		
Adj No. of Lanes	1	2	2	0	1	1		
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	294	1946	1055	143	564	503		
Arrive On Green	0.17	0.55	0.34	0.34	0.32	0.32		
Sat Flow, veh/h	1774	3632	3215	424	1774	1583		
Grp Volume(v), veh/h	261	946	345	347	424	457		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1776	1774	1583		
Q Serve(g_s), s	10.9	12.4	12.1	12.2	16.2	20.9		
Cycle Q Clear(g_c), s	10.9	12.4	12.1	12.2	16.2	20.9		
Prop In Lane	1.00			0.24	1.00	1.00		
Lane Grp Cap(c), veh/h	294	1946	598	600	564	503		
V/C Ratio(X)	0.89	0.49	0.58	0.58	0.75	0.91		
Avail Cap(c_a), veh/h	294	2062	656	659	611	545		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	30.8	10.4	20.5	20.6	23.1	24.7		
Incr Delay (d2), s/veh	26.5	0.4	2.0	2.0	4.8	18.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.5	6.2	6.2	6.2	8.6	18.6		
LnGrp Delay(d),s/veh	57.3	10.8	22.5	22.6	27.9	43.1		
LnGrp LOS	E	B	C	C	C	D		
Approach Vol, veh/h		1207	692		881			
Approach Delay, s/veh		20.9	22.6		35.8			
Approach LOS		C	C		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.0		27.5	16.0	32.0		
Change Period (Y+Rc), s		6.5		3.5	3.5	6.5		
Max Green Setting (Gmax), s		44.0		26.0	12.5	28.0		
Max Q Clear Time (g_c+l1), s		14.4		22.9	12.9	14.2		
Green Ext Time (p_c), s		21.0		1.1	0.0	11.3		
Intersection Summary								
HCM 2010 Ctrl Delay			26.0					
HCM 2010 LOS			C					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	140	1040	150	130	520	90	230	280	120	320	270	230
Future Volume (veh/h)	140	1040	150	130	520	90	230	280	120	320	270	230
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	152	1130	151	141	565	81	250	304	108	348	293	202
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	185	981	131	171	960	137	278	425	343	373	525	445
Arrive On Green	0.10	0.31	0.31	0.10	0.31	0.31	0.16	0.23	0.23	0.21	0.28	0.28
Sat Flow, veh/h	1774	3134	418	1774	3103	444	1774	1863	1503	1774	1863	1578
Grp Volume(v), veh/h	152	637	644	141	321	325	250	304	108	348	293	202
Grp Sat Flow(s),veh/h/ln	1774	1770	1783	1774	1770	1777	1774	1863	1503	1774	1863	1578
Q Serve(g_s), s	10.0	37.3	37.3	9.3	18.3	18.4	16.5	17.9	7.1	23.0	16.0	12.6
Cycle Q Clear(g_c), s	10.0	37.3	37.3	9.3	18.3	18.4	16.5	17.9	7.1	23.0	16.0	12.6
Prop In Lane	1.00		0.23	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	554	558	171	547	550	278	425	343	373	525	445
V/C Ratio(X)	0.82	1.15	1.15	0.83	0.59	0.59	0.90	0.71	0.31	0.93	0.56	0.45
Avail Cap(c_a), veh/h	410	554	558	402	554	556	365	486	392	395	525	445
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	1.00	1.00
Uniform Delay (d), s/veh	52.3	40.9	40.9	52.9	34.7	34.8	49.3	42.4	38.2	46.2	36.4	35.2
Incr Delay (d2), s/veh	12.0	86.6	88.4	9.6	2.5	2.6	17.6	6.0	1.1	27.4	2.2	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	31.5	32.0	5.0	9.3	9.4	9.4	9.9	3.1	14.1	8.5	5.7
LnGrp Delay(d),s/veh	64.2	127.5	129.3	62.5	37.3	37.3	66.9	48.4	39.3	73.6	38.7	36.8
LnGrp LOS	E	F	F	E	D	D	E	D	D	E	D	D
Approach Vol, veh/h		1433			787			662			843	
Approach Delay, s/veh		121.6			41.8			53.9			52.6	
Approach LOS		F			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	43.0	22.2	38.5	15.9	42.5	28.6	32.1				
Change Period (Y+Rc), s	4.0	5.7	3.5	4.9	3.5	5.7	3.5	4.9				
Max Green Setting (Gmax), s	37.3	24.5	33.1	27.5	37.3	26.5	31.1					
Max Q Clear Time (g_c+1), s	39.3	18.5	18.0	12.0	20.4	25.0	19.9					
Green Ext Time (p_c), s	0.3	0.0	0.2	7.2	0.5	14.6	0.1	5.3				
Intersection Summary												
HCM 2010 Ctrl Delay					77.1							
HCM 2010 LOS					E							

Future AM - No_Project
 40: San Elijo Avenue/Vulcan Avenue & Santa Fe Drive

05/08/2018

Intersection

Intersection Delay, s/veh 54.6

Intersection LOS F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↙		↘		↘	↗
Traffic Vol, veh/h	200	180	150	20	220	600
Future Vol, veh/h	200	180	150	20	220	600
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	217	196	163	22	239	652
Number of Lanes	1	0	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left NB			WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right SB		WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	21.9	12.7	78.4
HCM LOS	C	B	F

Lane	NBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	53%	100%	0%
Vol Thru, %	88%	0%	0%	100%
Vol Right, %	12%	47%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	380	220	600
LT Vol	0	200	220	0
Through Vol	150	0	0	600
RT Vol	20	180	0	0
Lane Flow Rate	185	413	239	652
Geometry Grp	5	2	7	7
Degree of Util (X)	0.327	0.69	0.448	1.13
Departure Headway (Hd)	6.545	6.228	6.746	6.237
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	553	582	536	587
Service Time	4.545	4.228	4.452	3.944
HCM Lane V/C Ratio	0.335	0.71	0.446	1.111
HCM Control Delay	12.7	21.9	14.8	101.7
HCM Lane LOS	B	C	B	F
HCM 95th-tile Q	1.4	5.4	2.3	21

Future AM - No_Project
 41: I-5 SB On-Ramp/I-5 SB Off-Ramp & Santa Fe Drive

05/08/2018

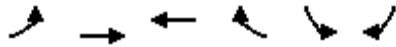


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑						↑	↗
Traffic Volume (veh/h)	0	490	170	440	650	0	0	0	0	80	10	210
Future Volume (veh/h)	0	490	170	440	650	0	0	0	0	80	10	210
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	533	185	478	707	0				87	11	228
Adj No. of Lanes	0	1	1	1	2	0				0	1	1
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	637	529	520	2466	0				268	34	268
Arrive On Green	0.00	0.34	0.34	0.29	0.70	0.00				0.17	0.17	0.17
Sat Flow, veh/h	0	1863	1548	1774	3632	0				1583	200	1583
Grp Volume(v), veh/h	0	533	185	478	707	0				98	0	228
Grp Sat Flow(s),veh/h/ln	0	1863	1548	1774	1770	0				1784	0	1583
Q Serve(g_s), s	0.0	20.1	6.8	19.9	5.8	0.0				3.7	0.0	10.7
Cycle Q Clear(g_c), s	0.0	20.1	6.8	19.9	5.8	0.0				3.7	0.0	10.7
Prop In Lane	0.00		1.00	1.00		0.00				0.89		1.00
Lane Grp Cap(c), veh/h	0	637	529	520	2466	0				302	0	268
V/C Ratio(X)	0.00	0.84	0.35	0.92	0.29	0.00				0.32	0.00	0.85
Avail Cap(c_a), veh/h	0	753	626	659	2962	0				374	0	332
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.1	18.7	26.1	4.4	0.0				27.8	0.0	30.7
Incr Delay (d2), s/veh	0.0	6.2	0.1	14.0	0.0	0.0				0.2	0.0	13.4
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	0.0	11.3	2.9	11.7	2.8	0.0				1.8	0.0	5.6
LnGrp Delay(d),s/veh	0.0	29.3	18.9	40.1	4.4	0.0				28.1	0.0	44.1
LnGrp LOS		C	B	D	A					C		D
Approach Vol, veh/h		718			1185						326	
Approach Delay, s/veh		26.6			18.8						39.3	
Approach LOS		C			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	37.1	31.2		18.0		58.2						
Change Period (Y+Rc), s	4.7	5.1		5.1		5.1						
Max Green Setting (Gmax), s	30.8			16.0		63.8						
Max Q Clear Time (g_c+21), s	22.1			12.7		7.8						
Green Ext Time (p_c), s	0.5	4.0		0.3		6.8						
Intersection Summary												
HCM 2010 Ctrl Delay				24.3								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 42: Santa Fe Drive & I-5 NB On-Ramp

05/08/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↑	↑↑	↗				
Traffic Volume (veh/h)	170	390	1090	360	0	0		
Future Volume (veh/h)	170	390	1090	360	0	0		
Number	5	2	6	16				
Initial Q (Qb), veh	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00			0.97				
Parking Bus, Adj	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863				
Adj Flow Rate, veh/h	185	424	1185	391				
Adj No. of Lanes	1	1	2	1				
Peak Hour Factor	0.92	0.92	0.92	0.92				
Percent Heavy Veh, %	2	2	2	2				
Cap, veh/h	314	1546	1787	774				
Arrive On Green	0.18	0.83	0.50	0.50				
Sat Flow, veh/h	1774	1863	3632	1532				
Grp Volume(v), veh/h	185	424	1185	391				
Grp Sat Flow(s),veh/h/ln	1774	1863	1770	1532				
Q Serve(g_s), s	3.0	1.6	7.9	5.4				
Cycle Q Clear(g_c), s	3.0	1.6	7.9	5.4				
Prop In Lane	1.00			1.00				
Lane Grp Cap(c), veh/h	314	1546	1787	774				
V/C Ratio(X)	0.59	0.27	0.66	0.51				
Avail Cap(c_a), veh/h	541	2028	2250	974				
HCM Platoon Ratio	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	12.0	0.6	5.9	5.2				
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.2				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	1.5	0.7	3.8	2.2				
LnGrp Delay(d),s/veh	12.7	0.6	6.1	5.4				
LnGrp LOS	B	A	A	A				
Approach Vol, veh/h		609	1576					
Approach Delay, s/veh		4.3	5.9					
Approach LOS		A	A					
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		
Phs Duration (G+Y+Rc), s		31.8			10.3	21.4		
Change Period (Y+Rc), s		5.4			* 4.7	5.4		
Max Green Setting (Gmax), s		34.6			* 9.7	20.2		
Max Q Clear Time (g_c+l1), s		3.6			5.0	9.9		
Green Ext Time (p_c), s		10.3			0.1	6.0		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 43: I-5 NB Off-Ramp/Regal Road & Santa Fe Drive

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	330	0	0	890	70	290	100	160	60	0	300
Future Volume (veh/h)	70	330	0	0	890	70	290	100	160	60	0	300
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	76	359	0	0	967	76	223	258	152	65	0	326
Adj No. of Lanes	1	1	0	0	3	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	2	2
Cap, veh/h	126	684	0	0	1140	89	309	324	272	70	0	351
Arrive On Green	0.07	0.37	0.00	0.00	0.24	0.24	0.17	0.17	0.17	0.26	0.00	0.26
Sat Flow, veh/h	1774	1863	0	0	4964	376	1774	1863	1562	265	0	1329
Grp Volume(v), veh/h	76	359	0	0	683	360	223	258	152	391	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	1695	1782	1774	1863	1562	1595	0	0
Q Serve(g_s), s	3.3	12.1	0.0	0.0	15.4	15.5	9.5	10.7	7.1	19.2	0.0	0.0
Cycle Q Clear(g_c), s	3.3	12.1	0.0	0.0	15.4	15.5	9.5	10.7	7.1	19.2	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.21	1.00		1.00	0.17		0.83
Lane Grp Cap(c), veh/h	126	684	0	0	806	424	309	324	272	422	0	0
V/C Ratio(X)	0.60	0.52	0.00	0.00	0.85	0.85	0.72	0.80	0.56	0.93	0.00	0.00
Avail Cap(c_a), veh/h	157	740	0	0	849	446	356	373	313	425	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.2	19.9	0.0	0.0	29.2	29.2	31.3	31.8	30.4	28.8	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.2	0.0	0.0	7.2	13.1	7.0	11.1	2.6	25.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	6.2	0.0	0.0	8.0	9.1	5.2	6.4	3.3	11.4	0.0	0.0
LnGrp Delay(d),s/veh	37.9	20.1	0.0	0.0	36.4	42.3	38.3	42.9	32.9	54.7	0.0	0.0
LnGrp LOS	D	C			D	D	D	D	C	D		
Approach Vol, veh/h		435			1043			633			391	
Approach Delay, s/veh		23.2			38.4			38.9			54.7	
Approach LOS		C			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		34.9		26.3	10.4	24.5		19.1				
Change Period (Y+Rc), s		5.4		5.1	* 4.7	5.4		5.1				
Max Green Setting (Gmax), s		31.9		21.4	* 7.1	20.1		16.1				
Max Q Clear Time (g_c+l1), s		14.1		21.2	5.3	17.5		12.7				
Green Ext Time (p_c), s		5.9		0.0	0.0	1.6		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay					38.5							
HCM 2010 LOS					D							
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 44: MacKinnon Avenue/Nardo Road & Santa Fe Drive

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	385	85	210	730	120	100	70	120	40	90	50
Future Volume (veh/h)	65	385	85	210	730	120	100	70	120	40	90	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	0.98		0.95	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	418	92	228	793	130	109	76	89	43	98	54
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	692	152	268	886	145	182	115	113	109	222	106
Arrive On Green	0.05	0.47	0.47	0.15	0.57	0.57	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	1472	324	1774	1554	255	518	492	486	238	950	455
Grp Volume(v), veh/h	71	0	510	228	0	923	274	0	0	195	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1796	1774	0	1808	1496	0	0	1643	0	0
Q Serve(g_s), s	3.3	0.0	17.3	10.3	0.0	37.0	5.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	17.3	10.3	0.0	37.0	13.9	0.0	0.0	8.1	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.14	0.40		0.32	0.22		0.28
Lane Grp Cap(c), veh/h	91	0	845	268	0	1031	410	0	0	436	0	0
V/C Ratio(X)	0.78	0.00	0.60	0.85	0.00	0.90	0.67	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	97	0	859	333	0	1106	475	0	0	507	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.7	0.0	16.2	34.2	0.0	15.6	29.4	0.0	0.0	27.3	0.0	0.0
Incr Delay (d2), s/veh	31.2	0.0	1.3	15.8	0.0	9.4	3.2	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	8.8	6.2	0.0	20.9	6.2	0.0	0.0	4.0	0.0	0.0
LnGrp Delay(d),s/veh	70.0	0.0	17.5	49.9	0.0	25.0	32.7	0.0	0.0	28.2	0.0	0.0
LnGrp LOS	E		B	D		C	C			C		
Approach Vol, veh/h		581			1151			274			195	
Approach Delay, s/veh		23.9			29.9			32.7			28.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	60.0	43.4		23.3	7.7	51.6		23.3				
Change Period (Y+Rc), s	3.5	4.5		4.0	3.5	4.5		4.0				
Max Green Setting (Gmax), s	10.5	39.5		23.0	4.5	50.5		23.0				
Max Q Clear Time (g_c+1),s	10.3	19.3		10.1	5.3	39.0		15.9				
Green Ext Time (p_c), s	0.2	12.2		2.9	0.0	8.1		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				28.5								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 13.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	190	470	770	160	35	225
Future Vol, veh/h	190	470	770	160	35	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	207	511	837	174	38	245




















Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1011	0	0 1848 924
Stage 1	-	-	- 924 -
Stage 2	-	-	- 924 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	686	-	- 82 327
Stage 1	-	-	- 387 -
Stage 2	-	-	- 387 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	686	-	- 57 327
Mov Cap-2 Maneuver	-	-	- 170 -
Stage 1	-	-	- 387 -
Stage 2	-	-	- 270 -

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	84.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	686	-	-	-	291
HCM Lane V/C Ratio	0.301	-	-	-	0.971
HCM Control Delay (s)	12.5	-	-	-	84.7
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1.3	-	-	-	9.8

Future AM - No_Project
46: Lake Drive & Santa Fe Drive

05/08/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	360	75	400	730	10	65	5	140	10	10	10
Future Volume (veh/h)	5	360	75	400	730	10	65	5	140	10	10	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.99		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	5	391	82	435	793	11	71	5	125	11	11	11
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	1021	214	654	1258	17	157	24	156	144	129	94
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	674	1487	312	917	1833	25	434	146	954	363	790	577
Grp Volume(v), veh/h	5	0	473	435	0	804	201	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	674	0	1799	917	0	1858	1534	0	0	1730	0	0
Q Serve(g_s), s	0.2	0.0	6.3	21.8	0.0	13.6	5.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.8	0.0	6.3	28.1	0.0	13.6	7.1	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.01	0.35		0.62	0.33		0.33
Lane Grp Cap(c), veh/h	429	0	1235	654	0	1276	337	0	0	368	0	0
V/C Ratio(X)	0.01	0.00	0.38	0.67	0.00	0.63	0.60	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	441	0	1268	670	0	1310	528	0	0	561	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.7	0.0	3.8	9.8	0.0	4.9	22.8	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	3.3	0.0	1.4	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.2	6.0	0.0	7.2	3.1	0.0	0.0	0.4	0.0	0.0
LnGrp Delay(d),s/veh	8.7	0.0	4.2	13.1	0.0	6.3	23.4	0.0	0.0	20.3	0.0	0.0
LnGrp LOS	A		A	B		A	C			C		
Approach Vol, veh/h		478			1239			201			33	
Approach Delay, s/veh		4.2			8.7			23.4			20.3	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.0		12.8		44.0		12.8				
Change Period (Y+Rc), s		5.0		3.5		5.0		3.5				
Max Green Setting (Gmax), s		40.0		16.5		40.0		16.5				
Max Q Clear Time (g_c+I1), s		15.8		2.9		30.1		9.1				
Green Ext Time (p_c), s		19.7		0.8		8.8		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			9.3									
HCM 2010 LOS			A									

Future AM - No_Project
47: El Camino Real & Santa Fe Drive

05/08/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↖	↗	↖	↑↑↑	↑↑	↗		
Traffic Volume (veh/h)	340	160	190	760	1230	850		
Future Volume (veh/h)	340	160	190	760	1230	850		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.95		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	370	174	207	826	1337	924		
Adj No. of Lanes	2	1	1	3	2	1		
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	603	277	249	3383	1678	990		
Arrive On Green	0.18	0.18	0.14	0.67	0.47	0.47		
Sat Flow, veh/h	3442	1583	1774	5253	3632	1502		
Grp Volume(v), veh/h	370	174	207	826	1337	924		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1695	1770	1502		
Q Serve(g_s), s	6.9	7.0	7.8	4.5	22.0	32.7		
Cycle Q Clear(g_c), s	6.9	7.0	7.8	4.5	22.0	32.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	603	277	249	3383	1678	990		
V/C Ratio(X)	0.61	0.63	0.83	0.24	0.80	0.93		
Avail Cap(c_a), veh/h	1647	758	270	3392	1678	990		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	26.3	26.4	28.8	4.6	15.3	10.0		
Incr Delay (d2), s/veh	1.4	3.3	18.2	0.0	2.8	15.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	13.4	6.3	5.1	2.1	11.2	21.7		
LnGrp Delay(d),s/veh	27.7	29.7	47.0	4.7	18.2	25.3		
LnGrp LOS	C	C	D	A	B	C		
Approach Vol, veh/h	544			1033	2261			
Approach Delay, s/veh	28.3			13.1	21.1			
Approach LOS	C			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		51.9		17.1	13.2	38.7		
Change Period (Y+Rc), s		6.0		5.0	3.5	* 6		
Max Green Setting (Gmax), s		46.0		33.0	10.5	* 33		
Max Q Clear Time (g_c+l1), s		6.5		9.0	9.8	34.7		
Green Ext Time (p_c), s		33.2		3.1	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			20.0					
HCM 2010 LOS			B					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 48: San Elijo Avenue & Birmingham Drive

05/08/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	190	90	265	235	195	635		
Future Volume (veh/h)	190	90	265	235	195	635		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	207	98	288	255	212	690		
Adj No. of Lanes	1	1	1	0	1	1		
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	282	251	383	339	269	1222		
Arrive On Green	0.16	0.16	0.43	0.43	0.15	0.66		
Sat Flow, veh/h	1774	1583	893	791	1774	1863		
Grp Volume(v), veh/h	207	98	0	543	212	690		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1684	1774	1863		
Q Serve(g_s), s	5.1	2.5	0.0	12.5	5.3	9.3		
Cycle Q Clear(g_c), s	5.1	2.5	0.0	12.5	5.3	9.3		
Prop In Lane	1.00	1.00		0.47	1.00			
Lane Grp Cap(c), veh/h	282	251	0	721	269	1222		
V/C Ratio(X)	0.74	0.39	0.00	0.75	0.79	0.56		
Avail Cap(c_a), veh/h	619	553	0	827	368	1442		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	17.3	0.0	11.1	18.7	4.3		
Incr Delay (d2), s/veh	1.4	0.4	0.0	3.1	8.6	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.6	1.1	0.0	6.4	3.2	4.8		
LnGrp Delay(d),s/veh	19.8	17.7	0.0	14.2	27.4	4.9		
LnGrp LOS	B	B		B	C	A		
Approach Vol, veh/h	305		543			902		
Approach Delay, s/veh	19.1		14.2			10.2		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	10.4	24.1		11.3		34.6		
Change Period (Y+Rc), s	3.5	4.5		4.0		4.5		
Max Green Setting (Gmax), s	22.5			16.0		35.5		
Max Q Clear Time (g_c+I1), s	14.5			7.1		11.3		
Green Ext Time (p_c), s	0.2	5.1		0.3		10.6		
Intersection Summary								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					

Intersection

Int Delay, s/veh 35.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑		↑
Traffic Vol, veh/h	0	410	530	530	320	0	0	0	0	50	0	130
Future Vol, veh/h	0	410	530	530	320	0	0	0	0	50	0	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	446	576	576	348	0	0	0	0	54	0	141

Major/Minor

	Major1			Major2			Minor2				
Conflicting Flow All	-	0	-	446	0	0			1946	-	348
Stage 1	-	-	-	-	-	-			1500	-	-
Stage 2	-	-	-	-	-	-			446	-	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	-	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	-	3.318
Pot Cap-1 Maneuver	0	-	0	1114	-	0			71	0	695
Stage 1	0	-	0	-	-	0			204	0	-
Stage 2	0	-	0	-	-	0			645	0	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1114	-	-			~ 25	0	695
Mov Cap-2 Maneuver	-	-	-	-	-	-			~ 25	0	-
Stage 1	-	-	-	-	-	-			73	0	-
Stage 2	-	-	-	-	-	-			645	0	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	7.3	250.6
HCM LOS			F

Minor Lane/Major Mvmt

	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1114	-	25	695
HCM Lane V/C Ratio	-	0.517	-	2.174	0.203
HCM Control Delay (s)	-	11.6	0	872.1	11.5
HCM Lane LOS	-	B	A	F	B
HCM 95th %tile Q(veh)	-	3.1	-	6.7	0.8

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Intersection Delay, s/veh	109.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↑	↗		↔	↗			
Traffic Vol, veh/h	260	200	0	0	710	160	140	0	160	0	0	0
Future Vol, veh/h	260	200	0	0	710	160	140	0	160	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	283	217	0	0	772	174	152	0	174	0	0	0
Number of Lanes	0	1	0	0	1	1	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	52.1	172.9	14.8
HCM LOS	F	F	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	57%	0%	0%
Vol Thru, %	0%	0%	43%	100%	0%
Vol Right, %	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	160	460	710	160
LT Vol	140	0	260	0	0
Through Vol	0	0	200	710	0
RT Vol	0	160	0	0	160
Lane Flow Rate	152	174	500	772	174
Geometry Grp	7	7	6	7	7
Degree of Util (X)	0.343	0.333	0.934	1.399	0.281
Departure Headway (Hd)	8.693	7.45	7.158	6.527	5.812
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	417	485	510	563	619
Service Time	6.393	5.15	5.158	4.262	3.547
HCM Lane V/C Ratio	0.365	0.359	0.98	1.371	0.281
HCM Control Delay	15.9	13.8	52.1	209.4	10.8
HCM Lane LOS	C	B	F	F	B
HCM 95th-tile Q	1.5	1.4	11.4	35.5	1.1

Future AM - No_Project
 51: Manchester Avenue & I-5 SB On-Off Ramps

05/08/2018

Intersection

Intersection Delay, s/veh 852.6

Intersection LOS F

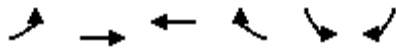
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑	↗	↘	↗
Traffic Vol, veh/h	530	260	680	1500	40	10
Future Vol, veh/h	530	260	680	1500	40	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	576	283	739	1630	43	11
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	77	460.2	13.7
HCM LOS	F	F	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	530	260	680	1500	40	10
LT Vol	530	0	0	0	40	0
Through Vol	0	260	680	0	0	0
RT Vol	0	0	0	1500	0	10
Lane Flow Rate	576	283	739	1630	43	11
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	1.106	0.504	1.196	2.322	0.107	0.023
Departure Headway (Hd)	8.735	8.231	6.039	5.331	10.229	8.999
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	421	441	606	701	353	400
Service Time	6.435	5.931	3.739	3.031	7.929	6.699
HCM Lane V/C Ratio	1.368	0.642	1.219	2.325	0.122	0.028
HCM Control Delay	105.4	19	124.9	612.2	14.2	11.9
HCM Lane LOS	F	C	F	F	B	B
HCM 95th-tile Q	16.1	2.8	25.2	116.6	0.4	0.1

Future AM - No_Project
 52: Manchester Avenue & I-5 NB On-Off Ramps

05/08/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	50	250	1940	340	880	230		
Future Volume (veh/h)	50	250	1940	340	880	230		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	54	272	2109	370	957	250		
Adj No. of Lanes	1	1	2	1	2	1		
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	69	1217	2064	904	941	433		
Arrive On Green	0.04	0.65	0.58	0.58	0.27	0.27		
Sat Flow, veh/h	1774	1863	3632	1550	3442	1583		
Grp Volume(v), veh/h	54	272	2109	370	957	250		
Grp Sat Flow(s),veh/h/ln	1774	1863	1770	1550	1721	1583		
Q Serve(g_s), s	4.5	8.9	87.2	19.5	40.9	20.4		
Cycle Q Clear(g_c), s	4.5	8.9	87.2	19.5	40.9	20.4		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	69	1217	2064	904	941	433		
V/C Ratio(X)	0.78	0.22	1.02	0.41	1.02	0.58		
Avail Cap(c_a), veh/h	75	1223	2064	904	941	433		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	71.2	10.5	31.2	17.1	54.3	46.9		
Incr Delay (d2), s/veh	34.0	0.0	25.5	0.1	33.5	1.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	4.5	49.7	8.4	23.7	0.2		
LnGrp Delay(d),s/veh	105.2	10.5	56.7	17.2	87.8	48.1		
LnGrp LOS	F	B	F	B	F	D		
Approach Vol, veh/h		326	2479		1207			
Approach Delay, s/veh		26.2	50.8		79.6			
Approach LOS		C	D		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		103.5		46.0	10.5	93.0		
Change Period (Y+Rc), s		5.8		5.1	* 4.7	5.8		
Max Green Setting (Gmax), s		98.2		40.9	* 6.3	87.2		
Max Q Clear Time (g_c+l1), s		10.9		42.9	6.5	89.2		
Green Ext Time (p_c), s		25.9		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			57.5					
HCM 2010 LOS			E					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future AM - No_Project
 53: Manchester Avenue & El Camino Real

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗		↖	↖↗	↗	↖	↖↗	↗
Traffic Volume (veh/h)	30	10	10	470	10	270	30	730	390	240	1090	40
Future Volume (veh/h)	30	10	10	470	10	270	30	730	390	240	1090	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	33	11	11	408	156	293	33	793	0	261	1185	43
Adj No. of Lanes	0	1	1	1	1	0	1	2	1	1	2	1
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	47	16	56	518	168	316	43	1097	491	294	1563	684
Arrive On Green	0.04	0.04	0.04	0.29	0.29	0.29	0.02	0.31	0.00	0.17	0.44	0.44
Sat Flow, veh/h	1347	449	1583	1774	575	1080	1774	3539	1583	1774	3539	1549
Grp Volume(v), veh/h	44	0	11	408	0	449	33	793	0	261	1185	43
Grp Sat Flow(s),veh/h/ln	1795	0	1583	1774	0	1656	1774	1770	1583	1774	1770	1549
Q Serve(g_s), s	2.4	0.0	0.7	21.0	0.0	26.1	1.8	19.8	0.0	14.3	27.9	1.6
Cycle Q Clear(g_c), s	2.4	0.0	0.7	21.0	0.0	26.1	1.8	19.8	0.0	14.3	27.9	1.6
Prop In Lane	0.75		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	0	56	518	0	484	43	1097	491	294	1563	684
V/C Ratio(X)	0.70	0.00	0.20	0.79	0.00	0.93	0.77	0.72	0.00	0.89	0.76	0.06
Avail Cap(c_a), veh/h	290	0	255	554	0	517	286	1277	571	411	1563	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	0.0	46.5	32.3	0.0	34.1	48.1	30.4	0.0	40.5	23.2	15.9
Incr Delay (d2), s/veh	5.0	0.0	0.6	6.2	0.0	21.7	10.4	1.9	0.0	12.6	3.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.3	11.1	0.0	14.8	1.0	9.9	0.0	8.0	14.2	0.7
LnGrp Delay(d),s/veh	52.3	0.0	47.1	38.5	0.0	55.8	58.5	32.3	0.0	53.0	26.4	16.0
LnGrp LOS	D		D	D		E	E	C		D	C	B
Approach Vol, veh/h		55			857			826			1489	
Approach Delay, s/veh		51.3			47.5			33.3			30.8	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.5	37.2		8.0	7.4	50.3		33.5				
Change Period (Y+Rc), s	4.0	* 6.5		4.5	5.0	6.5		4.5				
Max Green Setting (Gmax), s	20.0	* 36		16.0	16.0	41.5		31.0				
Max Q Clear Time (g_c+1), s	10.3	21.8		4.4	3.8	29.9		28.1				
Green Ext Time (p_c), s	0.2	9.0		0.1	0.0	10.6		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			36.2									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

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

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

HCM 2010 methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↑↑ ↗	↖ ↑↑ ↗		↖ ↗ ↑↑	↖ ↗ ↑↑	↖ ↗	↖ ↗	↑	↖ ↗	↖ ↗	↑	↖ ↗
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	3	0	2	2	1	1	1	1	1	1	1
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	9999	9999	0	9999	9999	9999	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	0	1721	1770	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(18)	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c18)	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↘	↙	↕	↔	↖	↗	↘	↙	↕	↔
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	9999	9999	9999	0	9999	9999	0	9999	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	1863	0	1774	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(veh/h)	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c18)	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Future AM - No_Project
 120: Village Park Way & Mountain Vista Drive

05/08/2018

Intersection

Intersection Delay, s/veh 0
 Intersection LOS -

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0
Through Vol	0	0	0	0	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	0	0	0	0	0
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0	0	0	0	0	0	0
Departure Headway (Hd)	4.534	4.534	2.8	4.534	4.534	4.534	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	0	0	0	0	0
Service Time	2.234	2.234	0.5	2.234	2.234	2.234	2.234	0.5
HCM Lane V/C Ratio	0	0	0	0	0	0	0	0
HCM Control Delay	7.2	7.2	5.5	7.2	7.2	7.2	7.2	5.5
HCM Lane LOS	N	N	N	N	N	N	N	N
HCM 95th-tile Q	0	0	0	0	0	0	0	0

Future AM - No_Project
 123: Via Cantabria/Town Center Place & Town Center Drive

05/08/2018

Intersection

Intersection Delay, s/veh 0
 Intersection LOS -

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0
Through Vol	0	0	0	0	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	0	0	0	0	0
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0	0	0	0	0	0	0
Departure Headway (Hd)	4.534	2.8	4.534	2.8	4.534	2.8	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	0	0	0	0	0
Service Time	2.234	0.5	2.234	0.5	2.234	0.5	2.234	0.5
HCM Lane V/C Ratio	0	0	0	0	0	0	0	0
HCM Control Delay	7.2	5.5	7.2	5.5	7.2	5.5	7.2	5.5
HCM Lane LOS	N	N	N	N	N	N	N	N
HCM 95th-tile Q	0	0	0	0	0	0	0	0

HCM 2010 methodology does not support more than 4 approaches.

Future AM - No_Project
169: Poinsettia Lane

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	9999	9999	0	9999	9999	0	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(veh/h)	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Future AM - No_Project
173: Santa Fe Drive

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	9999	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	0-74510	0	0-74510	0	0	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(1)	8000	8000	0	8000	8000	0	0	8000	0	0	8000	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1863	1863	0	1863	1863	0	0	1863	0	0	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0			0.0	
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0			4.0	
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0			16.0	
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0			0.0	
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Future AM - No_Project
181: Santa Fe Drive
























05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	9999	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	1774	3632	0	0-74510	0	0-74510	0	0	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(veh/h)	1774	3632	0	1774	3632	0	0	1863	0	0	1863	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	3632	0	1774	3632	0	0	1863	0	0	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Future PM - No_Project
 1: Carlsbad Boulevard & Poinsettia Lane

05/08/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	20	10	240	0	210	5	970	370	200	670	55
Future Volume (veh/h)	10	20	10	240	0	210	5	970	370	200	670	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	0	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	22	11	261	0	228	5	1054	402	217	728	60
Adj No. of Lanes	1	1	1	2	0	1	1	2	1	2	2	1
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	0	2	2	2	2	2	2	2
Cap, veh/h	202	212	169	0	0	0	9	1705	741	330	2024	862
Arrive On Green	0.11	0.11	0.11	0.00	0.00	0.00	0.01	0.48	0.48	0.10	0.57	0.57
Sat Flow, veh/h	1774	1863	1486				1774	3539	1539	3442	3539	1507
Grp Volume(v), veh/h	11	22	11		0.0		5	1054	402	217	728	60
Grp Sat Flow(s),veh/h/ln	1774	1863	1486				1774	1770	1539	1721	1770	1507
Q Serve(g_s), s	0.3	0.6	0.4				0.2	11.8	9.8	3.3	5.9	0.9
Cycle Q Clear(g_c), s	0.3	0.6	0.4				0.2	11.8	9.8	3.3	5.9	0.9
Prop In Lane	1.00		1.00				1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	212	169				9	1705	741	330	2024	862
V/C Ratio(X)	0.05	0.10	0.06				0.53	0.62	0.54	0.66	0.36	0.07
Avail Cap(c_a), veh/h	1128	1185	945				133	2032	883	470	2251	959
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	21.2	21.1				26.5	10.2	9.7	23.3	6.2	5.1
Incr Delay (d2), s/veh	0.2	0.4	0.3				15.7	0.4	0.6	0.8	0.1	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	0.2	0.3	0.2				0.1	5.8	4.3	1.6	2.9	0.4
LnGrp Delay(d),s/veh	21.3	21.6	21.4				42.3	10.6	10.3	24.2	6.3	5.1
LnGrp LOS	C	C	C				D	B	B	C	A	A
Approach Vol, veh/h		44						1461			1005	
Approach Delay, s/veh		21.5						10.7			10.1	
Approach LOS		C						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	9.6	32.2		11.6	4.8	37.1						
Change Period (Y+Rc), s	4.5	6.5		5.5	4.5	6.5						
Max Green Setting (Gmax), s	7.3	30.7		34.0	4.0	34.0						
Max Q Clear Time (g_c+l1), s	5.3	13.8		2.6	2.2	7.9						
Green Ext Time (p_c), s	0.1	11.6		0.2	0.0	15.5						
Intersection Summary												
HCM 2010 Ctrl Delay			10.6									
HCM 2010 LOS			B									

Future PM - No_Project
 2: I-5 SB On-Ramp/I-5 SB Off-Ramp & Poinsettia Lane

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	850	230	770	900	0	0	0	0	340	5	220
Future Volume (veh/h)	0	850	230	770	900	0	0	0	0	340	5	220
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	924	250	837	978	0				374	0	239
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
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	1153	498	942	2365	0				649	0	290
Arrive On Green	0.00	0.33	0.33	0.27	0.67	0.00				0.18	0.00	0.18
Sat Flow, veh/h	0	3632	1530	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	924	250	837	978	0				374	0	239
Grp Sat Flow(s),veh/h/ln	0	1770	1530	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.3	9.0	16.0	8.7	0.0				6.6	0.0	10.0
Cycle Q Clear(g_c), s	0.0	16.3	9.0	16.0	8.7	0.0				6.6	0.0	10.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1153	498	942	2365	0				649	0	290
V/C Ratio(X)	0.00	0.80	0.50	0.89	0.41	0.00				0.58	0.00	0.82
Avail Cap(c_a), veh/h	0	1178	509	1070	2520	0				828	0	370
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.1	18.6	23.9	5.2	0.0				25.6	0.0	26.9
Incr Delay (d2), s/veh	0.0	3.7	0.3	7.9	0.2	0.0				0.3	0.0	9.2
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	8.5	3.9	8.6	4.3	0.0				3.2	0.0	5.1
LnGrp Delay(d),s/veh	0.0	24.7	18.9	31.8	5.5	0.0				25.9	0.0	36.1
LnGrp LOS		C	B	C	A					C		D
Approach Vol, veh/h		1174			1815						613	
Approach Delay, s/veh		23.5			17.6						29.9	
Approach LOS		C			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	23.5	27.4		17.6		50.9						
Change Period (Y+Rc), s	4.7	5.1		5.1		5.1						
Max Green Setting (Gmax), s	22.8			16.0		48.8						
Max Q Clear Time (g_c+10), s	18.3			12.0		10.7						
Green Ext Time (p_c), s	0.8	4.0		0.6		23.7						
Intersection Summary												
HCM 2010 Ctrl Delay				21.6								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 3: I-5 NB Off-Ramp/I-5 NB On-Ramp & Poinsettia Lane

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	1000	0	0	1240	290	430	10	860	0	0	0
Future Volume (veh/h)	190	1000	0	0	1240	290	430	10	860	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	207	1087	0	0	1348	315	467	11	935			
Adj No. of Lanes	1	2	0	0	3	1	0	1	2			
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	247	1855	0	0	1634	490	586	14	940			
Arrive On Green	0.14	0.52	0.00	0.00	0.32	0.32	0.34	0.34	0.34			
Sat Flow, veh/h	1774	3632	0	0	5253	1526	1735	41	2787			
Grp Volume(v), veh/h	207	1087	0	0	1348	315	478	0	935			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1526	1776	0	1393			
Q Serve(g_s), s	8.4	15.6	0.0	0.0	18.1	13.0	18.0	0.0	24.7			
Cycle Q Clear(g_c), s	8.4	15.6	0.0	0.0	18.1	13.0	18.0	0.0	24.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	247	1855	0	0	1634	490	599	0	940			
V/C Ratio(X)	0.84	0.59	0.00	0.00	0.82	0.64	0.80	0.00	0.99			
Avail Cap(c_a), veh/h	272	1914	0	0	1647	494	599	0	940			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.9	12.1	0.0	0.0	23.1	21.4	22.2	0.0	24.4			
Incr Delay (d2), s/veh	17.2	0.7	0.0	0.0	3.3	2.2	6.9	0.0	27.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.3	7.7	0.0	0.0	8.9	5.7	9.9	0.0	13.0			
LnGrp Delay(d),s/veh	48.1	12.8	0.0	0.0	26.4	23.6	29.1	0.0	52.2			
LnGrp LOS	D	B			C	C	C		D			
Approach Vol, veh/h		1294			1663			1413				
Approach Delay, s/veh		18.4			25.9			44.4				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.8			15.0	28.8		30.0				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		39.9			* 11	23.9		24.9				
Max Q Clear Time (g_c+l1), s		17.6			10.4	20.1		26.7				
Green Ext Time (p_c), s		18.9			0.0	3.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					29.7							
HCM 2010 LOS					C							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 4: Aviara Parkway & Poinsettia Lane

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔	↔↔		↔↔	↔↔		↔	↔↔	
Traffic Volume (veh/h)	270	480	270	30	380	110	300	230	30	130	350	440
Future Volume (veh/h)	270	480	270	30	380	110	300	230	30	130	350	440
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	293	522	293	33	413	120	326	250	25	141	380	128
Adj No. of Lanes	2	1	2	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	632	1255	46	714	205	407	800	79	176	592	197
Arrive On Green	0.11	0.34	0.34	0.03	0.26	0.26	0.12	0.25	0.25	0.10	0.23	0.23
Sat Flow, veh/h	3442	1863	2728	1774	2714	781	3442	3253	323	1774	2611	868
Grp Volume(v), veh/h	293	522	293	33	268	265	326	135	140	141	256	252
Grp Sat Flow(s),veh/h/ln	1721	1863	1364	1774	1770	1725	1721	1770	1806	1774	1770	1710
Q Serve(g_s), s	6.7	20.9	2.9	1.5	10.7	10.9	7.5	5.1	5.1	6.3	10.6	10.8
Cycle Q Clear(g_c), s	6.7	20.9	2.9	1.5	10.7	10.9	7.5	5.1	5.1	6.3	10.6	10.8
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.18	1.00		0.51
Lane Grp Cap(c), veh/h	373	632	1255	46	465	454	407	435	444	176	401	388
V/C Ratio(X)	0.78	0.83	0.23	0.72	0.58	0.58	0.80	0.31	0.32	0.80	0.64	0.65
Avail Cap(c_a), veh/h	403	811	1516	92	655	638	446	670	683	258	698	674
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	1.00	1.00
Uniform Delay (d), s/veh	35.2	24.6	4.6	39.2	26.0	26.0	34.8	25.0	25.0	35.8	28.3	28.4
Incr Delay (d2), s/veh	9.2	6.3	0.1	14.4	1.6	1.7	8.9	0.5	0.5	9.0	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	11.8	1.4	0.9	5.4	5.4	4.0	2.5	2.6	3.5	5.4	5.3
LnGrp Delay(d),s/veh	44.4	30.9	4.7	53.7	27.6	27.7	43.8	25.5	25.5	44.7	30.4	30.7
LnGrp LOS	D	C	A	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1108			566			601			649	
Approach Delay, s/veh		27.5			29.2			35.4			33.6	
Approach LOS		C			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	25.9	8.1	33.5	15.1	24.4	14.3	27.3				
Change Period (Y+Rc), s	5.5	6.0	6.0	* 6	5.5	6.0	5.5	6.0				
Max Green Setting (Gmax), s	30.7	4.2	* 35	10.5	32.0	9.5	30.0					
Max Q Clear Time (g_c+I), s	7.1	3.5	22.9	9.5	12.8	8.7	12.9					
Green Ext Time (p_c), s	0.1	6.0	0.3	4.7	0.1	5.6	0.1	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			30.8									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 5: Highway 101/Carlsbad Boulevard & La Costa Avenue

05/08/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	330	270	640	330	245	515		
Future Volume (veh/h)	330	270	640	330	245	515		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	359	0	696	0	266	560		
Adj No. of Lanes	1	1	2	1	1	2		
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	434	387	1097	491	319	1997		
Arrive On Green	0.24	0.00	0.31	0.00	0.18	0.56		
Sat Flow, veh/h	1774	1583	3632	1583	1774	3632		
Grp Volume(v), veh/h	359	0	696	0	266	560		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1774	1770		
Q Serve(g_s), s	10.3	0.0	9.1	0.0	7.8	4.4		
Cycle Q Clear(g_c), s	10.3	0.0	9.1	0.0	7.8	4.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	434	387	1097	491	319	1997		
V/C Ratio(X)	0.83	0.00	0.63	0.00	0.83	0.28		
Avail Cap(c_a), veh/h	888	793	1424	637	395	2474		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	19.3	0.0	16.0	0.0	21.3	6.1		
Incr Delay (d2), s/veh	4.1	0.0	0.6	0.0	9.9	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	15.5	0.0	4.5	0.0	4.6	2.1		
LnGrp Delay(d),s/veh	23.3	0.0	16.6	0.0	31.3	6.2		
LnGrp LOS	C		B		C	A		
Approach Vol, veh/h	359		696			826		
Approach Delay, s/veh	23.3		16.6			14.2		
Approach LOS	C		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	13.7	22.0		18.2		35.7		
Change Period (Y+Rc), s	4.0	5.3		5.0		5.3		
Max Green Setting (Gmax), s	10.0	21.7		27.0		37.7		
Max Q Clear Time (g_c+I), s	10.0	11.1		12.3		6.4		
Green Ext Time (p_c), s	0.1	5.6		0.9		9.6		
Intersection Summary								
HCM 2010 Ctrl Delay			16.8					
HCM 2010 LOS			B					

Future PM - No_Project
6: Vulcan Avenue & La Costa Avenue

05/08/2018

Intersection						
Int Delay, s/veh	16.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	520	60	230	540	70	180
Future Vol, veh/h	520	60	230	540	70	180
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	565	65	250	587	76	196

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	639	0	1694 607
Stage 1	-	-	-	-	607 -
Stage 2	-	-	-	-	1087 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	945	-	102 496
Stage 1	-	-	-	-	544 -
Stage 2	-	-	-	-	323 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	945	-	~ 61 492
Mov Cap-2 Maneuver	-	-	-	-	~ 61 -
Stage 1	-	-	-	-	540 -
Stage 2	-	-	-	-	196 -






















Approach	EB	WB	NB
HCM Control Delay, s	0	3	99.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	61	492	-	-	945	-
HCM Lane V/C Ratio	1.247	0.398	-	-	0.265	-
HCM Control Delay (s)	\$ 310	17.1	-	-	10.2	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	6.4	1.9	-	-	1.1	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Future PM - No_Project
 7: I-5 SB On-Ramp/I-5 SB Off-Ramp & La Costa Avenue

05/08/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 							
Traffic Volume (veh/h)	0	650	220	790	560	0	0	0	0	550	5	190
Future Volume (veh/h)	0	650	220	790	560	0	0	0	0	550	5	190
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	707	239	859	609	0				602	0	207
Adj No. of Lanes	0	2	0	2	2	0				2	0	1
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	773	261	1100	2410	0				694	0	310
Arrive On Green	0.00	0.30	0.30	0.32	0.68	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	2692	878	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	481	465	859	609	0				602	0	207
Grp Sat Flow(s),veh/h/ln	0	1770	1708	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	22.3	22.3	19.2	5.6	0.0				14.0	0.0	10.3
Cycle Q Clear(g_c), s	0.0	22.3	22.3	19.2	5.6	0.0				14.0	0.0	10.3
Prop In Lane	0.00		0.51	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	527	508	1100	2410	0				694	0	310
V/C Ratio(X)	0.00	0.91	0.91	0.78	0.25	0.00				0.87	0.00	0.67
Avail Cap(c_a), veh/h	0	554	534	1100	2410	0				789	0	352
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.8	28.8	26.2	5.2	0.0				33.1	0.0	31.6
Incr Delay (d2), s/veh	0.0	22.9	23.5	3.4	0.3	0.0				8.4	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	14.2	13.8	9.6	2.8	0.0				7.7	0.0	4.7
LnGrp Delay(d),s/veh	0.0	51.7	52.3	29.6	5.5	0.0				41.5	0.0	34.4
LnGrp LOS		D	D	C	A					D		C
Approach Vol, veh/h		946			1468						809	
Approach Delay, s/veh		52.0			19.6						39.7	
Approach LOS		D			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	32.6	30.7		21.7		63.3						
Change Period (Y+Rc), s	5.4	* 5.4		5.1		5.4						
Max Green Setting (Gmax), s	24.3	* 27		18.9		55.6						
Max Q Clear Time (g_c+I1), s	21.2	24.3		16.0		7.6						
Green Ext Time (p_c), s	1.6	1.0		0.7		5.2						
Intersection Summary												
HCM 2010 Ctrl Delay				34.1								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 8: I-5 NB Off-Ramp/I-5 NB On-Ramp & La Costa Avenue

05/08/2018

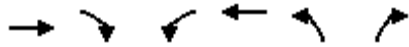


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	1000	0	0	1200	470	150	5	900	0	0	0
Future Volume (veh/h)	200	1000	0	0	1200	470	150	5	900	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	217	1087	0	0	1304	511	163	5	707			
Adj No. of Lanes	1	2	0	0	3	1	0	1	2			
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	254	2057	0	0	1945	590	493	15	797			
Arrive On Green	0.14	0.58	0.00	0.00	0.13	0.13	0.29	0.29	0.29			
Sat Flow, veh/h	1774	3632	0	0	5253	1542	1724	53	2787			
Grp Volume(v), veh/h	217	1087	0	0	1304	511	168	0	707			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1542	1777	0	1393			
Q Serve(g_s), s	10.1	15.8	0.0	0.0	20.8	27.6	6.3	0.0	20.6			
Cycle Q Clear(g_c), s	10.1	15.8	0.0	0.0	20.8	27.6	6.3	0.0	20.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.97		1.00			
Lane Grp Cap(c), veh/h	254	2057	0	0	1945	590	508	0	797			
V/C Ratio(X)	0.85	0.53	0.00	0.00	0.67	0.87	0.33	0.00	0.89			
Avail Cap(c_a), veh/h	278	2057	0	0	1945	590	625	0	980			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(l)	1.00	1.00	0.00	0.00	0.95	0.95	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.5	10.8	0.0	0.0	32.0	35.0	23.9	0.0	29.0			
Incr Delay (d2), s/veh	21.6	1.0	0.0	0.0	1.8	15.0	0.1	0.0	7.6			
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	10.5	7.8	0.0	0.0	10.1	14.3	3.1	0.0	8.8			
LnGrp Delay(d),s/veh	57.2	11.7	0.0	0.0	33.8	50.0	24.1	0.0	36.6			
LnGrp LOS	E	B			C	D	C		D			
Approach Vol, veh/h		1304			1815			875				
Approach Delay, s/veh		19.3			38.3			34.2				
Approach LOS		B			D			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		55.6			16.9	38.7		29.4				
Change Period (Y+Rc), s		* 6.2			* 4.7	6.2		5.1				
Max Green Setting (Gmax), s		* 44			* 13	25.8		29.9				
Max Q Clear Time (g_c+l1), s		17.8			12.1	29.6		22.6				
Green Ext Time (p_c), s		16.2			0.1	0.0		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay					31.2							
HCM 2010 LOS					C							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 9: Piraeus Street & La Costa Avenue

05/08/2018

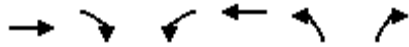


Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑↑	↵	↵		
Traffic Volume (veh/h)	1800	100	70	1550	90	70		
Future Volume (veh/h)	1800	100	70	1550	90	70		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1957	100	76	1685	98	76		
Adj No. of Lanes	2	0	1	4	1	1		
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	1885	95	144	4591	246	220		
Arrive On Green	0.37	0.37	0.08	0.72	0.14	0.14		
Sat Flow, veh/h	3516	173	1774	6669	1774	1583		
Grp Volume(v), veh/h	1002	1055	76	1685	98	76		
Grp Sat Flow(s),veh/h/ln	1770	1826	1774	1602	1774	1583		
Q Serve(g_s), s	46.8	46.8	3.5	8.6	4.3	3.7		
Cycle Q Clear(g_c), s	46.8	46.8	3.5	8.6	4.3	3.7		
Prop In Lane		0.09	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	974	1006	144	4591	246	220		
V/C Ratio(X)	1.03	1.05	0.53	0.37	0.40	0.35		
Avail Cap(c_a), veh/h	974	1006	190	4591	253	225		
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.57	0.57	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	26.8	26.8	37.5	4.6	33.4	33.1		
Incr Delay (d2), s/veh	29.5	35.6	1.1	0.2	0.4	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh	30.8	33.5	1.8	3.8	2.1	1.6		
LnGrp Delay(d),s/veh	56.3	62.4	38.6	4.9	33.7	33.5		
LnGrp LOS	F	F	D	A	C	C		
Approach Vol, veh/h	2057			1761	174			
Approach Delay, s/veh	59.4			6.3	33.6			
Approach LOS	E			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	4.1	54.0				68.1		16.9
Change Period (Y+Rc), s	7.2	* 7.2				7.2		5.1
Max Green Setting (Gmax), s	47	* 47				60.6		12.1
Max Q Clear Time (g_c+I),s	48.8					10.6		6.3
Green Ext Time (p_c), s	2.6	0.0				42.4		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			34.9					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 10: Saxony Road & La Costa Avenue

05/08/2018



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	1740	130	195	1490	90	160		
Future Volume (veh/h)	1740	130	195	1490	90	160		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1891	141	212	1620	98	174		
Adj No. of Lanes	2	0	1	2	1	1		
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	2023	149	227	2746	231	206		
Arrive On Green	0.61	0.61	0.13	0.78	0.13	0.13		
Sat Flow, veh/h	3436	246	1774	3632	1774	1583		
Grp Volume(v), veh/h	990	1042	212	1620	98	174		
Grp Sat Flow(s),veh/h/ln	1770	1819	1774	1770	1774	1583		
Q Serve(g_s), s	58.8	62.1	13.9	22.2	6.0	12.6		
Cycle Q Clear(g_c), s	58.8	62.1	13.9	22.2	6.0	12.6		
Prop In Lane		0.14	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1071	1101	227	2746	231	206		
V/C Ratio(X)	0.92	0.95	0.93	0.59	0.42	0.84		
Avail Cap(c_a), veh/h	1071	1101	227	2746	424	378		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	20.7	21.4	50.6	5.4	46.9	49.8		
Incr Delay (d2), s/veh	13.5	16.2	41.3	0.5	1.2	9.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh	32.3	35.9	9.4	10.8	3.0	6.0		
LnGrp Delay(d),s/veh	34.2	37.6	92.0	6.0	48.2	58.8		
LnGrp LOS	C	D	F	A	D	E		
Approach Vol, veh/h	2032			1832	272			
Approach Delay, s/veh	35.9			15.9	55.0			
Approach LOS	D			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		20.3	20.0	77.0				97.0
Change Period (Y+Rc), s		5.0	5.0	6.0				6.0
Max Green Setting (Gmax), s		28.0	15.0	71.0				91.0
Max Q Clear Time (g_c+l1), s		14.6	15.9	64.1				24.2
Green Ext Time (p_c), s		0.7	0.0	6.9				66.2
Intersection Summary								
HCM 2010 Ctrl Delay			28.3					
HCM 2010 LOS			C					

Future PM - No_Project
 11: El Camino Real & La Costa Avenue

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔	↑↑	↔	↔↔↔	↑↑↑		↔↔	↑↑↑	↔
Traffic Volume (veh/h)	840	800	360	205	515	195	380	1250	95	290	1110	840
Future Volume (veh/h)	840	800	360	205	515	195	380	1250	95	290	1110	840
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	913	870	295	223	560	169	413	1359	89	315	1207	754
Adj No. of Lanes	2	2	1	1	2	1	2	3	0	2	3	1
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	988	1094	481	245	566	250	436	1429	94	385	1476	907
Arrive On Green	0.29	0.31	0.31	0.14	0.16	0.16	0.21	0.49	0.49	0.19	0.48	0.48
Sat Flow, veh/h	3442	3539	1555	1774	3539	1560	3442	4877	319	3442	5085	1559
Grp Volume(v), veh/h	913	870	295	223	560	169	413	945	503	315	1207	754
Grp Sat Flow(s),veh/h/ln	1721	1770	1555	1774	1770	1560	1721	1695	1806	1721	1695	1559
Q Serve(g_s), s	38.6	33.8	24.3	18.6	23.7	11.8	17.7	39.9	39.9	13.2	30.4	43.5
Cycle Q Clear(g_c), s	38.6	33.8	24.3	18.6	23.7	11.8	17.7	39.9	39.9	13.2	30.4	43.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	988	1094	481	245	566	250	436	993	529	385	1476	907
V/C Ratio(X)	0.92	0.79	0.61	0.91	0.99	0.68	0.95	0.95	0.95	0.82	0.82	0.83
Avail Cap(c_a), veh/h	1055	1102	484	278	566	250	436	1003	535	385	1476	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	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	51.9	47.5	44.2	63.8	62.9	35.3	58.6	37.3	37.3	59.5	35.3	22.6
Incr Delay (d2), s/veh	13.0	4.0	2.0	28.2	34.9	7.1	29.8	18.9	28.7	12.2	5.2	8.8
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	20.2	17.2	10.7	11.0	14.3	5.6	10.2	21.2	24.0	6.9	14.9	30.0
LnGrp Delay(d),s/veh	64.9	51.4	46.2	92.0	97.7	42.4	88.4	56.2	66.0	71.7	40.4	31.3
LnGrp LOS	E	D	D	F	F	D	F	E	E	E	D	C
Approach Vol, veh/h		2078			952			1861			2276	
Approach Delay, s/veh		56.6			86.6			66.0			41.7	
Approach LOS		E			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.8	49.9	24.9	52.4	23.2	49.5	47.3	30.0				
Change Period (Y+Rc), s	6.0	* 6	* 4.2	* 6	* 4.2	6.0	* 4.2	6.0				
Max Green Setting (Gmax), s	14.2	* 44	* 24	* 47	* 19	40.6	* 46	24.0				
Max Q Clear Time (g_c+1), s	15.2	41.9	20.6	35.8	19.7	45.5	40.6	25.7				
Green Ext Time (p_c), s	0.0	2.0	0.1	6.7	0.0	0.0	2.5	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				58.3								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 12: Highway 101 & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	30	70	30	230	50	230	40	830	250	300	700	30
Future Volume (veh/h)	30	70	30	230	50	230	40	830	250	300	700	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	76	33	250	54	250	43	902	272	326	761	33
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	94	41	382	62	288	54	1009	780	358	1483	64
Arrive On Green	0.10	0.10	0.10	0.22	0.22	0.22	0.03	0.28	0.28	0.20	0.43	0.43
Sat Flow, veh/h	404	930	404	1774	289	1338	1774	3539	1541	1774	3456	150
Grp Volume(v), veh/h	142	0	0	250	0	304	43	902	272	326	390	404
Grp Sat Flow(s),veh/h/ln	738	0	0	1774	0	1627	1774	1770	1541	1774	1770	1836
Q Serve(g_s), s	7.5	0.0	0.0	12.0	0.0	16.8	2.2	22.8	10.0	16.7	15.0	15.0
Cycle Q Clear(g_c), s	7.5	0.0	0.0	12.0	0.0	16.8	2.2	22.8	10.0	16.7	15.0	15.0
Prop In Lane	0.23		0.23	1.00		0.82	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	175	0	0	382	0	350	54	1009	780	358	760	788
V/C Ratio(X)	0.81	0.00	0.00	0.66	0.00	0.87	0.79	0.89	0.35	0.91	0.51	0.51
Avail Cap(c_a), veh/h	298	0	0	533	0	489	114	1067	805	371	760	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	0.0	0.0	33.4	0.0	35.3	44.9	32.0	14.1	36.4	19.5	19.5
Incr Delay (d2), s/veh	3.4	0.0	0.0	0.7	0.0	9.0	9.2	9.1	0.1	24.7	0.3	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	8.8	0.0	0.0	6.0	0.0	8.4	1.2	12.4	6.1	10.6	7.3	7.6
LnGrp Delay(d),s/veh	44.4	0.0	0.0	34.1	0.0	44.3	54.1	41.0	14.2	61.1	19.7	19.7
LnGrp LOS	D			C		D	D	D	B	E	B	B
Approach Vol, veh/h		142			554			1217			1120	
Approach Delay, s/veh		44.4			39.7			35.5			31.8	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.3	31.9		13.9	8.9	45.3		25.1				
Change Period (Y+Rc), s	3.5	5.3		4.5	6.0	5.3		5.1				
Max Green Setting (Gmax), s	19.5	28.1		16.0	6.0	39.1		28.0				
Max Q Clear Time (g_c+10), s	19.7	24.8		9.5	4.2	17.0		18.8				
Green Ext Time (p_c), s	0.1	1.8		0.2	0.0	8.8		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				35.3								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

Future PM - No_Project
 13: Vulcan Avenue & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	70	470	80	80	410	40	80	190	140	40	180	60
Future Volume (veh/h)	70	470	80	80	410	40	80	190	140	40	180	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	76	511	87	87	446	43	87	207	77	43	196	65
Adj No. of Lanes	1	1	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	542	817	139	393	1216	117	325	362	135	308	374	124
Arrive On Green	0.08	0.53	0.53	0.37	0.37	0.37	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1774	1550	264	814	3263	313	1107	1295	482	1090	1336	443
Grp Volume(v), veh/h	76	0	598	87	241	248	87	0	284	43	0	261
Grp Sat Flow(s),veh/h/ln	1774	0	1814	814	1770	1807	1107	0	1777	1090	0	1779
Q Serve(g_s), s	1.1	0.0	11.0	4.0	4.7	4.7	3.4	0.0	6.5	1.7	0.0	5.8
Cycle Q Clear(g_c), s	1.1	0.0	11.0	7.6	4.7	4.7	9.2	0.0	6.5	8.1	0.0	5.8
Prop In Lane	1.00		0.15	1.00		0.17	1.00		0.27	1.00		0.25
Lane Grp Cap(c), veh/h	542	0	956	393	660	673	325	0	497	308	0	498
V/C Ratio(X)	0.14	0.00	0.63	0.22	0.37	0.37	0.27	0.00	0.57	0.14	0.00	0.52
Avail Cap(c_a), veh/h	644	0	1263	483	856	874	559	0	871	538	0	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	7.9	13.1	10.7	10.7	18.2	0.0	14.6	18.0	0.0	14.3
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.4	0.5	0.5	0.2	0.0	0.4	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	5.6	0.9	2.4	2.4	1.1	0.0	3.2	0.5	0.0	2.9
LnGrp Delay(d),s/veh	6.8	0.0	8.8	13.5	11.2	11.2	18.4	0.0	14.9	18.1	0.0	14.6
LnGrp LOS	A		A	B	B	B	B		B	B		B
Approach Vol, veh/h		674			576			371			304	
Approach Delay, s/veh		8.6			11.6			15.7			15.1	
Approach LOS		A			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		28.8		18.3	7.3	21.6		18.3				
Change Period (Y+Rc), s		4.0		5.1	3.5	4.0		5.1				
Max Green Setting (Gmax), s		32.8		23.1	6.5	22.8		23.1				
Max Q Clear Time (g_c+l1), s		13.0		10.1	3.1	9.6		11.2				
Green Ext Time (p_c), s		10.4		2.1	0.0	7.9		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay					11.9							
HCM 2010 LOS					B							

Future PM - No_Project
 14: Orpheus Avenue & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗		↖	↗	
Traffic Volume (veh/h)	20	570	80	200	720	170	30	30	200	140	30	30
Future Volume (veh/h)	20	570	80	200	720	170	30	30	200	140	30	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	620	87	217	783	185	33	33	174	152	33	33
Adj No. of Lanes	1	2	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	899	126	487	1337	577	478	75	394	349	247	247
Arrive On Green	0.05	0.29	0.29	0.14	0.38	0.38	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1774	3118	437	3442	3539	1528	1325	259	1364	1170	854	854
Grp Volume(v), veh/h	22	351	356	217	783	185	33	0	207	152	0	66
Grp Sat Flow(s),veh/h/ln	1774	1770	1786	1721	1770	1528	1325	0	1622	1170	0	1708
Q Serve(g_s), s	0.6	9.6	9.6	3.1	9.6	4.7	1.0	0.0	5.7	6.6	0.0	1.6
Cycle Q Clear(g_c), s	0.6	9.6	9.6	3.1	9.6	4.7	2.6	0.0	5.7	12.3	0.0	1.6
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.84	1.00		0.50
Lane Grp Cap(c), veh/h	92	510	515	487	1337	577	478	0	469	349	0	494
V/C Ratio(X)	0.24	0.69	0.69	0.45	0.59	0.32	0.07	0.00	0.44	0.44	0.00	0.13
Avail Cap(c_a), veh/h	326	705	712	506	1337	577	946	0	1043	763	0	1098
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	24.8	17.2	17.2	21.4	13.5	12.0	15.3	0.0	15.8	20.8	0.0	14.3
Incr Delay (d2), s/veh	0.5	0.6	0.6	0.2	0.5	0.1	0.0	0.0	0.2	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.8	4.8	1.5	4.8	2.0	0.4	0.0	2.6	2.1	0.0	0.7
LnGrp Delay(d),s/veh	25.3	17.8	17.8	21.7	14.0	12.1	15.3	0.0	16.0	21.1	0.0	14.3
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		729			1185			240			218	
Approach Delay, s/veh		18.1			15.1			15.9			19.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	20.8		20.8	7.9	25.7		20.8				
Change Period (Y+Rc), s	5.1	5.1		5.1	5.1	5.1		5.1				
Max Green Setting (Gmax), s	21.7			35.0	10.0	19.7		35.0				
Max Q Clear Time (g_c+I),s	11.6			14.3	2.6	11.6		7.7				
Green Ext Time (p_c), s	0.1	4.1		1.4	0.0	4.5		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				16.5								
HCM 2010 LOS				B								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	760	280	500	700	0	0	0	0	370	0	220
Future Volume (veh/h)	0	760	280	500	700	0	0	0	0	370	0	220
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	826	304	543	761	0				402	0	239
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
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	1205	535	675	2212	0				703	0	314
Arrive On Green	0.00	0.34	0.34	0.20	0.63	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	3632	1572	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	826	304	543	761	0				402	0	239
Grp Sat Flow(s),veh/h/ln	0	1770	1572	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	11.6	9.1	8.7	5.9	0.0				5.9	0.0	8.2
Cycle Q Clear(g_c), s	0.0	11.6	9.1	8.7	5.9	0.0				5.9	0.0	8.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1205	535	675	2212	0				703	0	314
V/C Ratio(X)	0.00	0.69	0.57	0.80	0.34	0.00				0.57	0.00	0.76
Avail Cap(c_a), veh/h	0	1461	649	949	2749	0				2153	0	961
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.4	15.5	22.1	5.2	0.0				20.9	0.0	21.8
Incr Delay (d2), s/veh	0.0	0.6	0.4	2.3	0.0	0.0				0.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	3.9	4.3	2.9	0.0				2.9	0.0	3.7
LnGrp Delay(d),s/veh	0.0	17.0	15.9	24.4	5.2	0.0				21.2	0.0	23.3
LnGrp LOS		B	B	C	A					C		C
Approach Vol, veh/h		1130			1304						641	
Approach Delay, s/veh		16.7			13.2						22.0	
Approach LOS		B			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.4	24.7		16.5		41.1						
Change Period (Y+Rc), s	5.1	5.1		5.1		5.1						
Max Green Setting (Gmax), s	10.9	23.8		35.0		44.8						
Max Q Clear Time (g_c+10),s	10.7	13.6		10.2		7.9						
Green Ext Time (p_c), s	0.6	6.0		1.2		10.8						
Intersection Summary												
HCM 2010 Ctrl Delay				16.3								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↗			
Traffic Volume (veh/h)	250	880	0	0	1000	590	200	75	715	0	0	0
Future Volume (veh/h)	250	880	0	0	1000	590	200	75	715	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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		0.98			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863			
Adj Flow Rate, veh/h	272	957	0	0	1087	641	150	176	777			
Adj No. of Lanes	1	2	0	0	3	0	1	1	2			
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	307	2265	0	0	1390	649	432	453	754			
Arrive On Green	0.17	0.64	0.00	0.00	0.41	0.41	0.24	0.24	0.24			
Sat Flow, veh/h	1774	3632	0	0	3558	1583	1774	1863	3099			
Grp Volume(v), veh/h	272	957	0	0	1087	641	150	176	777			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	1863	1549			
Q Serve(g_s), s	13.5	12.0	0.0	0.0	25.1	36.1	6.3	7.1	21.9			
Cycle Q Clear(g_c), s	13.5	12.0	0.0	0.0	25.1	36.1	6.3	7.1	21.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	307	2265	0	0	1390	649	432	453	754			
V/C Ratio(X)	0.88	0.42	0.00	0.00	0.78	0.99	0.35	0.39	1.03			
Avail Cap(c_a), veh/h	365	2265	0	0	1390	649	432	453	754			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	0.51	0.51	1.00	1.00	1.00			
Uniform Delay (d), s/veh	36.3	8.0	0.0	0.0	23.1	26.3	28.1	28.5	34.0			
Incr Delay (d2), s/veh	12.8	0.4	0.0	0.0	2.3	22.3	0.2	0.2	40.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.7	6.0	0.0	0.0	12.1	19.7	3.1	3.7	13.6			
LnGrp Delay(d),s/veh	49.1	8.4	0.0	0.0	25.4	48.6	28.3	28.7	74.9			
LnGrp LOS	D	A			C	D	C	C	F			
Approach Vol, veh/h		1229			1728			1103				
Approach Delay, s/veh		17.4			34.0			61.2				
Approach LOS		B			C			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		63.0			20.7	42.3		27.0				
Change Period (Y+Rc), s		5.4			5.1	5.4		5.1				
Max Green Setting (Gmax), s		57.6			18.5	34.0		21.9				
Max Q Clear Time (g_c+I1), s		14.0			15.5	38.1		23.9				
Green Ext Time (p_c), s		23.1			0.1	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					36.4							
HCM 2010 LOS					D							
Notes												

User approved volume balancing among the lanes for turning movement.

Future PM - No_Project
 17: Saxony Road & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	90	1410	260	200	1180	70	210	160	260	60	150	50
Future Volume (veh/h)	90	1410	260	200	1180	70	210	160	260	60	150	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	98	1533	268	217	1283	71	228	174	283	65	163	54
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	1461	250	195	1795	99	207	163	266	65	235	78
Arrive On Green	0.07	0.48	0.48	0.11	0.53	0.53	0.12	0.26	0.26	0.04	0.18	0.18
Sat Flow, veh/h	1774	3023	518	1774	3411	188	1774	639	1040	1774	1340	444
Grp Volume(v), veh/h	98	884	917	217	665	689	228	0	457	65	0	217
Grp Sat Flow(s),veh/h/ln	1774	1770	1771	1774	1770	1829	1774	0	1679	1774	0	1784
Q Serve(g_s), s	8.2	72.5	72.5	16.5	42.7	42.9	17.5	0.0	38.3	5.5	0.0	17.1
Cycle Q Clear(g_c), s	8.2	72.5	72.5	16.5	42.7	42.9	17.5	0.0	38.3	5.5	0.0	17.1
Prop In Lane	1.00		0.29	1.00		0.10	1.00		0.62	1.00		0.25
Lane Grp Cap(c), veh/h	119	855	856	195	932	963	207	0	429	65	0	313
V/C Ratio(X)	0.83	1.03	1.07	1.11	0.71	0.72	1.10	0.00	1.07	1.00	0.00	0.69
Avail Cap(c_a), veh/h	148	855	856	195	932	963	207	0	429	65	0	321
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	69.1	38.8	38.8	66.8	26.9	27.0	66.3	0.0	55.9	72.2	0.0	58.1
Incr Delay (d2), s/veh	21.4	39.6	51.7	97.7	2.5	2.4	92.4	0.0	62.1	111.3	0.0	5.1
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	4.7	44.8	47.7	13.4	21.5	22.3	13.9	0.0	25.1	4.7	0.0	8.9
LnGrp Delay(d),s/veh	90.6	78.4	90.4	164.4	29.4	29.4	158.6	0.0	117.9	183.6	0.0	63.1
LnGrp LOS	F	F	F	F	C	C	F		F	F		E
Approach Vol, veh/h		1899			1571			685			282	
Approach Delay, s/veh		84.8			48.0			131.5			90.9	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	77.8	21.0	31.2	13.5	84.3	9.0	43.2				
Change Period (Y+Rc), s	3.5	5.3	3.5	* 4.9	3.5	5.3	3.5	4.9				
Max Green Setting (Gmax), s	10.5	72.5	17.5	* 27	12.5	76.5	5.5	38.3				
Max Q Clear Time (g_c+10), s	10.5	74.5	19.5	19.1	10.2	44.9	7.5	40.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	25.9	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				79.4								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 18: Quail Gardens Drive & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	1730	120	230	1100	110	130	80	330	80	70	60
Future Volume (veh/h)	90	1730	120	230	1100	110	130	80	330	80	70	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	98	1880	123	250	1196	109	141	87	158	87	76	65
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	120	1936	125	256	2132	194	221	318	265	200	318	269
Arrive On Green	0.07	0.57	0.57	0.14	0.65	0.65	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1774	3375	218	1774	3281	299	1238	1863	1552	1127	1863	1575
Grp Volume(v), veh/h	98	976	1027	250	644	661	141	87	158	87	76	65
Grp Sat Flow(s),veh/h/ln	1774	1770	1824	1774	1770	1810	1238	1863	1552	1127	1863	1575
Q Serve(g_s), s	7.4	70.9	74.3	19.0	27.1	27.2	15.0	5.5	12.7	9.8	4.8	4.8
Cycle Q Clear(g_c), s	7.4	70.9	74.3	19.0	27.1	27.2	19.8	5.5	12.7	15.3	4.8	4.8
Prop In Lane	1.00		0.12	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	1015	1046	256	1150	1176	221	318	265	200	318	269
V/C Ratio(X)	0.81	0.96	0.98	0.98	0.56	0.56	0.64	0.27	0.60	0.44	0.24	0.24
Avail Cap(c_a), veh/h	190	1024	1056	256	1150	1176	258	373	311	233	373	316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	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	62.2	27.4	28.1	57.7	13.0	13.1	57.1	48.8	51.8	55.5	48.5	48.5
Incr Delay (d2), s/veh	6.6	19.5	23.3	49.6	0.7	0.7	2.4	0.2	1.0	0.6	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.8	39.9	43.9	12.8	13.3	13.8	5.3	2.8	5.5	3.1	2.5	2.1
LnGrp Delay(d),s/veh	68.8	47.0	51.4	107.3	13.7	13.7	59.4	49.0	52.7	56.0	48.6	48.7
LnGrp LOS	E	D	D	F	B	B	E	D	D	E	D	D
Approach Vol, veh/h		2101			1555			386			228	
Approach Delay, s/veh		50.2			28.8			54.3			51.5	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.0	84.3		28.0	12.7	94.6		28.0				
Change Period (Y+Rc), s	3.5	6.7		4.9	3.5	6.7		4.9				
Max Green Setting (Gmax), s	19.5	78.3		27.1	14.5	83.3		27.1				
Max Q Clear Time (g_c+21), s	21.0	76.3		17.3	9.4	29.2		21.8				
Green Ext Time (p_c), s	0.0	1.3		1.1	0.0	52.1		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				42.8								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔↔	↕↔		↔↔	↕↔	
Traffic Volume (veh/h)	410	1390	370	150	1110	220	310	140	80	110	120	340
Future Volume (veh/h)	410	1390	370	150	1110	220	310	140	80	110	120	340
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	446	1511	337	163	1207	223	337	152	74	120	130	305
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	514	1622	351	275	1515	278	370	203	94	447	193	172
Arrive On Green	0.25	0.94	0.94	0.16	1.00	1.00	0.11	0.09	0.09	0.13	0.11	0.11
Sat Flow, veh/h	3442	2895	627	3442	2987	548	3442	2349	1091	3442	1770	1583
Grp Volume(v), veh/h	446	906	942	163	712	718	337	113	113	120	130	305
Grp Sat Flow(s),veh/h/ln	1721	1770	1752	1721	1770	1766	1721	1770	1670	1721	1770	1583
Q Serve(g_s), s	16.8	30.7	45.9	5.9	0.0	0.0	13.1	8.4	9.0	4.2	9.5	14.7
Cycle Q Clear(g_c), s	16.8	30.7	45.9	5.9	0.0	0.0	13.1	8.4	9.0	4.2	9.5	14.7
Prop In Lane	1.00		0.36	1.00		0.31	1.00		0.65	1.00		1.00
Lane Grp Cap(c), veh/h	514	991	982	275	897	895	370	153	144	447	193	172
V/C Ratio(X)	0.87	0.91	0.96	0.59	0.79	0.80	0.91	0.74	0.78	0.27	0.67	1.77
Avail Cap(c_a), veh/h	854	1039	1029	275	897	895	370	258	244	447	193	172
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	2.9	3.4	54.7	0.0	0.0	59.6	60.2	60.4	53.0	57.9	60.2
Incr Delay (d2), s/veh	5.3	14.1	20.5	2.3	4.9	5.2	26.1	6.7	9.0	0.3	8.9	368.6
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	18.3	16.4	23.9	2.9	1.2	1.3	7.6	4.4	4.5	2.0	5.1	24.1
LnGrp Delay(d),s/veh	54.6	17.0	23.9	56.9	4.9	5.2	85.7	66.9	69.4	53.3	66.8	428.8
LnGrp LOS	D	B	C	E	A	A	F	E	E	D	E	F
Approach Vol, veh/h		2294			1593			563			555	
Approach Delay, s/veh		27.2			10.3			78.7			262.8	
Approach LOS		C			B			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.7	77.3	18.0	20.0	23.7	73.3	21.0	17.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	5.3	3.5	5.7	3.5	5.3				
Max Green Setting (Gmax), s	79	* 79	14.5	14.7	33.5	54.3	9.5	19.7				
Max Q Clear Time (g_c+I1), s	47.9	15.1	16.7	18.8	2.0	6.2	11.0					
Green Ext Time (p_c), s	0.0	19.7	0.0	0.0	1.4	16.9	0.6	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				53.7								
HCM 2010 LOS				D								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 20: Town Center Place & Leucadia Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘	↖↖	↗↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	160	1200	330	340	810	280	380	100	400	200	70	150
Future Volume (veh/h)	160	1200	330	340	810	280	380	100	400	200	70	150
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	174	1304	158	370	880	261	261	322	359	146	175	141
Adj No. of Lanes	2	2	1	2	2	1	1	1	1	1	1	1
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	763	1583	697	415	1177	697	355	373	310	191	201	167
Arrive On Green	0.44	0.89	0.89	0.20	0.56	0.56	0.20	0.20	0.20	0.11	0.11	0.11
Sat Flow, veh/h	3442	3539	1559	3442	3539	1583	1774	1863	1549	1774	1863	1550
Grp Volume(v), veh/h	174	1304	158	370	880	261	261	322	359	146	175	141
Grp Sat Flow(s),veh/h/ln	1721	1770	1559	1721	1770	1583	1774	1863	1549	1774	1863	1550
Q Serve(g_s), s	4.2	20.0	1.8	14.1	25.5	11.4	18.6	22.6	27.0	10.8	12.5	12.0
Cycle Q Clear(g_c), s	4.2	20.0	1.8	14.1	25.5	11.4	18.6	22.6	27.0	10.8	12.5	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	763	1583	697	415	1177	697	355	373	310	191	201	167
V/C Ratio(X)	0.23	0.82	0.23	0.89	0.75	0.37	0.74	0.86	1.16	0.76	0.87	0.84
Avail Cap(c_a), veh/h	763	1583	697	446	1696	930	355	373	310	197	207	172
HCM Platoon Ratio	2.00	2.00	2.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.31	0.31	0.31	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	5.0	4.0	53.1	25.7	16.2	50.7	52.2	54.0	58.5	59.3	59.1
Incr Delay (d2), s/veh	0.0	1.6	0.2	12.4	2.8	1.0	6.9	17.9	101.3	14.0	28.8	27.6
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	0.0	8.8	0.8	7.4	12.9	6.1	9.8	13.5	20.3	6.1	8.0	6.4
LnGrp Delay(d),s/veh	30.4	6.6	4.3	65.5	28.5	17.2	57.5	70.1	155.3	72.5	88.1	86.7
LnGrp LOS	C	A	A	E	C	B	E	E	F	E	F	F
Approach Vol, veh/h		1636			1511			942			462	
Approach Delay, s/veh		8.9			35.6			99.1			82.8	
Approach LOS		A			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.8	65.7		18.6	35.2	50.2		31.0				
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0				
Max Green Setting (Gmax), s	10.5	58.7		15.0	11.5	* 65		27.0				
Max Q Clear Time (g_c+10),s	10.5	22.0		14.5	6.2	27.5		29.0				
Green Ext Time (p_c), s	0.1	24.7		0.1	4.7	17.4		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			43.9									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 21: El Camino Real & Leucadia Boulevard/Olivenhain Road

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑		↔↔	↑↑↑	↔	↔↔	↑↑↑	
Traffic Volume (veh/h)	340	1190	240	920	810	200	400	1590	830	250	740	200
Future Volume (veh/h)	340	1190	240	920	810	200	400	1590	830	250	740	200
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	370	1293	261	1000	880	217	435	1728	790	272	804	162
Adj No. of Lanes	2	3	1	2	3	0	2	3	1	2	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	1074	328	801	1370	336	1104	2319	1074	265	1073	211
Arrive On Green	0.20	0.35	0.35	0.23	0.34	0.34	0.54	0.76	0.76	0.13	0.33	0.33
Sat Flow, veh/h	3442	5085	1552	3442	4076	1000	3442	5085	1549	3442	5414	1066
Grp Volume(v), veh/h	370	1293	261	1000	731	366	435	1728	790	272	712	254
Grp Sat Flow(s),veh/h/ln	1721	1695	1552	1721	1695	1686	1721	1695	1549	1721	1602	1675
Q Serve(g_s), s	14.1	28.5	20.4	31.4	24.6	24.8	10.0	25.3	22.7	10.4	17.8	18.4
Cycle Q Clear(g_c), s	14.1	28.5	20.4	31.4	24.6	24.8	10.0	25.3	22.7	10.4	17.8	18.4
Prop In Lane	1.00		1.00	1.00		0.59	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	418	1074	328	801	1140	567	1104	2319	1074	265	952	332
V/C Ratio(X)	0.88	1.20	0.80	1.25	0.64	0.65	0.39	0.75	0.74	1.03	0.75	0.77
Avail Cap(c_a), veh/h	510	1074	328	801	1140	567	1104	2319	1074	265	1371	478
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	0.46	0.46	0.46	1.00	1.00	1.00	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	43.7	41.1	51.8	37.9	38.0	23.6	11.8	3.5	58.8	42.2	42.4
Incr Delay (d2), s/veh	6.7	96.4	6.5	122.5	1.3	2.7	0.1	1.4	2.9	62.1	5.3	15.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	22.8	9.4	28.5	11.8	12.0	4.7	11.7	8.2	7.2	8.3	9.9
LnGrp Delay(d),s/veh	59.6	140.1	47.6	174.3	39.2	40.7	23.7	13.2	6.3	121.0	47.5	57.9
LnGrp LOS	E	F	D	F	D	D	C	B	A	F	D	E
Approach Vol, veh/h		1924			2097			2953			1238	
Approach Delay, s/veh		112.0			103.9			12.9			65.8	
Approach LOS		F			F			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.9	35.0	49.8	33.3	21.0	51.9	15.0	68.1				
Change Period (Y+Rc), s	6.5	* 6.5	6.5	* 6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	30	* 29	14.4	* 39	20.0	39.9	10.4	42.5				
Max Q Clear Time (g_c+Rc), s	30.5	30.5	12.0	20.4	16.1	26.8	12.4	27.3				
Green Ext Time (p_c), s	0.0	0.0	2.3	6.4	0.3	8.5	0.0	13.3				
Intersection Summary												
HCM 2010 Ctrl Delay			67.3									
HCM 2010 LOS			E									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	410	70	200	140	70	140	295	2005	55	175	1475	250
Future Volume (veh/h)	410	70	200	140	70	140	295	2005	55	175	1475	250
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	500	0	217	114	129	152	321	2179	60	190	1603	232
Adj No. of Lanes	2	0	1	1	1	1	2	4	0	2	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	591	0	258	198	207	174	368	2579	71	565	2674	387
Arrive On Green	0.17	0.00	0.17	0.11	0.11	0.11	0.21	0.80	0.80	0.33	0.94	0.94
Sat Flow, veh/h	3548	0	1548	1774	1863	1558	3442	6459	178	3442	5699	825
Grp Volume(v), veh/h	500	0	217	114	129	152	321	1621	618	190	1352	483
Grp Sat Flow(s),veh/h/ln	1774	0	1548	1774	1863	1558	1721	1602	1831	1721	1602	1717
Q Serve(g_s), s	18.5	0.0	18.3	8.2	8.9	13.0	12.2	28.2	28.2	5.6	5.4	5.4
Cycle Q Clear(g_c), s	18.5	0.0	18.3	8.2	8.9	13.0	12.2	28.2	28.2	5.6	5.4	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.48
Lane Grp Cap(c), veh/h	591	0	258	198	207	174	368	1919	731	565	2255	806
V/C Ratio(X)	0.85	0.00	0.84	0.58	0.62	0.88	0.87	0.84	0.85	0.34	0.60	0.60
Avail Cap(c_a), veh/h	802	0	350	204	214	179	472	2058	784	565	2255	806
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	1.00	1.00	0.31	0.31	0.31	0.24	0.24	0.24
Uniform Delay (d), s/veh	54.6	0.0	54.5	57.0	57.3	59.1	52.2	11.0	11.0	39.8	2.4	2.4
Incr Delay (d2), s/veh	6.3	0.0	12.7	2.3	3.8	33.2	4.0	1.5	3.9	0.0	0.3	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	19.5	0.0	8.8	4.2	4.8	7.2	6.0	12.1	14.3	2.7	1.9	2.2
LnGrp Delay(d),s/veh	60.8	0.0	67.2	59.3	61.0	92.3	56.2	12.6	15.0	39.8	2.7	3.2
LnGrp LOS	E		E	E	E	F	E	B	B	D	A	A
Approach Vol, veh/h		717			395			2560			2025	
Approach Delay, s/veh		62.8			72.6			18.6			6.3	
Approach LOS		E			E			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.4	60.1		27.0	18.9	69.5		19.5				
Change Period (Y+Rc), s	6.2	* 6.2		4.5	4.5	6.2		4.5				
Max Green Setting (Gmax), s	58	* 58		30.5	18.5	50.8		15.5				
Max Q Clear Time (g_c+I1), s	30.2			20.5	14.2	7.4		15.0				
Green Ext Time (p_c), s	2.2	23.7		2.0	0.3	29.2		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 23: El Camino Real & Garden View Road

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	210	270	190	260	320	245	1815	155	315	1425	135
Future Volume (veh/h)	130	210	270	190	260	320	245	1815	155	315	1425	135
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	141	228	58	207	283	348	266	1973	168	342	1549	147
Adj No. of Lanes	1	2	0	1	2	0	1	3	1	1	3	1
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	151	335	83	217	277	247	461	2178	668	360	1820	567
Arrive On Green	0.09	0.12	0.12	0.12	0.16	0.16	0.52	0.86	0.86	0.34	0.60	0.60
Sat Flow, veh/h	1774	2809	700	1774	1770	1583	1774	5085	1560	1774	5085	1583
Grp Volume(v), veh/h	141	142	144	207	283	348	266	1973	168	342	1549	147
Grp Sat Flow(s),veh/h/ln	1774	1770	1739	1774	1770	1583	1774	1695	1560	1774	1695	1583
Q Serve(g_s), s	10.7	10.4	10.7	15.7	21.1	21.1	13.9	33.6	2.7	25.4	33.7	4.6
Cycle Q Clear(g_c), s	10.7	10.4	10.7	15.7	21.1	21.1	13.9	33.6	2.7	25.4	33.7	4.6
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	211	207	217	277	247	461	2178	668	360	1820	567
V/C Ratio(X)	0.93	0.67	0.70	0.95	1.02	1.41	0.58	0.91	0.25	0.95	0.85	0.26
Avail Cap(c_a), veh/h	151	211	207	217	277	247	461	2178	668	361	2098	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55	0.72	0.72	0.72
Uniform Delay (d), s/veh	61.4	56.9	57.1	58.9	57.0	57.0	27.3	8.0	5.7	44.0	24.2	10.9
Incr Delay (d2), s/veh	52.8	7.5	9.1	47.9	60.2	205.2	1.0	4.0	0.5	27.9	3.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	5.5	5.7	10.6	14.9	23.3	6.8	15.2	1.2	15.1	16.2	2.1
LnGrp Delay(d),s/veh	114.2	64.4	66.1	106.8	117.2	262.2	28.3	12.0	6.2	71.9	28.1	11.7
LnGrp LOS	F	E	E	F	F	F	C	B	A	E	C	B
Approach Vol, veh/h		427			838			2407			2038	
Approach Delay, s/veh		81.4			174.8			13.4			34.2	
Approach LOS		F			F			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.9	63.1	20.0	21.0	40.4	53.6	15.0	26.0				
Change Period (Y+Rc), s	3.5	5.3	3.5	4.9	5.3	* 5.3	3.5	4.9				
Max Green Setting (Gmax), s	20.0	57.7	16.5	16.1	29.5	* 56	11.5	21.1				
Max Q Clear Time (g_c+2L), s	21.0	35.6	17.7	12.7	15.9	35.7	12.7	23.1				
Green Ext Time (p_c), s	0.0	18.0	0.0	1.6	11.8	12.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			49.6									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 24: El Camino Real & Mountain Vista Drive

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↔	↔	↔	↔	↔↔↔	↔↔↔		↔↔↔	↔↔↔	
Traffic Volume (veh/h)	50	90	90	310	100	250	185	1475	295	390	1760	90
Future Volume (veh/h)	50	90	90	310	100	250	185	1475	295	390	1760	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	54	138	71	223	269	272	201	1603	321	424	1913	98
Adj No. of Lanes	0	2	1	1	1	1	1	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	187	106	315	331	275	223	1877	373	576	2464	126
Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.21	0.74	0.74	0.28	0.83	0.83
Sat Flow, veh/h	980	2696	1526	1774	1863	1549	1774	4257	847	3442	4955	253
Grp Volume(v), veh/h	100	92	71	223	269	272	201	1275	649	424	1307	704
Grp Sat Flow(s),veh/h/ln	1814	1863	1526	1774	1863	1549	1774	1695	1713	1721	1695	1818
Q Serve(g_s), s	7.3	6.5	6.1	16.0	18.7	23.7	14.9	35.9	36.7	15.1	24.8	25.0
Cycle Q Clear(g_c), s	7.3	6.5	6.1	16.0	18.7	23.7	14.9	35.9	36.7	15.1	24.8	25.0
Prop In Lane	0.54		1.00	1.00		1.00	1.00		0.49	1.00		0.14
Lane Grp Cap(c), veh/h	126	129	106	315	331	275	223	1495	756	576	1686	904
V/C Ratio(X)	0.79	0.71	0.67	0.71	0.81	0.99	0.90	0.85	0.86	0.74	0.78	0.78
Avail Cap(c_a), veh/h	128	131	107	315	331	275	283	1570	793	576	1686	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.49	0.49	0.49	0.51	0.51	0.51
Uniform Delay (d), s/veh	61.9	61.5	61.3	52.2	53.3	55.4	52.5	14.7	14.8	45.9	7.8	7.9
Incr Delay (d2), s/veh	29.4	17.9	16.6	6.1	13.3	50.7	12.9	3.2	6.5	2.2	1.8	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	4.7	4.0	3.1	8.3	10.9	14.0	8.1	16.9	18.2	7.3	11.3	12.9
LnGrp Delay(d),s/veh	91.3	79.4	77.9	58.3	66.6	106.0	65.4	17.9	21.3	48.2	9.7	11.3
LnGrp LOS	F	E	E	E	E	F	E	B	C	D	A	B
Approach Vol, veh/h		263			764			2125			2435	
Approach Delay, s/veh		83.5			78.2			23.4			16.9	
Approach LOS		F			E			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.9	20.5	72.6		29.0	28.1	65.0				
Change Period (Y+Rc), s		3.5	3.5	5.5		5.0	5.5	* 5.5				
Max Green Setting (Gmax), s		9.5	21.5	62.5		24.0	21.5	* 63				
Max Q Clear Time (g_c+l1), s		9.3	16.9	27.0		25.7	17.1	38.7				
Green Ext Time (p_c), s		0.0	0.1	30.9		0.0	1.4	20.8				
Intersection Summary												
HCM 2010 Ctrl Delay				30.9								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 25: Rancho Santa Fe Road & Lone Jack Road

05/08/2018

Intersection

Intersection Delay, s/veh68.4

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗			↖	↗	↖	↗	
Traffic Vol, veh/h	10	10	20	180	20	130	10	560	140	160	420	10
Future Vol, veh/h	10	10	20	180	20	130	10	560	140	160	420	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	22	196	22	141	11	609	152	174	457	11
Number of Lanes	0	1	1	1	1	0	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12.6	16.8	118.7	40.6
HCM LOS	B	C	F	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	2%	0%	50%	0%	100%	0%	100%	0%
Vol Thru, %	98%	0%	50%	0%	0%	13%	0%	98%
Vol Right, %	0%	100%	0%	100%	0%	87%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	570	140	20	20	180	150	160	430
LT Vol	10	0	10	0	180	0	160	0
Through Vol	560	0	10	0	0	20	0	420
RT Vol	0	140	0	20	0	130	0	10
Lane Flow Rate	620	152	22	22	196	163	174	467
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	1.234	0.273	0.055	0.05	0.459	0.331	0.366	0.918
Departure Headway (Hd)	7.173	6.447	9.801	8.803	8.878	7.731	7.961	7.43
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	508	555	368	409	409	468	456	491
Service Time	4.929	4.203	7.501	6.503	6.578	5.431	5.661	5.13
HCM Lane V/C Ratio	1.22	0.274	0.06	0.054	0.479	0.348	0.382	0.951
HCM Control Delay	145	11.6	13.1	12	18.9	14.2	15.2	50.1
HCM Lane LOS	F	B	B	B	C	B	C	F
HCM 95th-tile Q	24.1	1.1	0.2	0.2	2.3	1.4	1.7	10.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	240	20	150	70	30	60	330	1700	100	165	1545	165
Future Volume (veh/h)	240	20	150	70	30	60	330	1700	100	165	1545	165
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	261	22	103	76	33	65	359	1848	109	179	1679	179
Adj No. of Lanes	0	1	1	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	23	255	66	29	56	370	2414	142	202	1811	193
Arrive On Green	0.16	0.16	0.16	0.09	0.09	0.09	0.35	0.82	0.82	0.19	0.65	0.65
Sat Flow, veh/h	1642	138	1566	742	322	634	1774	4912	289	1774	4657	495
Grp Volume(v), veh/h	283	0	103	174	0	0	359	1274	683	179	1221	637
Grp Sat Flow(s),veh/h/ln	1781	0	1566	1698	0	0	1774	1695	1811	1774	1695	1762
Q Serve(g_s), s	21.4	0.0	8.0	12.0	0.0	0.0	26.9	24.5	24.7	13.3	42.7	43.2
Cycle Q Clear(g_c), s	21.4	0.0	8.0	12.0	0.0	0.0	26.9	24.5	24.7	13.3	42.7	43.2
Prop In Lane	0.92		1.00	0.44		0.37	1.00		0.16	1.00		0.28
Lane Grp Cap(c), veh/h	290	0	255	151	0	0	370	1666	890	202	1319	685
V/C Ratio(X)	0.98	0.00	0.40	1.15	0.00	0.00	0.97	0.76	0.77	0.89	0.93	0.93
Avail Cap(c_a), veh/h	290	0	255	151	0	0	370	1666	890	237	1356	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.09	0.09	0.54	0.54	0.54
Uniform Delay (d), s/veh	56.2	0.0	50.6	61.5	0.0	0.0	43.5	8.4	8.4	53.8	21.9	22.0
Incr Delay (d2), s/veh	45.7	0.0	0.4	120.2	0.0	0.0	8.2	0.3	0.6	17.3	7.5	13.2
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	14.2	0.0	3.5	10.7	0.0	0.0	14.0	11.0	11.8	7.4	20.9	23.1
LnGrp Delay(d),s/veh	101.9	0.0	51.0	181.7	0.0	0.0	51.8	8.7	9.0	71.1	29.4	35.2
LnGrp LOS	F		D	F			D	A	A	E	C	D
Approach Vol, veh/h		386			174			2316			2037	
Approach Delay, s/veh		88.3			181.7			15.4			34.9	
Approach LOS		F			F			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.4	71.6		27.0	33.5	57.5		17.0				
Change Period (Y+Rc), s	4.0	5.3		5.0	5.3	* 5		5.0				
Max Green Setting (Gmax), s	10.0	63.7		22.0	28.0	* 54		12.0				
Max Q Clear Time (g_c+1), s	11.0	26.7		23.4	28.9	45.2		14.0				
Green Ext Time (p_c), s	0.1	25.4		0.0	0.0	7.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			35.1									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 27: Rancho Santa Fe Road & El Camino Del Norte

05/08/2018

Intersection

Intersection Delay, s/veh41.9

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕	↕	↕	↕	
Traffic Vol, veh/h	10	10	10	110	20	300	10	415	85	160	420	5
Future Vol, veh/h	10	10	10	110	20	300	10	415	85	160	420	5
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	120	22	326	11	451	92	174	457	5
Number of Lanes	0	1	0	1	1	0	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	13.6	23.1	53.9	46.6
HCM LOS	B	C	F	E

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	2%	0%	33%	100%	0%	100%	0%
Vol Thru, %	98%	0%	33%	0%	6%	0%	99%
Vol Right, %	0%	100%	33%	0%	94%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	425	85	30	110	320	160	425
LT Vol	10	0	10	110	0	160	0
Through Vol	415	0	10	0	20	0	420
RT Vol	0	85	10	0	300	0	5
Lane Flow Rate	462	92	33	120	348	174	462
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.973	0.176	0.087	0.283	0.707	0.385	0.957
Departure Headway (Hd)	7.583	6.85	9.645	8.514	7.322	7.979	7.455
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	476	522	374	422	494	450	485
Service Time	5.344	4.611	7.645	6.27	5.077	5.741	5.217
HCM Lane V/C Ratio	0.971	0.176	0.088	0.284	0.704	0.387	0.953
HCM Control Delay	62.4	11.1	13.6	14.6	26	15.7	58.3
HCM Lane LOS	F	B	B	B	D	C	F
HCM 95th-tile Q	12.3	0.6	0.3	1.1	5.5	1.8	11.9

Future PM - No_Project
 28: Highway 101 & Encinitas Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Volume (veh/h)	60	250	40	330	190	340	50	760	500	240	660	60
Future Volume (veh/h)	60	250	40	330	190	340	50	760	500	240	660	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	65	272	43	359	207	370	54	826	543	261	717	65
Adj No. of Lanes	0	2	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	335	55	427	448	627	70	1137	876	286	1454	132
Arrive On Green	0.13	0.13	0.13	0.08	0.08	0.08	0.07	0.54	0.54	0.27	0.74	0.74
Sat Flow, veh/h	594	2598	428	1774	1863	1545	1774	3539	1542	1774	3282	297
Grp Volume(v), veh/h	200	0	180	359	207	370	54	826	543	261	386	396
Grp Sat Flow(s),veh/h/ln	1833	0	1787	1774	1863	1545	1774	1770	1542	1774	1770	1810
Q Serve(g_s), s	12.8	0.0	11.7	24.0	12.7	22.6	3.6	21.3	30.7	17.1	10.7	10.7
Cycle Q Clear(g_c), s	12.8	0.0	11.7	24.0	12.7	22.6	3.6	21.3	30.7	17.1	10.7	10.7
Prop In Lane	0.32		0.24	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	236	0	230	427	448	627	70	1137	876	286	784	802
V/C Ratio(X)	0.85	0.00	0.78	0.84	0.46	0.59	0.78	0.73	0.62	0.91	0.49	0.49
Avail Cap(c_a), veh/h	307	0	299	548	576	733	386	1137	876	386	784	802
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(l)	1.00	0.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	0.0	50.6	53.0	47.8	34.3	55.5	23.8	12.5	43.0	10.1	10.1
Incr Delay (d2), s/veh	12.9	0.0	6.8	7.9	0.6	0.8	6.7	4.1	3.3	18.3	2.2	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	7.4	0.0	6.2	12.7	6.7	9.8	1.9	11.0	18.6	9.8	5.6	5.8
LnGrp Delay(d),s/veh	64.0	0.0	57.4	60.9	48.5	35.0	62.3	27.9	15.8	61.3	12.3	12.3
LnGrp LOS	E		E	E	D	D	E	C	B	E	B	B
Approach Vol, veh/h		380			936			1423			1043	
Approach Delay, s/veh		60.9			47.9			24.6			24.6	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.3	43.4		19.5	8.7	58.1		33.7				
Change Period (Y+Rc), s	4.0	4.9		4.0	4.0	4.9		4.9				
Max Green Setting (Gmax), s	20.1	18.9		20.1	26.1	18.9		37.1				
Max Q Clear Time (g_c+1),s	19.1	32.7		14.8	5.6	12.7		26.0				
Green Ext Time (p_c), s	0.2	0.0		0.6	0.0	5.1		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				34.0								
HCM 2010 LOS				C								

Future PM - No_Project
 29: Vulcan Avenue & Encinitas Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	760	80	380	690	140	150	320	340	150	250	70
Future Volume (veh/h)	70	760	80	380	690	140	150	320	340	150	250	70
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	76	826	87	413	750	113	163	348	370	163	272	76
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	1029	108	434	1571	237	266	591	880	177	591	491
Arrive On Green	0.09	0.53	0.53	0.41	0.85	0.85	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3232	340	1774	3086	465	1026	1863	1549	730	1863	1547
Grp Volume(v), veh/h	76	452	461	413	430	433	163	348	370	163	272	76
Grp Sat Flow(s),veh/h/ln	1774	1770	1803	1774	1770	1781	1026	1863	1549	730	1863	1547
Q Serve(g_s), s	5.0	25.0	25.0	27.0	7.3	7.4	18.1	18.8	16.5	19.3	14.0	4.2
Cycle Q Clear(g_c), s	5.0	25.0	25.0	27.0	7.3	7.4	32.1	18.8	16.5	38.1	14.0	4.2
Prop In Lane	1.00		0.19	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	564	574	434	901	907	266	591	880	177	591	491
V/C Ratio(X)	0.79	0.80	0.80	0.95	0.48	0.48	0.61	0.59	0.42	0.92	0.46	0.15
Avail Cap(c_a), veh/h	170	564	574	466	901	907	266	591	880	177	591	491
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	25.0	25.0	34.8	5.0	5.0	45.6	34.4	15.1	53.1	32.7	29.4
Incr Delay (d2), s/veh	3.5	7.7	7.6	25.5	1.5	1.5	4.1	1.5	0.3	45.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	13.3	13.6	16.3	3.7	3.7	5.4	9.9	7.1	7.6	7.3	1.8
LnGrp Delay(d),s/veh	57.5	32.7	32.6	60.2	6.5	6.5	49.7	35.9	15.4	98.1	33.3	29.5
LnGrp LOS	E	C	C	E	A	A	D	D	B	F	C	C
Approach Vol, veh/h		989			1276			881			511	
Approach Delay, s/veh		34.6			23.9			29.8			53.4	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.9	44.1		43.0	10.0	67.0		43.0				
Change Period (Y+Rc), s	3.5	5.9		4.9	3.5	5.9		4.9				
Max Green Setting (Gmax), s	30.5	36.1		38.1	11.5	56.1		38.1				
Max Q Clear Time (g_c+20), s	27.0	27.0		40.1	7.0	9.4		34.1				
Green Ext Time (p_c), s	0.4	6.3		0.0	0.0	15.9		2.5				
Intersection Summary												
HCM 2010 Ctrl Delay				32.3								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1080	510	440	990	0	0	0	0	400	10	350
Future Volume (veh/h)	0	1080	510	440	990	0	0	0	0	400	10	350
Number	5	2	12	1	6	16				7	4	14
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1174	518	478	1076	0				435	11	193
Adj No. of Lanes	0	2	0	1	2	0				0	1	1
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	1113	472	611	2977	0				393	10	356
Arrive On Green	0.00	0.77	0.77	0.69	1.00	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	2516	1028	1774	3632	0				1732	44	1569
Grp Volume(v), veh/h	0	845	847	478	1076	0				446	0	193
Grp Sat Flow(s),veh/h/ln	0	1770	1681	1774	1770	0				1776	0	1569
Q Serve(g_s), s	0.0	66.6	66.6	26.3	0.0	0.0				32.9	0.0	15.7
Cycle Q Clear(g_c), s	0.0	66.6	66.6	26.3	0.0	0.0				32.9	0.0	15.7
Prop In Lane	0.00		0.61	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	813	772	611	2977	0				403	0	356
V/C Ratio(X)	0.00	1.04	1.10	0.78	0.36	0.00				1.11	0.00	0.54
Avail Cap(c_a), veh/h	0	813	772	611	2977	0				403	0	356
HCM Platoon Ratio	1.00	1.67	1.67	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.65	0.65	0.16	0.16	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.9	16.9	18.9	0.0	0.0				56.1	0.0	49.4
Incr Delay (d2), s/veh	0.0	36.1	56.9	1.0	0.1	0.0				76.9	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
%ile BackOfQ(50%),veh/ln	0.0	39.4	41.9	12.8	0.0	0.0				24.7	0.0	6.9
LnGrp Delay(d),s/veh	0.0	53.0	73.8	19.9	0.1	0.0				133.0	0.0	50.4
LnGrp LOS		F	F	B	A					F		D
Approach Vol, veh/h		1692			1554						639	
Approach Delay, s/veh		63.4			6.2						108.0	
Approach LOS		E			A						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	55.5	72.0		38.0		127.5						
Change Period (Y+Rc), s	5.4	* 5.4		5.1		5.4						
Max Green Setting (Gmax), s	30.3	* 67		32.9		101.6						
Max Q Clear Time (g_c+2p_c), s	20.3	68.6		34.9		2.0						
Green Ext Time (p_c), s	1.4	0.0		0.0		23.1						
Intersection Summary												
HCM 2010 Ctrl Delay				47.8								
HCM 2010 LOS				D								
Notes												

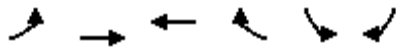
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	1180	0	0	1070	480	380	0	610	0	0	0
Future Volume (veh/h)	280	1180	0	0	1070	480	380	0	610	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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		0.99			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	304	1283	0	0	1163	413	413	0	478			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
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	307	2118	0	0	1381	618	584	0	513			
Arrive On Green	0.29	1.00	0.00	0.00	0.65	0.65	0.33	0.00	0.33			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1774	0	1560			
Grp Volume(v), veh/h	304	1283	0	0	1163	413	413	0	478			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1560			
Q Serve(g_s), s	24.7	0.1	0.0	0.0	36.8	23.4	29.5	0.0	43.0			
Cycle Q Clear(g_c), s	24.7	0.1	0.0	0.0	36.8	23.4	29.5	0.0	43.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	307	2118	0	0	1381	618	584	0	513			
V/C Ratio(X)	0.99	0.61	0.00	0.00	0.84	0.67	0.71	0.00	0.93			
Avail Cap(c_a), veh/h	307	2118	0	0	1381	618	674	0	593			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.67	1.67	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.79	0.79	1.00	0.00	1.00			
Uniform Delay (d), s/veh	51.4	0.0	0.0	0.0	21.8	19.5	42.5	0.0	47.0			
Incr Delay (d2), s/veh	13.1	0.1	0.0	0.0	5.1	4.5	2.6	0.0	19.6			
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	13.2	0.1	0.0	0.0	18.7	10.9	14.9	0.0	21.2			
LnGrp Delay(d),s/veh	64.5	0.1	0.0	0.0	27.0	24.0	45.1	0.0	66.6			
LnGrp LOS	E	A			C	C	D		E			
Approach Vol, veh/h		1587			1576			891				
Approach Delay, s/veh		12.5			26.2			56.6				
Approach LOS		B			C			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		92.2			30.2	62.0		52.8				
Change Period (Y+Rc), s		5.4			5.1	5.4		5.1				
Max Green Setting (Gmax), s		79.4			25.1	49.2		55.1				
Max Q Clear Time (g_c+l1), s		2.1			26.7	38.8		45.0				
Green Ext Time (p_c), s		23.8			0.0	8.1		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay					27.5							
HCM 2010 LOS					C							

Future PM - No_Project
 32: Encinitas Boulevard & Saxony Road

05/08/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↗	↖↗	↖	↖↗	↖		
Traffic Volume (veh/h)	360	1390	1170	280	430	400		
Future Volume (veh/h)	360	1390	1170	280	430	400		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	391	1511	1272	250	467	144		
Adj No. of Lanes	1	2	3	1	2	1		
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	410	2731	2571	777	537	247		
Arrive On Green	0.46	1.00	0.84	0.84	0.16	0.16		
Sat Flow, veh/h	1774	3632	5253	1537	3442	1583		
Grp Volume(v), veh/h	391	1511	1272	250	467	144		
Grp Sat Flow(s),veh/h/ln	1774	1770	1695	1537	1721	1583		
Q Serve(g_s), s	30.7	0.0	9.7	5.0	19.2	12.2		
Cycle Q Clear(g_c), s	30.7	0.0	9.7	5.0	19.2	12.2		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	410	2731	2571	777	537	247		
V/C Ratio(X)	0.95	0.55	0.49	0.32	0.87	0.58		
Avail Cap(c_a), veh/h	586	2731	2571	777	757	348		
HCM Platoon Ratio	2.00	2.00	1.67	1.67	1.00	1.00		
Upstream Filter(I)	0.51	0.51	0.18	0.18	1.00	1.00		
Uniform Delay (d), s/veh	38.3	0.0	6.3	6.0	59.8	56.8		
Incr Delay (d2), s/veh	12.6	0.4	0.1	0.2	7.2	1.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	16.3	0.2	4.3	2.1	9.7	10.8		
LnGrp Delay(d),s/veh	50.9	0.4	6.5	6.2	66.9	58.4		
LnGrp LOS	D	A	A	A	E	E		
Approach Vol, veh/h		1902	1522		611			
Approach Delay, s/veh		10.8	6.4		64.9			
Approach LOS		B	A		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		117.3		27.7	38.6	78.7		
Change Period (Y+Rc), s		5.4		5.1	5.1	5.4		
Max Green Setting (Gmax), s		102.6		31.9	47.9	49.6		
Max Q Clear Time (g_c+l1), s		2.0		21.2	32.7	11.7		
Green Ext Time (p_c), s		31.4		1.4	0.8	22.0		
Intersection Summary								
HCM 2010 Ctrl Delay			17.3					
HCM 2010 LOS			B					

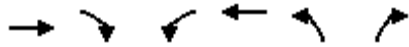


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	1200	170	240	1560	100	250	320	340	110	180	130
Future Volume (veh/h)	230	1200	170	240	1560	100	250	320	340	110	180	130
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	250	1304	185	261	1696	109	272	348	370	120	196	141
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
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	649	2484	1319	283	1704	744	266	358	304	116	201	166
Arrive On Green	0.37	0.70	0.70	0.27	0.80	0.80	0.15	0.19	0.19	0.07	0.11	0.11
Sat Flow, veh/h	1774	3539	1541	1774	3539	1544	1774	1863	1581	1774	1863	1545
Grp Volume(v), veh/h	250	1304	185	261	1696	109	272	348	370	120	196	141
Grp Sat Flow(s),veh/h/ln	1774	1770	1541	1774	1770	1544	1774	1863	1581	1774	1863	1545
Q Serve(g_s), s	13.5	22.6	3.3	18.6	61.1	2.0	19.5	24.1	25.0	8.5	13.6	11.7
Cycle Q Clear(g_c), s	13.5	22.6	3.3	18.6	61.1	2.0	19.5	24.1	25.0	8.5	13.6	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	649	2484	1319	283	1704	744	266	358	304	116	201	166
V/C Ratio(X)	0.39	0.52	0.14	0.92	1.00	0.15	1.02	0.97	1.22	1.03	0.98	0.85
Avail Cap(c_a), veh/h	649	2484	1319	321	1704	744	266	358	304	116	201	166
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	9.1	4.0	46.9	12.6	6.8	55.3	52.1	59.9	60.8	57.8	57.0
Incr Delay (d2), s/veh	0.1	0.6	0.2	27.9	20.7	0.4	61.0	39.8	123.9	93.1	56.7	31.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	11.1	1.5	11.2	33.2	0.9	14.0	16.3	10.5	7.2	10.2	6.4
LnGrp Delay(d),s/veh	30.5	9.7	4.2	74.8	33.3	7.2	116.3	92.0	183.8	154.4	114.6	88.3
LnGrp LOS	C	A	A	E	C	A	F	F	F	F	F	F
Approach Vol, veh/h		1739			2066			990			457	
Approach Delay, s/veh		12.1			37.1			133.0			116.9	
Approach LOS		B			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	96.6	23.0	18.1	52.9	67.9	12.0	29.1				
Change Period (Y+Rc), s	3.5	5.3	3.5	4.1	5.3	* 5.3	3.5	4.1				
Max Green Setting (Gmax), s	20.5	56.6	19.5	14.0	17.5	* 63	8.5	25.0				
Max Q Clear Time (g_c+20), s	20.6	24.6	21.5	15.6	15.5	63.1	10.5	27.0				
Green Ext Time (p_c), s	0.1	15.3	0.0	0.0	0.2	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.9									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 34: Balour Drive & Encinitas Boulevard

05/08/2018

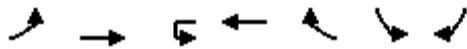


Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↔	↑↑	↔	↔		
Traffic Volume (veh/h)	1670	140	500	2020	180	400		
Future Volume (veh/h)	1670	140	500	2020	180	400		
Number	6	16	5	2	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1815	140	543	2196	196	435		
Adj No. of Lanes	2	0	2	2	1	1		
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	1849	141	729	2857	222	533		
Arrive On Green	0.93	0.93	0.42	1.00	0.13	0.13		
Sat Flow, veh/h	3427	254	3442	3632	1774	1583		
Grp Volume(v), veh/h	952	1003	543	2196	196	435		
Grp Sat Flow(s),veh/h/ln	1770	1818	1721	1770	1774	1583		
Q Serve(g_s), s	51.0	66.9	17.3	0.0	14.1	5.1		
Cycle Q Clear(g_c), s	51.0	66.9	17.3	0.0	14.1	5.1		
Prop In Lane		0.14	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	981	1008	729	2857	222	533		
V/C Ratio(X)	0.97	0.99	0.74	0.77	0.88	0.82		
Avail Cap(c_a), veh/h	983	1010	729	2857	341	640		
HCM Platoon Ratio	1.67	1.67	2.00	2.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.23	0.23	1.00	1.00		
Uniform Delay (d), s/veh	4.0	4.6	34.5	0.0	55.9	39.4		
Incr Delay (d2), s/veh	22.4	27.0	1.2	0.5	11.0	5.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh	27.2	35.9	8.3	0.2	7.6	3.0		
LnGrp Delay(d),s/veh	26.4	31.6	35.7	0.5	66.9	45.1		
LnGrp LOS	C	C	D	A	E	D		
Approach Vol, veh/h	1955			2739	631			
Approach Delay, s/veh	29.1			7.5	51.9			
Approach LOS	C			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		110.2			32.8	77.4		19.8
Change Period (Y+Rc), s		5.3			5.3	* 5.3		3.5
Max Green Setting (Gmax), s		96.2			20.5	* 72		25.0
Max Q Clear Time (g_c+l1), s		2.0			19.3	68.9		16.1
Green Ext Time (p_c), s		84.6			0.2	3.2		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			20.7					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 35: Encinitas Boulevard & Via Cantebria

05/08/2018



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR	
Lane Configurations	↖ ↗	↑↑	↔	↑↑		↖ ↗	↖ ↗	
Traffic Volume (veh/h)	800	1260	5	1620	150	130	730	
Future Volume (veh/h)	800	1260	5	1620	150	130	730	
Number	1	6		2	12	7	14	
Initial Q (Qb), veh	0	0		0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00				1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1863		1863	1900	1863	1863	
Adj Flow Rate, veh/h	870	1370		1761	147	141	793	
Adj No. of Lanes	2	2		2	0	1	2	
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	900	2976		1829	151	162	984	
Arrive On Green	0.52	1.00		0.92	0.92	0.09	0.09	
Sat Flow, veh/h	3442	3632		3404	273	1774	2787	
Grp Volume(v), veh/h	870	1370		931	977	141	793	
Grp Sat Flow(s),veh/h/ln	1721	1770		1770	1815	1774	1393	
Q Serve(g_s), s	31.7	0.0		43.5	54.1	10.2	11.9	
Cycle Q Clear(g_c), s	31.7	0.0		43.5	54.1	10.2	11.9	
Prop In Lane	1.00				0.15	1.00	1.00	
Lane Grp Cap(c), veh/h	900	2976		977	1002	162	984	
V/C Ratio(X)	0.97	0.46		0.95	0.98	0.87	0.81	
Avail Cap(c_a), veh/h	919	2976		977	1002	162	984	
HCM Platoon Ratio	2.00	2.00		1.67	1.67	1.00	1.00	
Upstream Filter(l)	0.28	0.28		1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	30.5	0.0		3.9	4.4	58.3	38.0	
Incr Delay (d2), s/veh	9.1	0.1		19.3	23.0	34.9	4.6	
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	15.9	0.1		23.3	29.5	6.6	24.1	
LnGrp Delay(d),s/veh	39.5	0.1		23.2	27.4	93.1	42.7	
LnGrp LOS	D	A		C	C	F	D	
Approach Vol, veh/h		2240		1908		934		
Approach Delay, s/veh		15.4		25.4		50.3		
Approach LOS		B		C		D		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	37.5	77.1		15.4		114.6		
Change Period (Y+Rc), s	3.5	5.3		3.5		5.3		
Max Green Setting (Gmax), s	84.7	71.1		11.9		100.3		
Max Q Clear Time (g_c+R), s	30.7	56.1		13.9		2.0		
Green Ext Time (p_c), s	0.3	14.9		0.0		94.5		
Intersection Summary								
HCM 2010 Ctrl Delay				25.6				
HCM 2010 LOS				C				
Notes								

User approved ignoring U-Turning movement.

Future PM - No_Project
 36: El Camino Real & Encinitas Boulevard

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔↔↔	↕↔↔		↔↔	↕↔↔	↔
Traffic Volume (veh/h)	410	555	170	340	640	340	210	1040	300	635	1145	455
Future Volume (veh/h)	410	555	170	340	640	340	210	1040	300	635	1145	455
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	446	603	185	370	696	296	228	1130	326	690	1245	495
Adj No. of Lanes	2	2	0	2	2	0	1	3	0	2	3	1
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	435	657	201	531	662	282	288	1068	308	664	1540	470
Arrive On Green	0.21	0.41	0.41	0.26	0.46	0.46	0.27	0.45	0.45	0.32	0.51	0.51
Sat Flow, veh/h	3442	2670	818	3442	2421	1030	1774	3922	1131	3442	5085	1551
Grp Volume(v), veh/h	446	399	389	370	509	483	228	977	479	690	1245	495
Grp Sat Flow(s),veh/h/ln	1721	1770	1718	1721	1770	1681	1774	1695	1663	1721	1695	1551
Q Serve(g_s), s	18.2	30.7	30.9	14.0	39.4	39.4	17.2	39.2	39.2	27.8	29.5	43.6
Cycle Q Clear(g_c), s	18.2	30.7	30.9	14.0	39.4	39.4	17.2	39.2	39.2	27.8	29.5	43.6
Prop In Lane	1.00		0.48	1.00		0.61	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	435	435	422	531	484	460	288	923	453	664	1540	470
V/C Ratio(X)	1.03	0.92	0.92	0.70	1.05	1.05	0.79	1.06	1.06	1.04	0.81	1.05
Avail Cap(c_a), veh/h	435	474	461	531	484	460	288	923	453	664	1540	470
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.40	0.40	0.40	0.87	0.87	0.87	0.35	0.35	0.35
Uniform Delay (d), s/veh	56.8	41.1	41.1	50.4	39.1	39.1	50.2	39.3	39.3	48.8	32.1	35.6
Incr Delay (d2), s/veh	49.8	22.1	23.0	1.4	40.3	40.9	11.3	44.5	55.9	31.3	1.7	40.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	17.5	17.2	6.7	24.6	23.4	9.3	24.0	24.9	16.0	14.0	23.7
LnGrp Delay(d),s/veh	106.6	63.2	64.1	51.8	79.4	80.0	61.5	83.8	95.2	80.1	33.8	75.6
LnGrp LOS	F	E	E	D	F	F	E	F	F	F	C	F
Approach Vol, veh/h		1234			1362			1684			2430	
Approach Delay, s/veh		79.2			72.1			84.0			55.5	
Approach LOS		E			E			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	44.5	26.4	41.1	27.6	48.9	22.4	45.1				
Change Period (Y+Rc), s	4.2	* 5.3	4.2	* 5.7	4.2	* 5.3	4.2	* 5.7				
Max Green Setting (Gmax), s	20.8	* 39	19.0	* 39	23.4	* 44	18.2	* 39				
Max Q Clear Time (g_c+20), s	20.8	41.2	16.0	32.9	19.2	45.6	20.2	41.4				
Green Ext Time (p_c), s	0.0	0.0	0.6	2.5	0.9	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			70.4									
HCM 2010 LOS			E									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 37: Village Square Drive & Encinitas Boulevard

05/08/2018

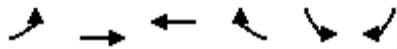


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	760	20	80	1090	180	40	10	30	240	10	310
Future Volume (veh/h)	220	760	20	80	1090	180	40	10	30	240	10	310
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	239	826	21	87	1185	170	43	11	33	261	11	337
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	1937	49	110	1303	186	44	11	34	296	8	257
Arrive On Green	0.28	0.92	0.92	0.10	0.70	0.70	0.05	0.05	0.05	0.17	0.17	0.17
Sat Flow, veh/h	1774	3527	90	1774	3109	444	843	216	647	1774	50	1541
Grp Volume(v), veh/h	239	414	433	87	672	683	87	0	0	261	0	348
Grp Sat Flow(s),veh/h/ln	1774	1770	1847	1774	1770	1784	1706	0	0	1774	0	1591
Q Serve(g_s), s	12.0	3.1	3.1	4.6	30.0	30.5	4.9	0.0	0.0	13.8	0.0	16.0
Cycle Q Clear(g_c), s	12.0	3.1	3.1	4.6	30.0	30.5	4.9	0.0	0.0	13.8	0.0	16.0
Prop In Lane	1.00		0.05	1.00		0.25	0.49		0.38	1.00		0.97
Lane Grp Cap(c), veh/h	299	972	1014	110	742	748	89	0	0	296	0	265
V/C Ratio(X)	0.80	0.43	0.43	0.79	0.91	0.91	0.98	0.00	0.00	0.88	0.00	1.31
Avail Cap(c_a), veh/h	299	972	1014	185	806	812	89	0	0	296	0	265
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.19	0.19	0.19	0.46	0.46	0.46	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	1.9	1.9	42.4	12.9	12.9	45.4	0.0	0.0	39.1	0.0	40.0
Incr Delay (d2), s/veh	2.8	0.3	0.3	2.2	8.9	9.3	88.0	0.0	0.0	24.5	0.0	164.9
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	1.3	1.4	2.3	16.0	16.3	4.5	0.0	0.0	8.8	0.0	19.1
LnGrp Delay(d),s/veh	35.8	2.2	2.2	44.6	21.7	22.2	133.4	0.0	0.0	63.6	0.0	204.9
LnGrp LOS	D	A	A	D	C	C	F			E		F
Approach Vol, veh/h		1086			1442			87			609	
Approach Delay, s/veh		9.6			23.3			133.4			144.4	
Approach LOS		A			C			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	58.0		20.0	21.5	45.5		9.0				
Change Period (Y+Rc), s	3.0	5.3		4.0	5.3	* 5.3		4.0				
Max Green Setting (Gmax), s	10.0	48.7		16.0	14.5	* 44		5.0				
Max Q Clear Time (g_c+I), s	10.0	5.1		18.0	14.0	32.5		6.9				
Green Ext Time (p_c), s	0.0	8.5		0.0	0.1	7.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				44.5								
HCM 2010 LOS				D								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 38: Encinitas Boulevard & Village Park Way

05/08/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	350	680	910	220	140	370		
Future Volume (veh/h)	350	680	910	220	140	370		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	380	739	989	214	152	402		
Adj No. of Lanes	1	2	2	0	1	1		
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	392	2165	1017	220	488	435		
Arrive On Green	0.22	0.61	0.35	0.35	0.27	0.27		
Sat Flow, veh/h	1774	3632	2990	625	1774	1583		
Grp Volume(v), veh/h	380	739	603	600	152	402		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1752	1774	1583		
Q Serve(g_s), s	18.7	9.0	29.6	29.8	6.0	21.8		
Cycle Q Clear(g_c), s	18.7	9.0	29.6	29.8	6.0	21.8		
Prop In Lane	1.00			0.36	1.00	1.00		
Lane Grp Cap(c), veh/h	392	2165	621	615	488	435		
V/C Ratio(X)	0.97	0.34	0.97	0.97	0.31	0.92		
Avail Cap(c_a), veh/h	392	2165	621	615	523	466		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	34.1	8.4	28.2	28.2	25.4	31.1		
Incr Delay (d2), s/veh	37.4	0.2	29.1	30.0	0.4	23.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	13.3	4.5	19.4	19.4	3.0	19.8		
LnGrp Delay(d),s/veh	71.5	8.6	57.3	58.2	25.7	54.4		
LnGrp LOS	E	A	E	E	C	D		
Approach Vol, veh/h		1119	1203		554			
Approach Delay, s/veh		30.0	57.8		46.5			
Approach LOS		C	E		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.5		27.8	23.0	37.5		
Change Period (Y+Rc), s		6.5		3.5	3.5	6.5		
Max Green Setting (Gmax), s		54.0		26.0	19.5	31.0		
Max Q Clear Time (g_c+l1), s		11.0		23.8	20.7	31.8		
Green Ext Time (p_c), s		32.3		0.5	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			44.8					
HCM 2010 LOS			D					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	530	100	110	745	165	230	280	80	180	270	230
Future Volume (veh/h)	190	530	100	110	745	165	230	280	80	180	270	230
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	207	576	89	120	810	145	250	304	87	196	293	200
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	220	1066	164	134	910	163	258	483	404	220	442	371
Arrive On Green	0.12	0.35	0.35	0.08	0.30	0.30	0.15	0.26	0.26	0.12	0.24	0.24
Sat Flow, veh/h	1774	3075	474	1774	3000	537	1774	1863	1560	1774	1863	1561
Grp Volume(v), veh/h	207	331	334	120	478	477	250	304	87	196	293	200
Grp Sat Flow(s),veh/h/ln	1774	1770	1779	1774	1770	1768	1774	1863	1560	1774	1863	1561
Q Serve(g_s), s	10.7	13.9	14.0	6.2	23.9	23.9	13.0	13.4	4.1	10.1	13.2	10.4
Cycle Q Clear(g_c), s	10.7	13.9	14.0	6.2	23.9	23.9	13.0	13.4	4.1	10.1	13.2	10.4
Prop In Lane	1.00		0.27	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	613	617	134	537	536	258	483	404	220	442	371
V/C Ratio(X)	0.94	0.54	0.54	0.90	0.89	0.89	0.97	0.63	0.22	0.89	0.66	0.54
Avail Cap(c_a), veh/h	220	618	621	134	542	541	258	622	521	220	582	488
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	1.00	1.00
Uniform Delay (d), s/veh	40.3	24.4	24.4	42.5	30.8	30.8	39.4	30.4	27.0	40.0	32.0	30.9
Incr Delay (d2), s/veh	44.8	1.7	1.7	48.1	17.5	17.5	46.9	2.9	0.6	32.4	3.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	7.1	7.2	4.8	14.3	14.3	9.7	7.3	1.8	6.9	7.2	4.8
LnGrp Delay(d),s/veh	85.1	26.1	26.1	90.6	48.3	48.3	86.4	33.3	27.5	72.4	35.6	33.5
LnGrp LOS	F	C	C	F	D	D	F	C	C	E	D	C
Approach Vol, veh/h		872			1075			641			689	
Approach Delay, s/veh		40.1			53.0			53.2			45.5	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.0	37.9	17.0	26.9	15.0	33.9	15.0	28.9				
Change Period (Y+Rc), s	4.0	5.7	3.5	4.9	3.5	5.7	3.5	4.9				
Max Green Setting (Gmax), s	32.4	13.5	29.0	11.5	28.4	11.5	31.0					
Max Q Clear Time (g_c+I), s	16.0	15.0	15.2	12.7	25.9	12.1	15.4					
Green Ext Time (p_c), s	0.0	12.8	0.0	6.6	0.0	2.3	0.0	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay			48.0									
HCM 2010 LOS			D									

Intersection

Intersection Delay, s/veh 18.8
 Intersection LOS C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	160	210	320	30	250	270
Future Vol, veh/h	160	210	320	30	250	270
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	174	228	348	33	272	293
Number of Lanes	1	0	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left NB			WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right SB		WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	20.8	19.8	16.8
HCM LOS	C	C	C

Lane	NBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	43%	100%	0%
Vol Thru, %	91%	0%	0%	100%
Vol Right, %	9%	57%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	350	370	250	270
LT Vol	0	160	250	0
Through Vol	320	0	0	270
RT Vol	30	210	0	0
Lane Flow Rate	380	402	272	293
Geometry Grp	5	2	7	7
Degree of Util (X)	0.646	0.674	0.526	0.526
Departure Headway (Hd)	6.115	6.03	6.964	6.454
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	586	595	514	555
Service Time	4.192	4.1	4.747	4.237
HCM Lane V/C Ratio	0.648	0.676	0.529	0.528
HCM Control Delay	19.8	20.8	17.3	16.3
HCM Lane LOS	C	C	C	C
HCM 95th-tile Q	4.6	5.1	3	3

Future PM - No_Project
 41: I-5 SB On-Ramp/I-5 SB Off-Ramp & Santa Fe Drive

05/08/2018

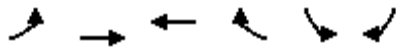


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑						↑	↗
Traffic Volume (veh/h)	0	700	310	185	555	0	0	0	0	240	10	250
Future Volume (veh/h)	0	700	310	185	555	0	0	0	0	240	10	250
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	761	337	201	603	0				261	11	272
Adj No. of Lanes	0	1	1	1	2	0				0	1	1
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	760	621	367	2402	0				331	14	307
Arrive On Green	0.00	0.82	0.82	0.07	0.22	0.00				0.19	0.19	0.19
Sat Flow, veh/h	0	1863	1520	1774	3632	0				1706	72	1583
Grp Volume(v), veh/h	0	761	337	201	603	0				272	0	272
Grp Sat Flow(s),veh/h/ln	0	1863	1520	1774	1770	0				1777	0	1583
Q Serve(g_s), s	0.0	32.7	5.8	8.8	11.2	0.0				11.7	0.0	13.4
Cycle Q Clear(g_c), s	0.0	32.7	5.8	8.8	11.2	0.0				11.7	0.0	13.4
Prop In Lane	0.00		1.00	1.00		0.00				0.96		1.00
Lane Grp Cap(c), veh/h	0	760	621	367	2402	0				345	0	307
V/C Ratio(X)	0.00	1.00	0.54	0.55	0.25	0.00				0.79	0.00	0.89
Avail Cap(c_a), veh/h	0	880	718	367	2402	0				355	0	317
HCM Platoon Ratio	1.00	2.00	2.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.3	4.9	33.7	14.3	0.0				30.7	0.0	31.4
Incr Delay (d2), s/veh	0.0	32.8	3.4	0.9	0.2	0.0				10.0	0.0	23.2
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	21.7	2.8	4.4	5.6	0.0				6.6	0.0	7.8
LnGrp Delay(d),s/veh	0.0	40.2	8.3	34.6	14.6	0.0				40.7	0.0	54.6
LnGrp LOS		F	A	C	B					D		D
Approach Vol, veh/h		1098			804						544	
Approach Delay, s/veh		30.4			19.6						47.7	
Approach LOS		C			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	19.9	39.5		20.6		59.4						
Change Period (Y+Rc), s	5.1	* 5.1		5.1		5.1						
Max Green Setting (Gmax), s	10	* 38		16.0		53.8						
Max Q Clear Time (g_c+10), s	10	34.7		15.4		13.2						
Green Ext Time (p_c), s	0.2	1.4		0.1		3.0						
Intersection Summary												
HCM 2010 Ctrl Delay				30.7								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 42: Santa Fe Drive & I-5 NB On-Ramp

05/08/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↘	↑	↑↑	↗				
Traffic Volume (veh/h)	340	630	740	350	0	0		
Future Volume (veh/h)	340	630	740	350	0	0		
Number	5	2	6	16				
Initial Q (Qb), veh	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00			0.97				
Parking Bus, Adj	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863				
Adj Flow Rate, veh/h	370	685	804	380				
Adj No. of Lanes	1	1	2	1				
Peak Hour Factor	0.92	0.92	0.92	0.92				
Percent Heavy Veh, %	2	2	2	2				
Cap, veh/h	402	1737	2290	990				
Arrive On Green	0.45	1.00	1.00	1.00				
Sat Flow, veh/h	1774	1863	3632	1529				
Grp Volume(v), veh/h	370	685	804	380				
Grp Sat Flow(s),veh/h/ln	1774	1863	1770	1529				
Q Serve(g_s), s	15.6	0.0	0.0	0.0				
Cycle Q Clear(g_c), s	15.6	0.0	0.0	0.0				
Prop In Lane	1.00			1.00				
Lane Grp Cap(c), veh/h	402	1737	2290	990				
V/C Ratio(X)	0.92	0.39	0.35	0.38				
Avail Cap(c_a), veh/h	783	1737	2290	990				
HCM Platoon Ratio	2.00	2.00	2.00	2.00				
Upstream Filter(l)	0.45	0.45	0.77	0.77				
Uniform Delay (d), s/veh	21.2	0.0	0.0	0.0				
Incr Delay (d2), s/veh	1.8	0.3	0.3	0.9				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	7.6	0.1	0.1	0.2				
LnGrp Delay(d),s/veh	22.9	0.3	0.3	0.9				
LnGrp LOS	C	A	A	A				
Approach Vol, veh/h		1055	1184					
Approach Delay, s/veh		8.2	0.5					
Approach LOS		A	A					
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		
Phs Duration (G+Y+Rc), s		80.0			22.8	57.2		
Change Period (Y+Rc), s		5.4			* 4.7	5.4		
Max Green Setting (Gmax), s		74.6			* 35	34.6		
Max Q Clear Time (g_c+l1), s		2.0			17.6	2.0		
Green Ext Time (p_c), s		9.9			0.5	9.2		
Intersection Summary								
HCM 2010 Ctrl Delay			4.1					
HCM 2010 LOS			A					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 43: I-5 NB Off-Ramp/Regal Road & Santa Fe Drive

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	495	0	0	615	75	270	200	200	40	0	220
Future Volume (veh/h)	135	495	0	0	615	75	270	200	200	40	0	220
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	147	538	0	0	668	82	255	270	184	43	0	239
Adj No. of Lanes	1	1	0	0	3	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	2	2
Cap, veh/h	380	874	0	0	862	105	332	348	292	37	0	203
Arrive On Green	0.43	0.94	0.00	0.00	0.19	0.19	0.19	0.19	0.19	0.15	0.00	0.15
Sat Flow, veh/h	1774	1863	0	0	4763	559	1774	1863	1562	245	0	1364
Grp Volume(v), veh/h	147	538	0	0	491	259	255	270	184	282	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	1695	1764	1774	1863	1562	1610	0	0
Q Serve(g_s), s	4.5	3.4	0.0	0.0	11.0	11.2	10.9	11.0	8.7	11.9	0.0	0.0
Cycle Q Clear(g_c), s	4.5	3.4	0.0	0.0	11.0	11.2	10.9	11.0	8.7	11.9	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.32	1.00		1.00	0.15		0.85
Lane Grp Cap(c), veh/h	380	874	0	0	636	331	332	348	292	239	0	0
V/C Ratio(X)	0.39	0.62	0.00	0.00	0.77	0.78	0.77	0.78	0.63	1.18	0.00	0.00
Avail Cap(c_a), veh/h	380	874	0	0	831	432	397	417	350	239	0	0
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.00	0.00	0.77	0.77	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.3	1.4	0.0	0.0	30.9	30.9	30.9	30.9	30.0	34.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	3.0	0.0	0.0	6.9	13.2	8.4	8.4	3.5	114.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	1.9	0.0	0.0	5.7	6.7	6.1	6.4	4.0	12.9	0.0	0.0
LnGrp Delay(d),s/veh	19.5	4.4	0.0	0.0	37.8	44.1	39.3	39.3	33.5	148.8	0.0	0.0
LnGrp LOS	B	A			D	D	D	D	C	F		
Approach Vol, veh/h		685			750			709			282	
Approach Delay, s/veh		7.7			40.0			37.8			148.8	
Approach LOS		A			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		42.9		17.0	22.5	20.4		20.1				
Change Period (Y+Rc), s		5.4		5.1	5.4	* 5.4		5.1				
Max Green Setting (Gmax), s		34.6		11.9	10.3	* 20		17.9				
Max Q Clear Time (g_c+I1), s		5.4		13.9	6.5	13.2		13.0				
Green Ext Time (p_c), s		2.4		0.0	1.0	1.8		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				42.9								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 44: MacKinnon Avenue/Nardo Road & Santa Fe Drive

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	545	125	145	505	65	90	80	100	40	80	20
Future Volume (veh/h)	50	545	125	145	505	65	90	80	100	40	80	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	54	592	136	158	549	71	98	87	64	43	87	22
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	719	165	197	910	118	191	139	86	139	241	52
Arrive On Green	0.04	0.49	0.49	0.11	0.56	0.56	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	1466	337	1774	1617	209	534	668	416	317	1162	250
Grp Volume(v), veh/h	54	0	728	158	0	620	249	0	0	152	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1803	1774	0	1826	1618	0	0	1729	0	0
Q Serve(g_s), s	1.9	0.0	21.7	5.5	0.0	14.1	4.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	0.0	21.7	5.5	0.0	14.1	8.7	0.0	0.0	4.6	0.0	0.0
Prop In Lane	1.00		0.19	1.00		0.11	0.39		0.26	0.28		0.14
Lane Grp Cap(c), veh/h	69	0	884	197	0	1027	416	0	0	433	0	0
V/C Ratio(X)	0.78	0.00	0.82	0.80	0.00	0.60	0.60	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	127	0	990	212	0	1089	607	0	0	633	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.0	0.0	13.7	27.3	0.0	9.1	23.0	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	17.3	0.0	5.4	18.4	0.0	1.0	1.7	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	12.0	3.7	0.0	7.3	4.2	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	47.3	0.0	19.1	45.6	0.0	10.1	24.7	0.0	0.0	22.1	0.0	0.0
LnGrp LOS	D		B	D		B	C			C		
Approach Vol, veh/h		782			778			249			152	
Approach Delay, s/veh		21.1			17.3			24.7			22.1	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	35.3		17.1	5.9	39.9		17.1				
Change Period (Y+Rc), s	3.5	4.5		4.0	3.5	4.5		4.0				
Max Green Setting (Gmax), s	34.5			21.0	4.5	37.5		21.0				
Max Q Clear Time (g_c+I1), s	23.7			6.6	3.9	16.1		10.7				
Green Ext Time (p_c), s	0.0	7.1		2.5	0.0	11.4		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				20.1								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	
Traffic Vol, veh/h	250	500	515	125	70	160
Future Vol, veh/h	250	500	515	125	70	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	543	560	136	76	174

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	696	0	-	0	1715 628
Stage 1	-	-	-	-	628 -
Stage 2	-	-	-	-	1087 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	900	-	-	-	99 483
Stage 1	-	-	-	-	532 -
Stage 2	-	-	-	-	323 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	900	-	-	-	~ 69 483
Mov Cap-2 Maneuver	-	-	-	-	169 -
Stage 1	-	-	-	-	532 -
Stage 2	-	-	-	-	225 -

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	51.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	900	-	-	-	309
HCM Lane V/C Ratio	0.302	-	-	-	0.809
HCM Control Delay (s)	10.7	-	-	-	51.7
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1.3	-	-	-	6.7

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Future PM - No_Project
46: Lake Drive & Santa Fe Drive

05/08/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	445	100	225	475	5	70	10	180	10	10	10
Future Volume (veh/h)	15	445	100	225	475	5	70	10	180	10	10	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	16	484	109	245	516	5	76	11	158	11	11	11
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	576	937	211	518	1172	11	166	35	196	166	152	112
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	877	1472	332	821	1842	18	373	176	998	366	773	570
Grp Volume(v), veh/h	16	0	593	245	0	521	245	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	877	0	1804	821	0	1860	1547	0	0	1709	0	0
Q Serve(g_s), s	0.5	0.0	9.1	11.7	0.0	7.2	5.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.7	0.0	9.1	20.8	0.0	7.2	7.6	0.0	0.0	0.8	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.01	0.31		0.64	0.33		0.33
Lane Grp Cap(c), veh/h	576	0	1148	518	0	1184	396	0	0	430	0	0
V/C Ratio(X)	0.03	0.00	0.52	0.47	0.00	0.44	0.62	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	621	0	1241	560	0	1280	591	0	0	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.6	0.0	5.0	10.6	0.0	4.7	19.4	0.0	0.0	16.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	1.4	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	4.7	2.8	0.0	3.8	3.3	0.0	0.0	0.4	0.0	0.0
LnGrp Delay(d),s/veh	6.6	0.0	5.8	12.1	0.0	5.2	20.0	0.0	0.0	16.8	0.0	0.0
LnGrp LOS	A		A	B		A	C			B		
Approach Vol, veh/h		609			766			245			33	
Approach Delay, s/veh		5.8			7.4			20.0			16.8	
Approach LOS		A			A			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.4		13.5		37.4		13.5				
Change Period (Y+Rc), s		5.0		3.5		5.0		3.5				
Max Green Setting (Gmax), s		35.0		16.5		35.0		16.5				
Max Q Clear Time (g_c+I1), s		11.1		2.8		22.8		9.6				
Green Ext Time (p_c), s		16.5		0.9		9.6		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									

Future PM - No_Project
 47: El Camino Real & Santa Fe Drive

05/08/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↖	↗	↖	↑↑↑	↑↑	↗		
Traffic Volume (veh/h)	570	170	160	1030	930	680		
Future Volume (veh/h)	570	170	160	1030	930	680		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	620	185	174	1120	1011	739		
Adj No. of Lanes	2	1	1	3	2	1		
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	913	420	125	2859	1546	1112		
Arrive On Green	0.27	0.27	0.07	0.56	0.44	0.44		
Sat Flow, veh/h	3442	1583	1774	5253	3632	1583		
Grp Volume(v), veh/h	620	185	174	1120	1011	739		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1695	1770	1583		
Q Serve(g_s), s	10.3	6.2	4.5	7.9	14.4	16.6		
Cycle Q Clear(g_c), s	10.3	6.2	4.5	7.9	14.4	16.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	913	420	125	2859	1546	1112		
V/C Ratio(X)	0.68	0.44	1.39	0.39	0.65	0.66		
Avail Cap(c_a), veh/h	1780	819	125	2869	1592	1132		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.0	19.5	29.7	7.8	14.2	5.3		
Incr Delay (d2), s/veh	1.3	1.0	217.4	0.1	1.0	1.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	15.0	5.8	9.7	3.7	7.1	13.2		
LnGrp Delay(d),s/veh	22.3	20.5	247.0	7.9	15.2	6.8		
LnGrp LOS	C	C	F	A	B	A		
Approach Vol, veh/h	805			1294	1750			
Approach Delay, s/veh	21.9			40.1	11.7			
Approach LOS	C			D	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		41.9		21.9	8.0	33.9		
Change Period (Y+Rc), s		6.0		5.0	3.5	* 6		
Max Green Setting (Gmax), s		36.0		33.0	4.5	* 29		
Max Q Clear Time (g_c+l1), s		9.9		12.3	6.5	18.6		
Green Ext Time (p_c), s		21.8		4.6	0.0	9.3		
Intersection Summary								
HCM 2010 Ctrl Delay			23.4					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 48: Vulcan Avenue & Birmingham Drive

05/08/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	200	100	545	345	110	250		
Future Volume (veh/h)	200	100	545	345	110	250		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	217	109	592	375	120	272		
Adj No. of Lanes	1	1	1	0	1	1		
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	262	234	653	414	150	1382		
Arrive On Green	0.15	0.15	0.61	0.61	0.08	0.74		
Sat Flow, veh/h	1774	1583	1067	676	1774	1863		
Grp Volume(v), veh/h	217	109	0	967	120	272		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1743	1774	1863		
Q Serve(g_s), s	9.2	4.9	0.0	37.2	5.1	3.4		
Cycle Q Clear(g_c), s	9.2	4.9	0.0	37.2	5.1	3.4		
Prop In Lane	1.00	1.00		0.39	1.00			
Lane Grp Cap(c), veh/h	262	234	0	1067	150	1382		
V/C Ratio(X)	0.83	0.47	0.00	0.91	0.80	0.20		
Avail Cap(c_a), veh/h	368	329	0	1256	150	1583		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	31.9	30.0	0.0	13.0	34.6	3.0		
Incr Delay (d2), s/veh	7.3	0.5	0.0	8.4	26.5	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	0.0	2.2	0.0	19.9	3.6	1.8		
LnGrp Delay(d),s/veh	39.2	30.6	0.0	21.4	61.2	3.1		
LnGrp LOS	D	C		C	E	A		
Approach Vol, veh/h	326		967			392		
Approach Delay, s/veh	36.3		21.4			20.9		
Approach LOS	D		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	10.0	51.7		15.4		61.7		
Change Period (Y+Rc), s	3.5	4.5		4.0		4.5		
Max Green Setting (Gmax), s	55.5			16.0		65.5		
Max Q Clear Time (g_c+I1),s	39.2			11.2		5.4		
Green Ext Time (p_c), s	0.0	7.9		0.3		12.3		
Intersection Summary								
HCM 2010 Ctrl Delay			24.2					
HCM 2010 LOS			C					

Intersection

Int Delay, s/veh 13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗		↖					↘		↗
Traffic Vol, veh/h	0	560	200	140	370	0	0	0	0	120	5	280
Future Vol, veh/h	0	560	200	140	370	0	0	0	0	120	5	280
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	609	217	152	402	0	0	0	0	130	5	304

Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	-	609	0	0				1316	1316	402
Stage 1	-	-	-	-	-	-				707	707	-
Stage 2	-	-	-	-	-	-				609	609	-
Critical Hdwy	-	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	970	-	0				174	158	648
Stage 1	0	-	0	-	-	0				489	438	-
Stage 2	0	-	0	-	-	0				543	485	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	970	-	-				139	0	648
Mov Cap-2 Maneuver	-	-	-	-	-	-				139	0	-
Stage 1	-	-	-	-	-	-				390	0	-
Stage 2	-	-	-	-	-	-				543	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.6	47.5
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	970	-	139	648
HCM Lane V/C Ratio	-	0.157	-	0.938	0.47
HCM Control Delay (s)	-	9.4	0	122.5	15.4
HCM Lane LOS	-	A	A	F	C
HCM 95th %tile Q(veh)	-	0.6	-	6.5	2.5

Intersection

Intersection Delay, s/veh	115.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↑	↗		↔	↗			
Traffic Vol, veh/h	240	440	0	0	300	110	210	5	390	0	0	0
Future Vol, veh/h	240	440	0	0	300	110	210	5	390	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	261	478	0	0	326	120	228	5	424	0	0	0
Number of Lanes	0	1	0	0	1	1	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	250.7	22.1	27.6
HCM LOS	F	C	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	98%	0%	35%	0%	0%
Vol Thru, %	2%	0%	65%	100%	0%
Vol Right, %	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	390	680	300	110
LT Vol	210	0	240	0	0
Through Vol	5	0	440	300	0
RT Vol	0	390	0	0	110
Lane Flow Rate	234	424	739	326	120
Geometry Grp	7	7	6	7	7
Degree of Util (X)	0.507	0.781	1.489	0.671	0.223
Departure Headway (Hd)	8.655	7.425	7.253	8.055	7.327
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	418	492	503	453	493
Service Time	6.355	5.125	5.292	5.755	5.027
HCM Lane V/C Ratio	0.56	0.862	1.469	0.72	0.243
HCM Control Delay	19.9	31.8	250.7	25.7	12.1
HCM Lane LOS	C	D	F	D	B
HCM 95th-tile Q	2.8	7	37.5	4.8	0.8

Future PM - No_Project
 51: Manchester Avenue & I-5 SB On-Off Ramps

05/08/2018

Intersection

Intersection Delay, s/veh82.3

Intersection LOS F

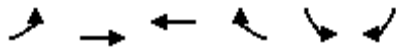
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑	↗	↘	↗
Traffic Vol, veh/h	150	190	475	915	40	40
Future Vol, veh/h	150	190	475	915	40	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	207	516	995	43	43
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	12.8	103.4	11.2
HCM LOS	B	F	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	190	475	915	40	40
LT Vol	150	0	0	0	40	0
Through Vol	0	190	475	0	0	0
RT Vol	0	0	0	915	0	40
Lane Flow Rate	163	207	516	995	43	43
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.302	0.354	0.757	1.264	0.096	0.082
Departure Headway (Hd)	7.065	6.559	5.281	4.576	8.352	7.127
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	512	551	682	796	432	506
Service Time	4.765	4.259	3.043	2.338	6.052	4.827
HCM Lane V/C Ratio	0.318	0.376	0.757	1.25	0.1	0.085
HCM Control Delay	12.8	12.8	22.7	145.3	11.9	10.5
HCM Lane LOS	B	B	C	F	B	B
HCM 95th-tile Q	1.3	1.6	7	35.9	0.3	0.3

Future PM - No_Project
 52: Manchester Avenue & I-5 NB On-Off Ramps

05/08/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	50	210	1040	220	1540	450		
Future Volume (veh/h)	50	210	1040	220	1540	450		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	54	228	1130	239	1674	489		
Adj No. of Lanes	1	1	2	1	2	1		
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	69	774	1180	516	1668	767		
Arrive On Green	0.04	0.42	0.33	0.33	0.48	0.48		
Sat Flow, veh/h	1774	1863	3632	1548	3442	1583		
Grp Volume(v), veh/h	54	228	1130	239	1674	489		
Grp Sat Flow(s),veh/h/ln	1774	1863	1770	1548	1721	1583		
Q Serve(g_s), s	3.3	8.9	34.1	13.3	52.9	25.1		
Cycle Q Clear(g_c), s	3.3	8.9	34.1	13.3	52.9	25.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	69	774	1180	516	1668	767		
V/C Ratio(X)	0.78	0.29	0.96	0.46	1.00	0.64		
Avail Cap(c_a), veh/h	81	788	1183	518	1668	767		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	52.0	21.2	35.6	28.7	28.1	21.0		
Incr Delay (d2), s/veh	27.5	0.1	16.8	0.2	22.9	1.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.1	4.6	19.4	5.7	30.3	22.7		
LnGrp Delay(d),s/veh	79.5	21.3	52.4	28.9	51.0	22.3		
LnGrp LOS	E	C	D	C	F	C		
Approach Vol, veh/h		282	1369		2163			
Approach Delay, s/veh		32.5	48.3		44.6			
Approach LOS		C	D		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		51.2		58.0	9.0	42.2		
Change Period (Y+Rc), s		5.8		5.1	* 4.7	5.8		
Max Green Setting (Gmax), s		46.2		52.9	* 5	36.5		
Max Q Clear Time (g_c+l1), s		10.9		54.9	5.3	36.1		
Green Ext Time (p_c), s		7.4		0.0	0.0	0.3		
Intersection Summary								
HCM 2010 Ctrl Delay			45.0					
HCM 2010 LOS			D					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗		↖	↗	↗	↖	↗	↗
Traffic Volume (veh/h)	10	5	10	380	5	220	5	1440	430	140	740	5
Future Volume (veh/h)	10	5	10	380	5	220	5	1440	430	140	740	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	5	11	328	123	239	5	1565	0	152	804	5
Adj No. of Lanes	0	1	1	1	1	0	1	2	1	1	2	1
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	25	11	32	410	131	255	9	1706	763	179	2014	877
Arrive On Green	0.02	0.02	0.02	0.23	0.23	0.23	0.01	0.48	0.00	0.10	0.57	0.57
Sat Flow, veh/h	1238	563	1583	1774	567	1101	1774	3539	1583	1774	3539	1542
Grp Volume(v), veh/h	16	0	11	328	0	362	5	1565	0	152	804	5
Grp Sat Flow(s),veh/h/ln	1801	0	1583	1774	0	1668	1774	1770	1583	1774	1770	1542
Q Serve(g_s), s	1.0	0.0	0.8	20.5	0.0	25.0	0.3	48.2	0.0	9.9	14.9	0.2
Cycle Q Clear(g_c), s	1.0	0.0	0.8	20.5	0.0	25.0	0.3	48.2	0.0	9.9	14.9	0.2
Prop In Lane	0.69		1.00	1.00		0.66	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	0	32	410	0	386	9	1706	763	179	2014	877
V/C Ratio(X)	0.45	0.00	0.35	0.80	0.00	0.94	0.55	0.92	0.00	0.85	0.40	0.01
Avail Cap(c_a), veh/h	245	0	216	416	0	391	242	1818	813	181	2014	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.9	0.0	56.8	42.6	0.0	44.3	58.3	28.2	0.0	51.9	14.1	10.9
Incr Delay (d2), s/veh	3.2	0.0	2.4	9.7	0.0	29.7	17.8	7.7	0.0	28.5	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.4	11.1	0.0	14.7	0.2	25.3	0.0	6.3	7.4	0.1
LnGrp Delay(d),s/veh	60.1	0.0	59.2	52.2	0.0	74.0	76.1	35.9	0.0	80.4	14.6	10.9
LnGrp LOS	E		E	D		E	E	D		F	B	B
Approach Vol, veh/h		27			690			1570			961	
Approach Delay, s/veh		59.7			63.7			36.0			25.0	
Approach LOS		E			E			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.8	63.1		6.8	5.6	73.3		31.6				
Change Period (Y+Rc), s	4.0	* 6.5		4.5	5.0	6.5		4.5				
Max Green Setting (Gmax), s	10.0	* 60		16.0	16.0	55.0		27.5				
Max Q Clear Time (g_c+1), s	10.0	50.2		3.0	2.3	16.9		27.0				
Green Ext Time (p_c), s	0.0	6.4		0.0	0.0	31.8		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			38.8									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future PM - No_Project
 57: Saxony Road & Quail Gardens Drive

05/08/2018

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

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

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

HCM 2010 methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘	↖ ↗ ↘		↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	3	0	2	2	1	1	1	1	1	1	1
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	9999	9999	0	9999	9999	9999	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	0	1721	1770	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(18)	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c18)	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖	↗		↖	↗	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	9999	9999	9999	0	9999	9999	0	9999	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	1863	0	1774	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(veh/h)	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c18)	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Future PM - No_Project
 120: Village Park Way & Mountain Vista Drive

05/08/2018

Intersection

Intersection Delay, s/veh 0
 Intersection LOS -

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0
Through Vol	0	0	0	0	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	0	0	0	0	0
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0	0	0	0	0	0	0
Departure Headway (Hd)	4.534	4.534	2.8	4.534	4.534	4.534	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	0	0	0	0	0
Service Time	2.234	2.234	0.5	2.234	2.234	2.234	2.234	0.5
HCM Lane V/C Ratio	0	0	0	0	0	0	0	0
HCM Control Delay	7.2	7.2	5.5	7.2	7.2	7.2	7.2	5.5
HCM Lane LOS	N	N	N	N	N	N	N	N
HCM 95th-tile Q	0	0	0	0	0	0	0	0

Intersection

Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0
Through Vol	0	0	0	0	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	0	0	0	0	0
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0	0	0	0	0	0	0
Departure Headway (Hd)	4.534	2.8	4.534	2.8	4.534	2.8	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	0	0	0	0	0
Service Time	2.234	0.5	2.234	0.5	2.234	0.5	2.234	0.5
HCM Lane V/C Ratio	0	0	0	0	0	0	0	0
HCM Control Delay	7.2	5.5	7.2	5.5	7.2	5.5	7.2	5.5
HCM Lane LOS	N	N	N	N	N	N	N	N
HCM 95th-tile Q	0	0	0	0	0	0	0	0

HCM 2010 methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	9999	9999	0	9999	9999	0	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(veh/h)	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Future PM - No_Project
173: Santa Fe Drive

05/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	9999	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	0-74510	0	0-74510	0	0	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap	092376453020	092376453020	0	092376453020	092376453020	0	0	80004292608	0	0	80004292608	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	183118250686	183118250686	0	183118250686	183118250686	0	0	1280068655136	0	0	1280068655136	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Future PM - No_Project
181: Santa Fe Drive

05/08/2018


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	9999	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	1774	3632	0	0-74510	0	0-74510	0	0	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(veh/h)	1774	3632	0	1774	3632	0	0	1863	0	0	1863	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	3632	0	1774	3632	0	0	1863	0	0	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

1: Carlsbad Boulevard & Poinsettia Lane

05/10/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	20	10	370	0	90	10	295	130	160	1050	30
Future Volume (veh/h)	10	20	10	370	0	90	10	295	130	160	1050	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	0	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	22	11	402	0	98	11	321	141	174	1141	33
Adj No. of Lanes	1	1	1	2	0	1	1	2	1	2	2	1
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	0	2	2	2	2	2	2	2
Cap, veh/h	318	334	271	0	0	0	20	1459	636	282	1708	740
Arrive On Green	0.18	0.18	0.18	0.00	0.00	0.00	0.01	0.41	0.41	0.08	0.48	0.48
Sat Flow, veh/h	1774	1863	1509		0		1774	3539	1543	3442	3539	1533
Grp Volume(v), veh/h	11	22	11		0.0		11	321	141	174	1141	33
Grp Sat Flow(s),veh/h/ln	1774	1863	1509				1774	1770	1543	1721	1770	1533
Q Serve(g_s), s	0.3	0.5	0.3				0.3	3.0	3.0	2.5	12.4	0.6
Cycle Q Clear(g_c), s	0.3	0.5	0.3				0.3	3.0	3.0	2.5	12.4	0.6
Prop In Lane	1.00		1.00				1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	318	334	271				20	1459	636	282	1708	740
V/C Ratio(X)	0.03	0.07	0.04				0.55	0.22	0.22	0.62	0.67	0.04
Avail Cap(c_a), veh/h	1194	1253	1015				140	2199	959	449	2381	1031
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	17.1	17.2	17.1				24.9	9.6	9.6	22.4	10.0	6.9
Incr Delay (d2), s/veh	0.1	0.1	0.1				8.4	0.1	0.2	0.8	0.5	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	0.1	0.3	0.1				0.2	1.4	1.3	1.2	6.1	0.2
LnGrp Delay(d),s/veh	17.2	17.4	17.2				33.2	9.7	9.8	23.3	10.4	6.9
LnGrp LOS	B	B	B				C	A	A	C	B	A
Approach Vol, veh/h		44						473			1348	
Approach Delay, s/veh		17.3						10.3			12.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	8.6	27.3		14.6	5.1	30.9						
Change Period (Y+Rc), s	4.5	6.5		5.5	4.5	6.5						
Max Green Setting (Gmax), s	6.6	31.4		34.0	4.0	34.0						
Max Q Clear Time (g_c+I1), s	4.5	5.0		2.5	2.3	14.4						
Green Ext Time (p_c), s	0.1	11.5		0.2	0.0	9.9						
Intersection Summary												
HCM 2010 Ctrl Delay			11.7									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 2: I-5 SB On-Ramp/I-5 SB Off-Ramp & Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	530	120	460	780	0	0	0	0	230	5	245
Future Volume (veh/h)	0	530	120	460	780	0	0	0	0	230	5	245
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	576	130	500	848	0				254	0	266
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
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	1144	494	617	2100	0				744	0	332
Arrive On Green	0.00	0.32	0.32	0.18	0.59	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3632	1528	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	576	130	500	848	0				254	0	266
Grp Sat Flow(s),veh/h/ln	0	1770	1528	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	6.8	3.3	7.2	6.6	0.0				3.2	0.0	8.3
Cycle Q Clear(g_c), s	0.0	6.8	3.3	7.2	6.6	0.0				3.2	0.0	8.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1144	494	617	2100	0				744	0	332
V/C Ratio(X)	0.00	0.50	0.26	0.81	0.40	0.00				0.34	0.00	0.80
Avail Cap(c_a), veh/h	0	1326	573	645	2311	0				1097	0	489
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.2	13.0	20.4	5.6	0.0				17.4	0.0	19.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	6.8	0.3	0.0				0.1	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	1.4	4.0	3.3	0.0				1.6	0.0	3.9
LnGrp Delay(d),s/veh	0.0	14.3	13.1	27.2	5.9	0.0				17.5	0.0	22.8
LnGrp LOS		B	B	C	A					B		C
Approach Vol, veh/h		706			1348						520	
Approach Delay, s/veh		14.1			13.8						20.2	
Approach LOS		B			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	4.0	21.8		16.0		35.8						
Change Period (Y+Rc), s	4.7	5.1		5.1		5.1						
Max Green Setting (Gmax), s	19.4			16.0		33.8						
Max Q Clear Time (g_c+I), s	8.8			10.3		8.6						
Green Ext Time (p_c), s	0.1	7.6		0.6		14.1						
Intersection Summary												
HCM 2010 Ctrl Delay				15.2								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 3: I-5 NB Off-Ramp/I-5 NB On-Ramp & Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	610	0	0	1010	460	320	5	780	0	0	0
Future Volume (veh/h)	150	610	0	0	1010	460	320	5	780	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	163	663	0	0	1098	500	348	5	848			
Adj No. of Lanes	1	2	0	0	3	1	0	1	2			
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	205	1886	0	0	1710	513	510	7	812			
Arrive On Green	0.12	0.53	0.00	0.00	0.34	0.34	0.29	0.29	0.29			
Sat Flow, veh/h	1774	3632	0	0	5253	1526	1750	25	2787			
Grp Volume(v), veh/h	163	663	0	0	1098	500	353	0	848			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1526	1775	0	1393			
Q Serve(g_s), s	5.2	6.2	0.0	0.0	10.6	18.8	10.2	0.0	16.9			
Cycle Q Clear(g_c), s	5.2	6.2	0.0	0.0	10.6	18.8	10.2	0.0	16.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	205	1886	0	0	1710	513	517	0	812			
V/C Ratio(X)	0.80	0.35	0.00	0.00	0.64	0.97	0.68	0.00	1.04			
Avail Cap(c_a), veh/h	266	2008	0	0	1710	513	517	0	812			
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.0	7.8	0.0	0.0	16.3	19.0	18.2	0.0	20.6			
Incr Delay (d2), s/veh	8.9	0.2	0.0	0.0	0.6	33.1	3.0	0.0	43.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.0	3.1	0.0	0.0	5.0	12.5	5.4	0.0	11.4			
LnGrp Delay(d),s/veh	33.9	8.0	0.0	0.0	16.9	52.1	21.2	0.0	64.3			
LnGrp LOS	C	A			B	D	C		F			
Approach Vol, veh/h		826			1598			1201				
Approach Delay, s/veh		13.1			27.9			51.7				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.0			11.4	24.6		22.0				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		32.9			* 8.7	19.5		16.9				
Max Q Clear Time (g_c+I1), s		8.2			7.2	20.8		18.9				
Green Ext Time (p_c), s		15.6			0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					32.4							
HCM 2010 LOS					C							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 4: Aviara Parkway & Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔	↔↔		↔↔	↔↔		↔	↔↔	
Traffic Volume (veh/h)	390	360	230	20	400	190	250	270	30	110	230	120
Future Volume (veh/h)	390	360	230	20	400	190	250	270	30	110	230	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	424	391	250	22	435	207	272	293	26	120	250	34
Adj No. of Lanes	2	1	2	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	514	524	1051	225	617	291	357	594	52	153	512	69
Arrive On Green	0.15	0.28	0.28	0.13	0.27	0.27	0.10	0.18	0.18	0.09	0.16	0.16
Sat Flow, veh/h	3442	1863	2709	1774	2322	1093	3442	3284	289	1774	3130	420
Grp Volume(v), veh/h	424	391	250	22	331	311	272	157	162	120	140	144
Grp Sat Flow(s),veh/h/ln	1721	1863	1354	1774	1770	1645	1721	1770	1804	1774	1770	1781
Q Serve(g_s), s	8.7	13.8	1.8	0.8	12.2	12.4	5.6	5.8	5.9	4.8	5.2	5.3
Cycle Q Clear(g_c), s	8.7	13.8	1.8	0.8	12.2	12.4	5.6	5.8	5.9	4.8	5.2	5.3
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.16	1.00		0.24
Lane Grp Cap(c), veh/h	514	524	1051	225	471	437	357	320	326	153	289	291
V/C Ratio(X)	0.83	0.75	0.24	0.10	0.70	0.71	0.76	0.49	0.50	0.79	0.48	0.49
Avail Cap(c_a), veh/h	547	965	1692	225	734	682	357	758	773	233	807	812
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	1.00	1.00
Uniform Delay (d), s/veh	29.9	23.7	4.2	27.9	24.0	24.1	31.6	26.6	26.7	32.4	27.5	27.6
Incr Delay (d2), s/veh	9.6	3.0	0.2	0.1	2.7	3.1	9.0	1.4	1.4	7.4	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	7.5	1.0	0.4	6.3	6.0	3.1	2.9	3.1	2.6	2.6	2.7
LnGrp Delay(d),s/veh	39.4	26.7	4.3	28.1	26.7	27.1	40.6	28.0	28.1	39.9	29.0	29.1
LnGrp LOS	D	C	A	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1065			664			591			404	
Approach Delay, s/veh		26.5			26.9			33.8			32.3	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	19.1	15.2	26.4	13.0	17.8	16.3	25.2				
Change Period (Y+Rc), s	5.5	6.0	6.0	* 6	5.5	6.0	5.5	6.0				
Max Green Setting (Gmax), s	30.0	31.0	4.0	* 38	7.5	33.0	11.5	30.0				
Max Q Clear Time (g_c+I), s	10.8	7.9	2.8	15.8	7.6	7.3	10.7	14.4				
Green Ext Time (p_c), s	0.0	4.4	0.6	4.5	0.0	4.5	0.2	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			29.1									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 5: Highway 101/Carlsbad Boulevard & La Costa Avenue

05/10/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	395	142	233	233	360	1250		
Future Volume (veh/h)	395	142	233	233	360	1250		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	429	0	253	0	391	1359		
Adj No. of Lanes	1	1	2	1	1	2		
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	494	441	862	386	438	1965		
Arrive On Green	0.28	0.00	0.24	0.00	0.25	0.56		
Sat Flow, veh/h	1774	1583	3632	1583	1774	3632		
Grp Volume(v), veh/h	429	0	253	0	391	1359		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1774	1770		
Q Serve(g_s), s	14.3	0.0	3.6	0.0	13.2	17.2		
Cycle Q Clear(g_c), s	14.3	0.0	3.6	0.0	13.2	17.2		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	494	441	862	386	438	1965		
V/C Ratio(X)	0.87	0.00	0.29	0.00	0.89	0.69		
Avail Cap(c_a), veh/h	773	690	1239	554	486	2438		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	21.3	0.0	19.1	0.0	22.5	10.0		
Incr Delay (d2), s/veh	6.5	0.0	0.2	0.0	16.3	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.8	0.0	1.8	0.0	8.4	8.5		
LnGrp Delay(d),s/veh	27.8	0.0	19.3	0.0	38.8	10.6		
LnGrp LOS	C		B		D	B		
Approach Vol, veh/h	429		253			1750		
Approach Delay, s/veh	27.8		19.3			16.9		
Approach LOS	C		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.3	20.4		22.3		39.7		
Change Period (Y+Rc), s	4.0	5.3		5.0		5.3		
Max Green Setting (Gmax), s	17.0	21.7		27.0		42.7		
Max Q Clear Time (g_c+1), s	11.2	5.6		16.3		19.2		
Green Ext Time (p_c), s	0.1	9.5		1.0		11.9		
Intersection Summary								
HCM 2010 Ctrl Delay			19.1					
HCM 2010 LOS			B					

Intersection

Int Delay, s/veh 12.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	463	110	234	479	68	244
Future Vol, veh/h	463	110	234	479	68	244
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	503	120	254	521	74	265

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	626	0	1595
Stage 1	-	-	-	-	566
Stage 2	-	-	-	-	1029
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	956	-	118
Stage 1	-	-	-	-	568
Stage 2	-	-	-	-	345
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	956	-	74
Mov Cap-2 Maneuver	-	-	-	-	74
Stage 1	-	-	-	-	567
Stage 2	-	-	-	-	216

Approach



















	EB	WB	NB
HCM Control Delay, s	0	3.3	58.6
HCM LOS			F

Minor Lane/Major Mvmt

	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	74	523	-	-	956	-
HCM Lane V/C Ratio	0.999	0.507	-	-	0.266	-
HCM Control Delay (s)	201.3	18.8	-	-	10.1	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	5.3	2.8	-	-	1.1	-

HCM 2010 Signalized Intersection Summary
 7: I-5 SB On-Ramp/I-5 SB Off-Ramp & La Costa Avenue

05/10/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	773	244	658	501	0	0	0	0	701	15	342
Future Volume (veh/h)	0	773	244	658	501	0	0	0	0	701	15	342
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	840	265	715	545	0				773	0	209
Adj No. of Lanes	0	2	0	2	2	0				2	0	1
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	889	280	983	2364	0				854	0	381
Arrive On Green	0.00	0.34	0.34	0.29	0.67	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	2743	835	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	561	544	715	545	0				773	0	209
Grp Sat Flow(s),veh/h/ln	0	1770	1715	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	35.4	35.5	21.5	7.0	0.0				24.3	0.0	13.3
Cycle Q Clear(g_c), s	0.0	35.4	35.5	21.5	7.0	0.0				24.3	0.0	13.3
Prop In Lane	0.00		0.49	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	594	575	983	2364	0				854	0	381
V/C Ratio(X)	0.00	0.94	0.95	0.73	0.23	0.00				0.90	0.00	0.55
Avail Cap(c_a), veh/h	0	609	591	983	2364	0				1006	0	449
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	37.2	37.2	37.1	7.5	0.0				42.4	0.0	38.2
Incr Delay (d2), s/veh	0.0	25.5	26.3	2.4	0.2	0.0				9.4	0.0	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	0.0	21.5	21.0	10.6	3.4	0.0				13.0	0.0	5.9
LnGrp Delay(d),s/veh	0.0	62.7	63.5	39.4	7.7	0.0				51.8	0.0	38.6
LnGrp LOS		E	E	D	A					D		D
Approach Vol, veh/h		1105			1260						982	
Approach Delay, s/veh		63.1			25.7						49.0	
Approach LOS		E			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	38.2	44.0		32.8		82.2						
Change Period (Y+Rc), s	5.4	* 5.4		5.1		5.4						
Max Green Setting (Gmax), s	27.6	* 40		32.6		71.9						
Max Q Clear Time (g_c+I1), s	23.5	37.5		26.3		9.0						
Green Ext Time (p_c), s	1.7	1.1		1.4		3.9						
Intersection Summary												
HCM 2010 Ctrl Delay			44.9									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 8: I-5 NB Off-Ramp/I-5 NB On-Ramp & La Costa Avenue

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖↗	↖		↖	↗			
Traffic Volume (veh/h)	285	1179	0	0	1067	613	92	5	602	0	0	0
Future Volume (veh/h)	285	1179	0	0	1067	613	92	5	602	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	310	1282	0	0	1160	92	100	5	392			
Adj No. of Lanes	1	2	0	0	3	1	0	1	2			
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	346	2612	0	0	2554	795	277	14	456			
Arrive On Green	0.19	0.74	0.00	0.00	0.17	0.17	0.16	0.16	0.16			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1693	85	2787			
Grp Volume(v), veh/h	310	1282	0	0	1160	92	105	0	392			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1778	0	1393			
Q Serve(g_s), s	19.6	17.1	0.0	0.0	23.7	5.7	6.0	0.0	15.7			
Cycle Q Clear(g_c), s	19.6	17.1	0.0	0.0	23.7	5.7	6.0	0.0	15.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.95		1.00			
Lane Grp Cap(c), veh/h	346	2612	0	0	2554	795	291	0	456			
V/C Ratio(X)	0.90	0.49	0.00	0.00	0.45	0.12	0.36	0.00	0.86			
Avail Cap(c_a), veh/h	437	2612	0	0	2554	795	462	0	725			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(l)	1.00	1.00	0.00	0.00	0.94	0.94	1.00	0.00	1.00			
Uniform Delay (d), s/veh	45.2	6.2	0.0	0.0	33.8	26.2	42.7	0.0	46.8			
Incr Delay (d2), s/veh	19.2	0.7	0.0	0.0	0.5	0.3	0.3	0.0	3.5			
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	1.4	8.4	0.0	0.0	11.2	2.6	3.0	0.0	6.3			
LnGrp Delay(d),s/veh	64.4	6.9	0.0	0.0	34.3	26.5	43.0	0.0	50.3			
LnGrp LOS	E	A			C	C	D		D			
Approach Vol, veh/h		1592			1252			497				
Approach Delay, s/veh		18.1			33.7			48.8				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		91.1			27.1	64.0		23.9				
Change Period (Y+Rc), s		* 6.2			* 4.7	6.2		5.1				
Max Green Setting (Gmax), s		* 74			* 28	40.8		29.9				
Max Q Clear Time (g_c+l1), s		19.1			21.6	25.7		17.7				
Green Ext Time (p_c), s		18.1			0.8	9.9		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay					28.5							
HCM 2010 LOS					C							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 9: Piraeus Street & La Costa Avenue

05/10/2018

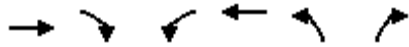


Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑↑	↵	↵		
Traffic Volume (veh/h)	1567	224	85	1480	155	99		
Future Volume (veh/h)	1567	224	85	1480	155	99		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1703	216	92	1609	168	108		
Adj No. of Lanes	2	0	1	4	1	1		
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	1854	230	236	5012	197	176		
Arrive On Green	0.59	0.59	0.13	0.78	0.11	0.11		
Sat Flow, veh/h	3253	392	1774	6669	1774	1583		
Grp Volume(v), veh/h	936	983	92	1609	168	108		
Grp Sat Flow(s),veh/h/ln	1770	1782	1774	1602	1774	1583		
Q Serve(g_s), s	53.4	58.5	5.5	8.4	10.7	7.5		
Cycle Q Clear(g_c), s	53.4	58.5	5.5	8.4	10.7	7.5		
Prop In Lane		0.22	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1038	1045	236	5012	197	176		
V/C Ratio(X)	0.90	0.94	0.39	0.32	0.85	0.61		
Avail Cap(c_a), veh/h	1136	1143	236	5012	214	191		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.71	0.71	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	20.9	21.9	45.6	3.6	50.2	48.8		
Incr Delay (d2), s/veh	9.3	13.0	0.4	0.2	23.6	3.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh	28.4	32.2	2.7	3.7	6.5	3.4		
LnGrp Delay(d),s/veh	30.2	34.9	46.0	3.8	73.8	52.0		
LnGrp LOS	C	C	D	A	E	D		
Approach Vol, veh/h	1919			1701	276			
Approach Delay, s/veh	32.6			6.1	65.3			
Approach LOS	C			A	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.5	74.7				97.1		17.9
Change Period (Y+Rc), s	7.2	* 7.2				7.2		5.1
Max Green Setting (Gmax), s	10	* 74				88.8		13.9
Max Q Clear Time (g_c+I1),s	17	60.5				10.4		12.7
Green Ext Time (p_c), s	2.8	7.0				58.6		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			23.3					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 10: Saxony Road & La Costa Avenue

05/10/2018



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	1478	188	175	1494	71	120		
Future Volume (veh/h)	1478	188	175	1494	71	120		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1607	204	190	1624	77	130		
Adj No. of Lanes	2	0	1	2	1	1		
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	1794	224	219	2668	196	175		
Arrive On Green	0.57	0.57	0.12	0.75	0.11	0.11		
Sat Flow, veh/h	3250	393	1774	3632	1774	1583		
Grp Volume(v), veh/h	888	923	190	1624	77	130		
Grp Sat Flow(s),veh/h/ln	1770	1781	1774	1770	1774	1583		
Q Serve(g_s), s	35.1	37.6	8.5	16.9	3.3	6.4		
Cycle Q Clear(g_c), s	35.1	37.6	8.5	16.9	3.3	6.4		
Prop In Lane		0.22	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1006	1012	219	2668	196	175		
V/C Ratio(X)	0.88	0.91	0.87	0.61	0.39	0.74		
Avail Cap(c_a), veh/h	1006	1013	219	2668	614	548		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.1	15.7	34.8	4.5	33.5	34.9		
Incr Delay (d2), s/veh	9.9	12.7	27.6	0.6	1.3	6.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	19.8	21.8	5.8	8.3	1.7	3.1		
LnGrp Delay(d),s/veh	25.0	28.3	62.4	5.1	34.8	41.0		
LnGrp LOS	C	C	E	A	C	D		
Approach Vol, veh/h	1811			1814	207			
Approach Delay, s/veh	26.7			11.1	38.7			
Approach LOS	C			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		13.9	15.0	52.0				67.0
Change Period (Y+Rc), s		5.0	5.0	6.0				6.0
Max Green Setting (Gmax), s		28.0	10.0	46.0				61.0
Max Q Clear Time (g_c+l1), s		8.4	10.5	39.6				18.9
Green Ext Time (p_c), s		0.6	0.0	6.4				41.4
Intersection Summary								
HCM 2010 Ctrl Delay			20.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 11: El Camino Real & La Costa Avenue

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗↑↑↖			↖↗	↑↑↑	↖
Traffic Volume (veh/h)	721	326	391	220	800	270	259	945	95	100	1220	590
Future Volume (veh/h)	721	326	391	220	800	270	259	945	95	100	1220	590
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	784	354	316	239	870	239	282	1027	92	109	1326	641
Adj No. of Lanes	2	2	1	1	2	1	2	3	0	2	3	1
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	820	1260	555	262	897	395	317	1224	109	531	1690	896
Arrive On Green	0.24	0.36	0.36	0.15	0.25	0.25	0.15	0.43	0.43	0.26	0.56	0.56
Sat Flow, veh/h	3442	3539	1558	1774	3539	1561	3442	4742	424	3442	5085	1559
Grp Volume(v), veh/h	784	354	316	239	870	239	282	734	385	109	1326	641
Grp Sat Flow(s),veh/h/ln	1721	1770	1558	1774	1770	1561	1721	1695	1775	1721	1695	1559
Q Serve(g_s), s	33.7	10.7	24.6	19.9	36.5	20.2	12.1	28.9	29.0	3.7	30.8	15.7
Cycle Q Clear(g_c), s	33.7	10.7	24.6	19.9	36.5	20.2	12.1	28.9	29.0	3.7	30.8	15.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	820	1260	555	262	897	395	317	875	458	531	1690	896
V/C Ratio(X)	0.96	0.28	0.57	0.91	0.97	0.60	0.89	0.84	0.84	0.21	0.78	0.72
Avail Cap(c_a), veh/h	821	1260	555	375	897	395	317	1049	549	531	1690	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	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	56.4	34.6	39.0	63.0	55.4	49.4	62.7	39.9	39.9	48.5	29.1	7.2
Incr Delay (d2), s/veh	21.4	0.1	1.2	16.8	23.0	2.6	24.6	9.4	16.8	0.1	3.7	4.9
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	18.4	5.3	10.8	11.0	20.7	9.0	6.8	14.6	16.2	1.8	14.9	8.2
LnGrp Delay(d),s/veh	77.8	34.7	40.2	79.7	78.4	52.0	87.4	49.3	56.6	48.6	32.9	12.1
LnGrp LOS	E	C	D	E	E	D	F	D	E	D	C	B
Approach Vol, veh/h		1454			1348			1401			2076	
Approach Delay, s/veh		59.1			74.0			59.0			27.3	
Approach LOS		E			E			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.1	44.7	26.3	59.2	18.0	55.9	41.5	44.0				
Change Period (Y+Rc), s	6.0	* 6	* 4.2	5.8	* 4.2	6.0	5.8	* 6				
Max Green Setting (Gmax), s	45	* 46	* 32	42.3	* 14	42.0	35.8	* 38				
Max Q Clear Time (g_c+I), s	31.0	31.0	21.9	26.6	14.1	32.8	35.7	38.5				
Green Ext Time (p_c), s	3.3	7.7	0.2	6.4	0.0	7.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			51.8									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 12: Highway 101 & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	
Traffic Volume (veh/h)	30	70	20	212	60	138	10	203	92	339	1243	40
Future Volume (veh/h)	30	70	20	212	60	138	10	203	92	339	1243	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	76	22	222	75	150	11	221	100	368	1351	43
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	96	28	363	109	218	19	883	699	408	1535	49
Arrive On Green	0.09	0.09	0.09	0.20	0.20	0.20	0.01	0.25	0.25	0.23	0.44	0.44
Sat Flow, veh/h	443	1020	295	1774	533	1066	1774	3539	1500	1774	3497	111
Grp Volume(v), veh/h	131	0	0	222	0	225	11	221	100	368	683	711
Grp Sat Flow(s),veh/h/ln	758	0	0	1774	0	1599	1774	1770	1500	1774	1770	1838
Q Serve(g_s), s	6.1	0.0	0.0	9.5	0.0	10.8	0.5	4.2	3.2	16.8	29.3	29.5
Cycle Q Clear(g_c), s	6.1	0.0	0.0	9.5	0.0	10.8	0.5	4.2	3.2	16.8	29.3	29.5
Prop In Lane	0.25		0.17	1.00		0.67	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	166	0	0	363	0	327	19	883	699	408	777	807
V/C Ratio(X)	0.79	0.00	0.00	0.61	0.00	0.69	0.57	0.25	0.14	0.90	0.88	0.88
Avail Cap(c_a), veh/h	338	0	0	597	0	538	85	883	699	586	874	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	0.0	30.1	0.0	30.6	41.0	25.0	13.3	31.1	21.3	21.4
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.6	0.0	1.0	9.7	0.1	0.0	10.3	8.7	8.6
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	3.1	0.0	0.0	4.7	0.0	4.8	0.3	2.0	1.8	9.3	16.1	16.7
LnGrp Delay(d),s/veh	40.0	0.0	0.0	30.7	0.0	31.6	50.7	25.0	13.3	41.4	30.0	29.9
LnGrp LOS	D			C		C	D	C	B	D	C	C
Approach Vol, veh/h		131			447			332			1762	
Approach Delay, s/veh		40.0			31.2			22.4			32.3	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.7	26.1		12.4	6.9	41.8		22.1				
Change Period (Y+Rc), s	3.5	5.3		4.5	6.0	5.3		5.1				
Max Green Setting (Gmax), s	20.1	20.1		16.0	4.0	41.1		28.0				
Max Q Clear Time (g_c+1), s	10.8	6.2		8.1	2.5	31.5		12.8				
Green Ext Time (p_c), s	0.4	6.5		0.2	0.0	5.1		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				31.3								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
 13: Vulcan Avenue & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	42	279	190	120	333	42	45	66	100	51	356	52
Future Volume (veh/h)	42	279	190	120	333	42	45	66	100	51	356	52
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.97	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	303	207	130	362	46	49	72	87	55	387	57
Adj No. of Lanes	1	1	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	515	500	342	385	1145	144	249	253	305	460	522	77
Arrive On Green	0.06	0.49	0.49	0.36	0.36	0.36	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1774	1021	698	881	3151	397	940	767	927	1218	1583	233
Grp Volume(v), veh/h	46	0	510	130	202	206	49	0	159	55	0	444
Grp Sat Flow(s),veh/h/ln	1774	0	1719	881	1770	1778	940	0	1693	1218	0	1816
Q Serve(g_s), s	0.7	0.0	10.8	6.3	4.1	4.2	2.5	0.0	3.5	1.8	0.0	10.9
Cycle Q Clear(g_c), s	0.7	0.0	10.8	10.8	4.1	4.2	13.4	0.0	3.5	5.3	0.0	10.9
Prop In Lane	1.00		0.41	1.00		0.22	1.00		0.55	1.00		0.13
Lane Grp Cap(c), veh/h	515	0	842	385	643	646	249	0	558	460	0	598
V/C Ratio(X)	0.09	0.00	0.61	0.34	0.31	0.32	0.20	0.00	0.28	0.12	0.00	0.74
Avail Cap(c_a), veh/h	996	0	1434	450	774	777	385	0	804	637	0	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.9	0.0	9.3	15.5	11.5	11.5	20.9	0.0	12.5	14.4	0.0	15.0
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.7	0.4	0.4	0.1	0.0	0.1	0.0	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	0.3	0.0	5.3	1.6	2.1	2.1	0.6	0.0	1.7	0.6	0.0	5.6
LnGrp Delay(d),s/veh	8.0	0.0	10.3	16.3	11.9	11.9	21.0	0.0	12.6	14.5	0.0	15.9
LnGrp LOS	A		B	B	B	B	C		B	B		B
Approach Vol, veh/h		556			538			208			499	
Approach Delay, s/veh		10.1			13.0			14.6			15.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		28.6		21.7	6.3	22.3		21.7				
Change Period (Y+Rc), s		4.0		5.1	3.5	4.0		5.1				
Max Green Setting (Gmax), s		42.0		23.9	16.5	22.0		23.9				
Max Q Clear Time (g_c+l1), s		12.8		12.9	2.7	12.8		15.4				
Green Ext Time (p_c), s		11.1		2.1	0.0	5.5		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				13.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 14: Orpheus Avenue & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖↗	↖↗	↖	↖	↗		↖	↗	
Traffic Volume (veh/h)	30	550	30	210	545	210	20	20	170	195	60	40
Future Volume (veh/h)	30	550	30	210	545	210	20	20	170	195	60	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	598	33	228	592	228	22	22	151	212	65	43
Adj No. of Lanes	1	2	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	939	52	479	1214	527	468	64	438	404	324	214
Arrive On Green	0.07	0.28	0.28	0.14	0.34	0.34	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1774	3408	188	3442	3539	1537	1279	205	1408	1206	1041	689
Grp Volume(v), veh/h	33	310	321	228	592	228	22	0	173	212	0	108
Grp Sat Flow(s),veh/h/ln	1774	1770	1826	1721	1770	1537	1279	0	1613	1206	0	1730
Q Serve(g_s), s	1.0	8.6	8.6	3.4	7.4	6.4	0.7	0.0	4.6	9.2	0.0	2.6
Cycle Q Clear(g_c), s	1.0	8.6	8.6	3.4	7.4	6.4	3.3	0.0	4.6	13.8	0.0	2.6
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.87	1.00		0.40
Lane Grp Cap(c), veh/h	127	488	503	479	1214	527	468	0	502	404	0	538
V/C Ratio(X)	0.26	0.64	0.64	0.48	0.49	0.43	0.05	0.00	0.34	0.52	0.00	0.20
Avail Cap(c_a), veh/h	318	688	710	493	1250	543	873	0	1012	786	0	1085
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	24.5	17.8	17.8	22.1	14.5	14.1	15.3	0.0	14.8	20.2	0.0	14.1
Incr Delay (d2), s/veh	0.4	0.5	0.5	0.3	0.1	0.2	0.0	0.0	0.2	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	4.2	4.3	1.6	3.6	2.7	0.3	0.0	2.1	3.1	0.0	1.2
LnGrp Delay(d),s/veh	24.9	18.3	18.3	22.4	14.6	14.3	15.3	0.0	15.0	20.6	0.0	14.2
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		664			1048			195			320	
Approach Delay, s/veh		18.6			16.2			15.0			18.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.9	20.5		22.5	9.1	24.2		22.5				
Change Period (Y+Rc), s	5.1	5.1		5.1	5.1	5.1		5.1				
Max Green Setting (Gmax), s	21.7			35.0	10.0	19.7		35.0				
Max Q Clear Time (g_c+I), s	10.6			15.8	3.0	9.4		6.6				
Green Ext Time (p_c), s	0.1	4.6		1.5	0.0	4.5		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay				17.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 15: I-5 SB On-Ramp/I-5 SB Off-Ramp & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	736	274	614	675	0	0	0	0	224	5	140
Future Volume (veh/h)	0	736	274	614	675	0	0	0	0	224	5	140
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	800	298	667	734	0				247	0	152
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
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	1183	521	818	2362	0				503	0	224
Arrive On Green	0.00	0.33	0.33	0.24	0.67	0.00				0.14	0.00	0.14
Sat Flow, veh/h	0	3632	1558	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	800	298	667	734	0				247	0	152
Grp Sat Flow(s),veh/h/ln	0	1770	1558	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	10.4	8.4	9.8	4.6	0.0				3.4	0.0	4.9
Cycle Q Clear(g_c), s	0.0	10.4	8.4	9.8	4.6	0.0				3.4	0.0	4.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1183	521	818	2362	0				503	0	224
V/C Ratio(X)	0.00	0.68	0.57	0.82	0.31	0.00				0.49	0.00	0.68
Avail Cap(c_a), veh/h	0	1431	630	1166	2968	0				2324	0	1037
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.3	14.6	19.3	3.7	0.0				21.2	0.0	21.8
Incr Delay (d2), s/veh	0.0	0.6	0.4	2.0	0.0	0.0				0.3	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	0.0	5.1	3.6	4.9	2.3	0.0				1.7	0.0	2.2
LnGrp Delay(d),s/veh	0.0	15.9	15.0	21.3	3.8	0.0				21.4	0.0	23.1
LnGrp LOS		B	B	C	A					C		C
Approach Vol, veh/h		1098			1401						399	
Approach Delay, s/veh		15.7			12.1						22.1	
Approach LOS		B			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.8	23.0		12.7		40.8						
Change Period (Y+Rc), s	5.1	5.1		5.1		5.1						
Max Green Setting (Gmax), s	19.5	21.6		35.0		44.8						
Max Q Clear Time (g_c+1), s	11.8	12.4		6.9		6.6						
Green Ext Time (p_c), s	0.9	5.4		0.7		10.3						
Intersection Summary												
HCM 2010 Ctrl Delay				14.8								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
 16: I-5 NB Off-Ramp/I-5 NB On-Ramp & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↘	↖	↗	↘			
Traffic Volume (veh/h)	240	670	0	0	1128	460	171	85	317	0	0	0
Future Volume (veh/h)	240	670	0	0	1128	460	171	85	317	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863			
Adj Flow Rate, veh/h	261	728	0	0	1226	500	139	158	345			
Adj No. of Lanes	1	2	0	0	3	0	1	1	2			
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	293	2639	0	0	1846	749	244	257	436			
Arrive On Green	0.28	1.00	0.00	0.00	0.87	0.87	0.14	0.14	0.14			
Sat Flow, veh/h	1774	3632	0	0	3694	1431	1774	1863	3167			
Grp Volume(v), veh/h	261	728	0	0	1179	547	139	158	345			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1566	1774	1863	1583			
Q Serve(g_s), s	12.7	0.0	0.0	0.0	9.4	9.5	6.6	7.2	9.5			
Cycle Q Clear(g_c), s	12.7	0.0	0.0	0.0	9.4	9.5	6.6	7.2	9.5			
Prop In Lane	1.00		0.00	0.00		0.91	1.00		1.00			
Lane Grp Cap(c), veh/h	293	2639	0	0	1775	820	244	257	436			
V/C Ratio(X)	0.89	0.28	0.00	0.00	0.66	0.67	0.57	0.62	0.79			
Avail Cap(c_a), veh/h	392	2639	0	0	1775	820	333	350	595			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.67	1.67	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	0.55	0.55	1.00	1.00	1.00			
Uniform Delay (d), s/veh	31.8	0.0	0.0	0.0	3.3	3.3	36.3	36.6	37.5			
Incr Delay (d2), s/veh	10.8	0.2	0.0	0.0	1.1	2.4	0.8	0.9	3.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.0	0.1	0.0	0.0	4.1	4.1	3.3	3.8	4.3			
LnGrp Delay(d),s/veh	42.6	0.2	0.0	0.0	4.4	5.7	37.1	37.5	41.0			
LnGrp LOS	D	A			A	A	D	D	D			
Approach Vol, veh/h		989			1726			642				
Approach Delay, s/veh		11.4			4.8			39.3				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		72.5			20.0	52.5		17.5				
Change Period (Y+Rc), s		5.4			5.1	5.4		5.1				
Max Green Setting (Gmax), s		62.6			19.9	37.6		16.9				
Max Q Clear Time (g_c+I1), s		2.0			14.7	11.5		11.5				
Green Ext Time (p_c), s		22.5			0.2	15.5		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay					13.3							
HCM 2010 LOS					B							
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
 17: Saxony Road & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	100	1087	310	292	1207	60	121	70	111	100	252	60
Future Volume (veh/h)	100	1087	310	292	1207	60	121	70	111	100	252	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	109	1182	282	317	1312	58	132	76	121	109	274	65
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	1229	290	311	1844	81	133	134	213	108	280	66
Arrive On Green	0.07	0.43	0.43	0.18	0.53	0.53	0.08	0.21	0.21	0.06	0.19	0.19
Sat Flow, veh/h	1774	2834	669	1774	3448	152	1774	645	1026	1774	1448	343
Grp Volume(v), veh/h	109	733	731	317	672	698	132	0	197	109	0	339
Grp Sat Flow(s),veh/h/ln	1774	1770	1733	1774	1770	1831	1774	0	1671	1774	0	1791
Q Serve(g_s), s	8.5	56.0	57.8	24.5	39.9	40.1	10.4	0.0	14.8	8.5	0.0	26.3
Cycle Q Clear(g_c), s	8.5	56.0	57.8	24.5	39.9	40.1	10.4	0.0	14.8	8.5	0.0	26.3
Prop In Lane	1.00		0.39	1.00		0.08	1.00		0.61	1.00		0.19
Lane Grp Cap(c), veh/h	132	767	751	311	946	979	133	0	347	108	0	346
V/C Ratio(X)	0.83	0.96	0.97	1.02	0.71	0.71	0.99	0.00	0.57	1.01	0.00	0.98
Avail Cap(c_a), veh/h	197	778	762	311	946	979	133	0	347	108	0	346
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	63.8	38.3	38.8	57.7	24.4	24.5	64.6	0.0	49.8	65.7	0.0	56.1
Incr Delay (d2), s/veh	10.5	21.8	25.7	56.2	2.4	2.3	74.9	0.0	1.4	89.6	0.0	42.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	31.9	33.0	16.8	20.0	20.8	7.8	0.0	7.0	6.8	0.0	17.1
LnGrp Delay(d),s/veh	74.3	60.1	64.5	113.9	26.8	26.8	139.5	0.0	51.2	155.3	0.0	98.9
LnGrp LOS	E	E	E	F	C	C	F		D	F		F
Approach Vol, veh/h		1573			1687			329			448	
Approach Delay, s/veh		63.1			43.2			86.6			112.6	
Approach LOS		E			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.0	65.9	14.0	31.9	13.9	80.0	12.0	33.9				
Change Period (Y+Rc), s	3.5	5.3	3.5	* 4.9	3.5	5.3	3.5	4.9				
Max Green Setting (Gmax), s	24.5	61.5	10.5	* 27	15.5	70.5	8.5	28.3				
Max Q Clear Time (g_c+20), s	20.5	59.8	12.4	28.3	10.5	42.1	10.5	16.8				
Green Ext Time (p_c), s	0.0	0.9	0.0	0.0	0.1	21.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				62.2								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 18: Quail Gardens Drive & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	67	935	166	391	1189	116	148	62	170	104	116	87
Future Volume (veh/h)	67	935	166	391	1189	116	148	62	170	104	116	87
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	73	1016	156	425	1292	117	161	67	185	113	126	95
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	94	1101	169	446	1829	165	276	426	361	301	426	356
Arrive On Green	0.05	0.36	0.36	0.25	0.56	0.56	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3071	471	1774	3284	296	1153	1863	1579	1121	1863	1559
Grp Volume(v), veh/h	73	585	587	425	694	715	161	67	185	113	126	95
Grp Sat Flow(s),veh/h/ln	1774	1770	1772	1774	1770	1810	1153	1863	1579	1121	1863	1559
Q Serve(g_s), s	3.8	29.6	29.7	22.0	26.7	27.0	12.5	2.7	9.6	8.4	5.2	4.7
Cycle Q Clear(g_c), s	3.8	29.6	29.7	22.0	26.7	27.0	17.8	2.7	9.6	11.1	5.2	4.7
Prop In Lane	1.00		0.27	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	94	634	635	446	986	1009	276	426	361	301	426	356
V/C Ratio(X)	0.78	0.92	0.92	0.95	0.70	0.71	0.58	0.16	0.51	0.38	0.30	0.27
Avail Cap(c_a), veh/h	123	651	652	446	986	1009	346	538	456	369	538	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	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	43.7	28.7	28.8	34.4	15.1	15.1	37.2	28.8	31.5	33.3	29.8	29.6
Incr Delay (d2), s/veh	14.8	19.0	19.3	30.5	2.4	2.4	0.7	0.1	0.4	0.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	17.8	17.9	14.5	13.6	14.0	4.0	1.4	4.2	2.6	2.7	2.0
LnGrp Delay(d),s/veh	58.5	47.7	48.0	64.9	17.5	17.6	37.9	28.9	31.9	33.6	30.0	29.8
LnGrp LOS	E	D	D	E	B	B	D	C	C	C	C	C
Approach Vol, veh/h		1245			1834			413			334	
Approach Delay, s/veh		48.5			28.5			33.8			31.1	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	40.2		26.3	8.4	58.8		26.3				
Change Period (Y+Rc), s	3.5	6.7		4.9	3.5	6.7		4.9				
Max Green Setting (Gmax), s	20.5	34.4		27.0	6.5	51.4		27.0				
Max Q Clear Time (g_c+20), s	21.0	31.7		13.1	5.8	29.0		19.8				
Green Ext Time (p_c), s	0.0	1.8		1.6	0.0	20.4		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay					35.8							
HCM 2010 LOS					D							

HCM 2010 Signalized Intersection Summary

19: Garden View Road/Calle Barcelona & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Traffic Volume (veh/h)	172	727	280	200	1226	90	210	90	50	40	160	330
Future Volume (veh/h)	172	727	280	200	1226	90	210	90	50	40	160	330
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	187	790	218	217	1333	86	228	98	54	43	174	359
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	524	1420	392	270	1448	93	279	539	277	83	323	288
Arrive On Green	0.25	0.87	0.87	0.13	0.72	0.72	0.08	0.24	0.24	0.02	0.18	0.18
Sat Flow, veh/h	3442	2732	754	3442	3377	217	3442	2251	1157	3442	1770	1581
Grp Volume(v), veh/h	187	512	496	217	697	722	228	76	76	43	174	359
Grp Sat Flow(s),veh/h/ln	1721	1770	1716	1721	1770	1824	1721	1770	1639	1721	1770	1581
Q Serve(g_s), s	5.8	9.6	9.6	8.0	42.5	43.0	8.5	4.4	4.8	1.6	11.6	23.7
Cycle Q Clear(g_c), s	5.8	9.6	9.6	8.0	42.5	43.0	8.5	4.4	4.8	1.6	11.6	23.7
Prop In Lane	1.00		0.44	1.00		0.12	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	524	920	892	270	759	783	279	423	392	83	323	288
V/C Ratio(X)	0.36	0.56	0.56	0.80	0.92	0.92	0.82	0.18	0.20	0.52	0.54	1.25
Avail Cap(c_a), veh/h	524	920	892	357	903	930	304	423	392	146	323	288
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	4.8	4.8	55.5	16.6	16.6	58.8	39.3	39.5	62.7	48.2	53.2
Incr Delay (d2), s/veh	0.4	2.4	2.5	8.0	15.5	15.6	14.7	0.2	0.2	4.8	1.8	136.3
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	5.1	4.9	4.1	23.3	24.4	4.6	2.2	2.2	0.8	5.8	21.2
LnGrp Delay(d),s/veh	43.7	7.2	7.3	63.5	32.1	32.2	73.5	39.5	39.7	67.5	50.0	189.4
LnGrp LOS	D	A	A	E	C	C	E	D	D	E	D	F
Approach Vol, veh/h		1195			1636			380			576	
Approach Delay, s/veh		12.9			36.3			59.9			138.2	
Approach LOS		B			D			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	73.3	14.1	29.0	25.5	61.5	6.7	36.4				
Change Period (Y+Rc), s	3.5	5.7	3.5	5.3	5.7	* 5.7	3.5	5.3				
Max Green Setting (Gmax), s	10.5	63.3	11.5	23.7	10.5	* 66	5.5	29.7				
Max Q Clear Time (g_c+10), s	10.0	11.6	10.5	25.7	7.8	45.0	3.6	6.8				
Green Ext Time (p_c), s	0.2	9.7	0.1	0.0	1.8	10.7	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			46.8									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 20: Town Center Place & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖	↖	↖↗	↖↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	70	695	152	280	1176	265	95	55	155	100	70	100
Future Volume (veh/h)	70	695	152	280	1176	265	95	55	155	100	70	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	76	755	165	304	1278	288	82	90	168	92	99	109
Adj No. of Lanes	2	2	1	2	2	1	1	1	1	1	1	1
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	681	1986	876	357	1604	851	214	225	191	151	159	135
Arrive On Green	0.33	0.94	0.94	0.17	0.76	0.76	0.12	0.12	0.12	0.09	0.09	0.09
Sat Flow, veh/h	3442	3539	1561	3442	3539	1581	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	76	755	165	304	1278	288	82	90	168	92	99	109
Grp Sat Flow(s),veh/h/ln	1721	1770	1561	1721	1770	1581	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	2.0	2.7	1.1	11.1	28.8	7.0	5.5	5.8	13.6	6.5	6.7	8.8
Cycle Q Clear(g_c), s	2.0	2.7	1.1	11.1	28.8	7.0	5.5	5.8	13.6	6.5	6.7	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	681	1986	876	357	1604	851	214	225	191	151	159	135
V/C Ratio(X)	0.11	0.38	0.19	0.85	0.80	0.34	0.38	0.40	0.88	0.61	0.62	0.81
Avail Cap(c_a), veh/h	681	1986	876	543	2006	1031	232	244	207	205	215	183
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	1.9	1.8	52.7	12.2	6.9	52.7	52.8	56.2	57.4	57.5	58.4
Incr Delay (d2), s/veh	0.0	0.4	0.4	3.0	2.4	0.6	0.4	0.4	29.1	1.5	1.5	12.7
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	1.3	0.5	5.4	14.1	3.6	2.7	3.0	7.5	3.3	3.5	4.3
LnGrp Delay(d),s/veh	35.6	2.3	2.2	55.7	14.6	7.5	53.1	53.2	85.3	58.9	59.0	71.1
LnGrp LOS	D	A	A	E	B	A	D	D	F	E	E	E
Approach Vol, veh/h		996			1870			340			300	
Approach Delay, s/veh		4.8			20.2			69.0			63.3	
Approach LOS		A			C			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	78.2		15.1	31.0	64.2		19.7				
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0				
Max Green Setting (Gmax), s	20.5	60.7		15.0	7.5	* 74		17.0				
Max Q Clear Time (g_c+1),s	10	4.7		10.8	4.0	30.8		15.6				
Green Ext Time (p_c), s	0.4	15.4		0.3	2.5	28.1		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				24.2								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 21: El Camino Real & Leucadia Boulevard/Olivenhain Road

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑	
Traffic Volume (veh/h)	132	660	193	1164	1393	160	159	677	513	191	1326	144
Future Volume (veh/h)	132	660	193	1164	1393	160	159	677	513	191	1326	144
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	143	717	210	1265	1514	174	173	736	558	208	1441	137
Adj No. of Lanes	2	3	1	2	3	0	2	3	1	2	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	746	229	1290	2156	248	184	1055	912	319	1562	148
Arrive On Green	0.09	0.24	0.24	0.37	0.47	0.47	0.09	0.35	0.35	0.15	0.44	0.44
Sat Flow, veh/h	3442	5085	1564	3442	4628	531	3442	5085	1538	3442	5990	569
Grp Volume(v), veh/h	143	717	210	1265	1109	579	173	736	558	208	1156	422
Grp Sat Flow(s),veh/h/ln	721	1695	1564	1721	1695	1769	1721	1695	1538	1721	1602	1753
Q Serve(g_s), s	5.5	18.8	17.6	49.1	35.0	35.1	6.7	16.8	20.0	7.7	30.6	30.7
Cycle Q Clear(g_c), s	5.5	18.8	17.6	49.1	35.0	35.1	6.7	16.8	20.0	7.7	30.6	30.7
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	191	746	229	1290	1580	824	184	1055	912	319	1253	457
V/C Ratio(X)	0.75	0.96	0.92	0.98	0.70	0.70	0.94	0.70	0.61	0.65	0.92	0.92
Avail Cap(c_a), veh/h	260	746	229	1290	1580	824	184	1254	973	319	1253	457
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.3	50.6	50.2	41.7	28.6	28.6	61.3	40.5	5.3	55.0	36.8	36.8
Incr Delay (d2), s/veh	4.2	22.4	35.1	20.4	1.5	2.8	47.8	3.6	2.9	10.0	12.5	26.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	10.3	9.8	26.8	16.6	17.7	4.4	8.2	8.8	4.1	14.8	18.1
LnGrp Delay(d),s/veh	64.5	73.0	85.3	62.1	30.1	31.5	109.1	44.1	8.2	65.0	49.4	63.7
LnGrp LOS	E	E	F	E	C	C	F	D	A	E	D	E
Approach Vol, veh/h		1070			2953			1467			1786	
Approach Delay, s/veh		74.3			44.1			38.1			54.6	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	55.2	26.3	11.8	41.7	12.1	69.4	19.0	34.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	6.5	* 6.5				
Max Green Setting (Gm), s	50.6	19.8	7.2	35.2	10.2	60.2	9.1	* 33				
Max Q Clear Time (g_c+1),s	51.1	20.8	8.7	32.7	7.5	37.1	9.7	22.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.1	19.9	0.0	6.0				
Intersection Summary												
HCM 2010 Ctrl Delay				49.9								
HCM 2010 LOS				D								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 22: El Camino Real & Town Center Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↑	↑	↔	↔	↔
Traffic Volume (veh/h)	152	40	71	120	30	80	67	992	125	160	2457	146
Future Volume (veh/h)	152	40	71	120	30	80	67	992	125	160	2457	146
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	128	77	82	101	87	73	1078	136	174	2671	146
Adj No. of Lanes	1	1	1	1	1	1	2	4	0	2	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	162	136	126	132	112	638	3664	458	222	3120	170
Arrive On Green	0.09	0.09	0.09	0.07	0.07	0.07	0.37	1.00	1.00	0.13	1.00	1.00
Sat Flow, veh/h	1774	1863	1560	1774	1863	1583	3442	5803	726	3442	6263	341
Grp Volume(v), veh/h	104	128	77	82	101	87	73	891	323	174	2046	771
Grp Sat Flow(s),veh/h/ln	1774	1863	1560	1774	1863	1583	1721	1602	1723	1721	1602	1798
Q Serve(g_s), s	7.7	9.1	6.4	6.1	7.2	7.3	1.9	0.0	0.0	6.6	1.5	1.6
Cycle Q Clear(g_c), s	7.7	9.1	6.4	6.1	7.2	7.3	1.9	0.0	0.0	6.6	1.5	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		0.19
Lane Grp Cap(c), veh/h	155	162	136	126	132	112	638	3034	1088	222	2394	895
V/C Ratio(X)	0.67	0.79	0.57	0.65	0.76	0.77	0.11	0.29	0.30	0.78	0.85	0.86
Avail Cap(c_a), veh/h	230	241	202	191	200	170	638	3034	1088	344	2698	1009
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	0.73	0.73	0.73	0.22	0.22	0.22
Uniform Delay (d), s/veh	59.8	60.4	59.2	61.1	61.6	61.6	35.2	0.0	0.0	57.9	0.1	0.1
Incr Delay (d2), s/veh	5.0	9.9	3.7	2.1	3.8	5.3	0.0	0.2	0.5	0.6	1.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	5.1	2.9	3.1	3.8	3.4	0.9	0.1	0.2	3.1	0.4	0.9
LnGrp Delay(d),s/veh	64.8	70.3	62.8	63.2	65.4	66.9	35.2	0.2	0.5	58.4	1.1	2.8
LnGrp LOS	E	E	E	E	E	E	D	A	A	E	A	A
Approach Vol, veh/h		309			270			1287			2991	
Approach Delay, s/veh		66.6			65.2			2.3			4.9	
Approach LOS		E			E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.2	91.4		16.3	31.2	73.4		14.1				
Change Period (Y+Rc), s	4.5	6.2		4.5	6.2	* 6.2		4.5				
Max Green Setting (Gmax), s	10.5	69.8		17.5	7.5	* 76		14.5				
Max Q Clear Time (g_c+I), s	10.6	2.0		11.1	3.9	3.6		9.3				
Green Ext Time (p_c), s	0.1	19.3		0.7	2.8	63.7		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay				11.5								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 23: El Camino Real & Garden View Road

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	70	190	150	162	210	250	100	787	167	292	2241	110
Future Volume (veh/h)	70	190	150	162	210	250	100	787	167	292	2241	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	76	207	34	176	228	272	109	855	182	317	2436	120
Adj No. of Lanes	1	2	0	1	2	0	1	3	1	1	3	1
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	260	42	242	316	276	131	1145	351	713	2880	884
Arrive On Green	0.05	0.09	0.09	0.14	0.18	0.18	0.12	0.38	0.38	0.80	1.00	1.00
Sat Flow, veh/h	1774	3044	491	1774	1770	1547	1774	5085	1561	1774	5085	1561
Grp Volume(v), veh/h	76	119	122	176	228	272	109	855	182	317	2436	120
Grp Sat Flow(s),veh/h/ln	1774	1770	1766	1774	1770	1547	1774	1695	1561	1774	1695	1561
Q Serve(g_s), s	5.7	8.9	9.2	12.8	16.4	23.7	8.1	19.7	12.2	7.4	0.0	0.0
Cycle Q Clear(g_c), s	5.7	8.9	9.2	12.8	16.4	23.7	8.1	19.7	12.2	7.4	0.0	0.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	151	151	242	316	276	131	1145	351	713	2880	884
V/C Ratio(X)	0.80	0.78	0.81	0.73	0.72	0.98	0.83	0.75	0.52	0.44	0.85	0.14
Avail Cap(c_a), veh/h	112	198	197	242	316	276	151	1872	575	713	2880	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	0.65	0.65	0.65
Uniform Delay (d), s/veh	63.1	60.5	60.6	55.9	52.3	55.3	58.4	38.8	36.4	8.7	0.0	0.0
Incr Delay (d2), s/veh	23.9	12.6	15.4	9.2	7.4	49.7	22.8	3.5	4.2	0.3	2.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.9	5.1	6.9	8.7	13.9	4.8	9.6	5.6	3.5	0.6	0.1
LnGrp Delay(d),s/veh	87.0	73.1	76.0	65.0	59.7	105.0	81.2	42.3	40.6	8.9	2.2	0.2
LnGrp LOS	F	E	E	E	E	F	F	D	D	A	A	A
Approach Vol, veh/h		317			676			1146			2873	
Approach Delay, s/veh		77.6			79.3			45.7			2.8	
Approach LOS		E			E			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	59.5	35.7	23.3	16.5	13.5	81.8	10.8	29.0				
Change Period (Y+Rc), s	5.3	* 5.3	4.9	* 4.9	3.5	5.3	3.5	4.9				
Max Green Setting (Gmax), s	80.5	* 50	17.5	* 15	11.5	73.7	8.5	24.1				
Max Q Clear Time (g_c+I), s	19.4	21.7	14.8	11.2	10.1	2.0	7.7	25.7				
Green Ext Time (p_c), s	23.0	8.7	0.8	0.4	0.0	52.3	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				27.7								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 24: El Camino Real & Mountain Vista Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔		↔	↔	↔
Traffic Volume (veh/h)	30	40	50	320	100	262	141	836	153	209	1832	100
Future Volume (veh/h)	30	40	50	320	100	262	141	836	153	209	1832	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.99	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	60	43	228	276	285	153	909	166	227	1991	109
Adj No. of Lanes	0	2	1	1	1	1	1	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	50	99	60	347	364	306	179	1500	273	933	2627	143
Arrive On Green	0.04	0.04	0.04	0.20	0.20	0.20	0.03	0.11	0.11	0.18	0.36	0.36
Sat Flow, veh/h	1226	2438	1469	1774	1863	1566	1774	4308	783	3442	4928	269
Grp Volume(v), veh/h	48	45	43	228	276	285	153	714	361	227	1367	733
Grp Sat Flow(s),veh/h/ln	1801	1863	1469	1774	1863	1566	1774	1695	1701	1721	1695	1807
Q Serve(g_s), s	3.6	3.2	3.9	16.0	18.9	24.2	11.6	27.1	27.2	7.6	47.9	48.3
Cycle Q Clear(g_c), s	3.6	3.2	3.9	16.0	18.9	24.2	11.6	27.1	27.2	7.6	47.9	48.3
Prop In Lane	0.68		1.00	1.00		1.00	1.00		0.46	1.00		0.15
Lane Grp Cap(c), veh/h	73	76	60	347	364	306	179	1180	592	933	1807	963
V/C Ratio(X)	0.66	0.59	0.72	0.66	0.76	0.93	0.85	0.61	0.61	0.24	0.76	0.76
Avail Cap(c_a), veh/h	73	76	60	355	373	313	243	1796	901	933	1807	963
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	1.00	1.00	1.00	1.00	1.00	0.71	0.71	0.71	0.43	0.43	0.43
Uniform Delay (d), s/veh	63.8	63.6	64.0	50.1	51.3	53.4	64.3	50.9	51.0	43.4	35.7	35.8
Incr Delay (d2), s/veh	22.1	13.4	36.4	3.3	7.6	32.3	11.3	1.6	3.3	0.0	1.3	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	2.2	1.9	2.2	8.2	10.5	13.2	6.3	13.0	13.4	3.6	22.8	24.9
LnGrp Delay(d),s/veh	85.9	77.1	100.4	53.5	58.8	85.6	75.6	52.6	54.3	43.4	37.0	38.3
LnGrp LOS	F	E	F	D	E	F	E	D	D	D	D	D
Approach Vol, veh/h		136			789			1228			2327	
Approach Delay, s/veh		87.6			67.0			55.9			38.0	
Approach LOS		F			E			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.0	17.1	77.5		31.4	42.1	52.5				
Change Period (Y+Rc), s		3.5	3.5	5.5		5.0	5.5	* 5.5				
Max Green Setting (Gmax), s		5.5	18.5	66.5		27.0	13.5	* 72				
Max Q Clear Time (g_c+I1), s		5.9	13.6	50.3		26.2	9.6	29.2				
Green Ext Time (p_c), s		0.0	0.1	15.2		0.2	3.8	17.8				
Intersection Summary												
HCM 2010 Ctrl Delay				49.5								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 AWSC
 25: Rancho Santa Fe Road & Lone Jack Road

05/10/2018

Intersection

Intersection Delay, s/veh99.7

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗			↖	↗	↖	↗	
Traffic Vol, veh/h	20	10	20	200	30	220	25	332	25	140	621	30
Future Vol, veh/h	20	10	20	200	30	220	25	332	25	140	621	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	11	22	217	33	239	27	361	27	152	675	33
Number of Lanes	0	1	1	1	1	0	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	13.2	19.4	35.6	181.9
HCM LOS	B	C	E	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	7%	0%	67%	0%	100%	0%	100%	0%
Vol Thru, %	93%	0%	33%	0%	0%	12%	0%	95%
Vol Right, %	0%	100%	0%	100%	0%	88%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	357	25	30	20	200	250	140	651
LT Vol	25	0	20	0	200	0	140	0
Through Vol	332	0	10	0	0	30	0	621
RT Vol	0	25	0	20	0	220	0	30
Lane Flow Rate	388	27	33	22	217	272	152	708
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.812	0.051	0.084	0.049	0.495	0.535	0.327	1.413
Departure Headway (Hd)	8.099	7.339	10.129	9.042	8.879	7.722	7.735	7.189
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	450	491	356	398	409	470	463	502
Service Time	5.799	5.039	7.829	6.742	6.579	5.422	5.517	4.971
HCM Lane V/C Ratio	0.862	0.055	0.093	0.055	0.531	0.579	0.328	1.41
HCM Control Delay	37.4	10.4	13.8	12.2	20	19	14.3	218
HCM Lane LOS	E	B	B	B	C	C	B	F
HCM 95th-tile Q	7.5	0.2	0.3	0.2	2.7	3.1	1.4	33.4

HCM 2010 Signalized Intersection Summary
 26: El Camino Real & Via Molena

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔		↔	↑↑↑		↔	↔	
Traffic Volume (veh/h)	80	30	80	50	20	40	170	1082	40	150	1941	140
Future Volume (veh/h)	80	30	80	50	20	40	170	1082	40	150	1941	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	87	33	87	54	22	43	185	1176	43	163	2110	152
Adj No. of Lanes	0	1	1	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	40	127	64	26	51	209	1509	55	683	2790	199
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.20	0.50	0.50	0.51	0.77	0.77
Sat Flow, veh/h	1303	494	1548	771	314	614	1774	5036	184	1774	4837	346
Grp Volume(v), veh/h	120	0	87	119	0	0	185	792	427	163	1474	788
Grp Sat Flow(s),veh/h/ln	1798	0	1548	1700	0	0	1774	1695	1830	1774	1695	1793
Q Serve(g_s), s	8.9	0.0	7.4	9.3	0.0	0.0	13.7	25.8	25.8	6.9	32.4	33.3
Cycle Q Clear(g_c), s	8.9	0.0	7.4	9.3	0.0	0.0	13.7	25.8	25.8	6.9	32.4	33.3
Prop In Lane	0.72		1.00	0.45		0.36	1.00		0.10	1.00		0.19
Lane Grp Cap(c), veh/h	147	0	127	142	0	0	209	1016	548	683	1955	1034
V/C Ratio(X)	0.82	0.00	0.69	0.84	0.00	0.00	0.89	0.78	0.78	0.24	0.75	0.76
Avail Cap(c_a), veh/h	186	0	161	164	0	0	263	1700	917	683	1955	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.50	0.50	0.50	0.58	0.58	0.58
Uniform Delay (d), s/veh	61.0	0.0	60.3	61.0	0.0	0.0	53.4	30.1	30.1	21.9	10.4	10.5
Incr Delay (d2), s/veh	15.8	0.0	4.8	24.8	0.0	0.0	14.2	3.0	5.5	0.1	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	15.0	0.0	3.3	5.4	0.0	0.0	7.5	12.3	13.7	3.4	15.3	17.1
LnGrp Delay(d),s/veh	76.8	0.0	65.1	85.8	0.0	0.0	67.6	33.1	35.6	22.0	12.0	13.7
LnGrp LOS	E		E	F			E	C	D	C	B	B
Approach Vol, veh/h		207			119			1404			2425	
Approach Delay, s/veh		71.9			85.8			38.4			13.2	
Approach LOS		E			F			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	57.0	45.8		16.0	19.9	82.9		16.2				
Change Period (Y+Rc), s	5.0	* 5.3		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	60.0	* 68		14.0	20.0	69.0		13.0				
Max Q Clear Time (g_c+I), s	10.9	27.8		10.9	15.7	35.3		11.3				
Green Ext Time (p_c), s	10.9	12.6		0.2	0.2	26.4		0.1				

Intersection Summary

HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh44.7

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕	↕	↕	↕	
Traffic Vol, veh/h	10	5	10	180	15	205	10	292	70	270	521	10
Future Vol, veh/h	10	5	10	180	15	205	10	292	70	270	521	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	11	196	16	223	11	317	76	293	566	11
Number of Lanes	0	1	0	1	1	0	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	12.6	16.7	22.2	70.1
HCM LOS	B	C	C	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	3%	0%	40%	100%	0%	100%	0%
Vol Thru, %	97%	0%	20%	0%	7%	0%	98%
Vol Right, %	0%	100%	40%	0%	93%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	302	70	25	180	220	270	531
LT Vol	10	0	10	180	0	270	0
Through Vol	292	0	5	0	15	0	521
RT Vol	0	70	10	0	205	0	10
Lane Flow Rate	328	76	27	196	239	293	577
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.675	0.141	0.065	0.442	0.464	0.603	1.101
Departure Headway (Hd)	7.663	6.926	8.947	8.406	7.223	7.392	6.868
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	476	521	403	430	502	487	525
Service Time	5.363	4.626	6.947	6.106	4.923	5.158	4.633
HCM Lane V/C Ratio	0.689	0.146	0.067	0.456	0.476	0.602	1.099
HCM Control Delay	24.8	10.8	12.6	17.6	16	20.8	95.2
HCM Lane LOS	C	B	B	C	C	C	F
HCM 95th-tile Q	4.9	0.5	0.2	2.2	2.4	3.9	18.3

HCM 2010 Signalized Intersection Summary

28: Highway 101 & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↑	↗	↖	↑↑	↗	↖	↔↔	
Traffic Volume (veh/h)	40	160	30	418	130	201	20	204	189	426	899	70
Future Volume (veh/h)	40	160	30	418	130	201	20	204	189	426	899	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	43	174	33	454	141	218	22	222	205	463	977	76
Adj No. of Lanes	0	2	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	269	53	484	508	860	31	650	705	490	1467	114
Arrive On Green	0.11	0.11	0.11	0.27	0.27	0.27	0.02	0.18	0.18	0.28	0.44	0.44
Sat Flow, veh/h	597	2508	494	1774	1863	1552	1774	3539	1491	1774	3321	258
Grp Volume(v), veh/h	132	0	118	454	141	218	22	222	205	463	521	532
Grp Sat Flow(s),veh/h/ln	1833	0	1766	1774	1863	1552	1774	1770	1491	1774	1770	1809
Q Serve(g_s), s	7.7	0.0	7.1	27.8	6.6	8.2	1.4	6.1	9.6	28.4	25.8	25.8
Cycle Q Clear(g_c), s	7.7	0.0	7.1	27.8	6.6	8.2	1.4	6.1	9.6	28.4	25.8	25.8
Prop In Lane	0.33		0.28	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	197	0	189	484	508	860	31	650	705	490	782	799
V/C Ratio(X)	0.67	0.00	0.62	0.94	0.28	0.25	0.70	0.34	0.29	0.95	0.67	0.67
Avail Cap(c_a), veh/h	446	0	430	497	522	872	96	833	782	528	847	866
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	47.6	0.0	47.4	39.4	31.7	13.1	54.2	39.4	19.0	39.3	24.5	24.5
Incr Delay (d2), s/veh	1.5	0.0	1.3	25.5	0.3	0.2	9.9	0.3	0.2	24.7	1.8	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	4.0	0.0	3.5	17.0	3.4	3.6	0.8	3.0	6.0	17.2	13.0	13.3
LnGrp Delay(d),s/veh	49.1	0.0	48.6	64.9	32.0	13.3	64.1	39.8	19.2	64.0	26.3	26.2
LnGrp LOS	D		D	E	C	B	E	D	B	E	C	C
Approach Vol, veh/h		250			813			449			1516	
Approach Delay, s/veh		48.9			45.4			31.6			37.8	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.6	25.3		15.9	6.0	53.9		35.2				
Change Period (Y+Rc), s	4.0	4.9		4.0	4.0	4.9		4.9				
Max Green Setting (Gmax), s	30.0	26.1		27.0	6.0	53.1		31.1				
Max Q Clear Time (g_c+R), s	30.4	11.6		9.7	3.4	27.8		29.8				
Green Ext Time (p_c), s	0.3	7.7		0.7	0.0	10.3		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				39.8								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary
 29: Vulcan Avenue & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	560	115	360	615	106	69	147	162	233	614	100
Future Volume (veh/h)	30	560	115	360	615	106	69	147	162	233	614	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	33	609	125	391	668	90	75	160	176	253	667	109
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	43	706	145	422	1426	192	88	688	574	397	688	573
Arrive On Green	0.02	0.24	0.24	0.24	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1774	2915	597	1774	3127	421	692	1863	1556	1037	1863	1551
Grp Volume(v), veh/h	33	369	365	391	378	380	75	160	176	253	667	109
Grp Sat Flow(s),veh/h/ln	1774	1770	1742	1774	1770	1779	692	1863	1556	1037	1863	1551
Q Serve(g_s), s	1.8	19.0	19.1	20.5	14.0	14.1	1.6	5.6	7.6	21.2	33.5	4.5
Cycle Q Clear(g_c), s	1.8	19.0	19.1	20.5	14.0	14.1	35.1	5.6	7.6	26.8	33.5	4.5
Prop In Lane	1.00		0.34	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	429	422	422	807	811	88	688	574	397	688	573
V/C Ratio(X)	0.76	0.86	0.86	0.93	0.47	0.47	0.85	0.23	0.31	0.64	0.97	0.19
Avail Cap(c_a), veh/h	530	504	497	439	807	811	88	688	574	397	688	573
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	1.00	1.00
Uniform Delay (d), s/veh	46.1	34.5	34.5	35.4	17.9	17.9	47.4	20.7	21.3	29.9	29.5	20.3
Incr Delay (d2), s/veh	23.3	12.5	13.0	25.2	0.4	0.4	52.0	0.2	0.3	3.4	26.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.7	10.7	12.9	6.9	7.0	3.2	2.9	3.3	6.4	22.2	2.0
LnGrp Delay(d),s/veh	69.4	47.0	47.6	60.6	18.3	18.3	99.4	20.9	21.6	33.3	56.4	20.5
LnGrp LOS	E	D	D	E	B	B	F	C	C	C	E	C
Approach Vol, veh/h		767			1149			411			1029	
Approach Delay, s/veh		48.2			32.7			35.5			46.9	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.1	28.9		40.0	5.8	49.2		40.0				
Change Period (Y+Rc), s	3.5	5.9		4.9	3.5	5.9		4.9				
Max Green Setting (Gmax), s	20.5	27.1		35.1	28.4	22.2		35.1				
Max Q Clear Time (g_c+20),s	21.1	21.1		35.5	3.8	16.1		37.1				
Green Ext Time (p_c), s	0.2	2.0		0.0	0.1	4.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				40.9								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary
 30: I-5 SB On-Ramp/I-5 SB Off-Ramp & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑						↓	↘
Traffic Volume (veh/h)	0	769	481	548	1051	0	0	0	0	228	5	210
Future Volume (veh/h)	0	769	481	548	1051	0	0	0	0	228	5	210
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	836	407	596	1142	0				248	5	80
Adj No. of Lanes	0	2	0	1	2	0				0	1	1
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	877	423	619	2726	0				274	6	249
Arrive On Green	0.00	0.64	0.64	0.70	1.00	0.00				0.16	0.16	0.16
Sat Flow, veh/h	0	2376	1103	1774	3632	0				1741	35	1583
Grp Volume(v), veh/h	0	646	597	596	1142	0				253	0	80
Grp Sat Flow(s),veh/h/ln	0	1770	1617	1774	1770	0				1776	0	1583
Q Serve(g_s), s	0.0	48.7	50.0	44.8	0.0	0.0				20.3	0.0	6.5
Cycle Q Clear(g_c), s	0.0	48.7	50.0	44.8	0.0	0.0				20.3	0.0	6.5
Prop In Lane	0.00		0.68	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	679	621	619	2726	0				279	0	249
V/C Ratio(X)	0.00	0.95	0.96	0.96	0.42	0.00				0.91	0.00	0.32
Avail Cap(c_a), veh/h	0	688	629	619	2726	0				332	0	296
HCM Platoon Ratio	1.00	1.67	1.67	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.66	0.66	0.47	0.47	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.8	25.0	21.0	0.0	0.0				60.0	0.0	54.2
Incr Delay (d2), s/veh	0.0	18.5	21.3	16.4	0.2	0.0				22.7	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	26.8	25.5	24.2	0.1	0.0				11.7	0.0	2.9
LnGrp Delay(d),s/veh	0.0	43.3	46.3	37.4	0.2	0.0				82.8	0.0	54.5
LnGrp LOS		D	D	D	A					F		D
Approach Vol, veh/h		1243			1738						333	
Approach Delay, s/veh		44.7			13.0						76.0	
Approach LOS		D			B						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	56.0	61.1		27.9		117.1						
Change Period (Y+Rc), s	5.4	* 5.4		5.1		5.4						
Max Green Setting (Gmax), s	40.3	* 56		27.1		107.4						
Max Q Clear Time (g_c+Rc), s	40.8	52.0		22.3		2.0						
Green Ext Time (p_c), s	0.0	3.6		0.5		26.8						
Intersection Summary												
HCM 2010 Ctrl Delay				31.2								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 31: I-5 NB Off-Ramp/I-5 NB On-Ramp & Encinitas Boulevard

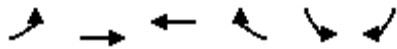
05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	757	0	0	1246	397	373	0	438	0	0	0
Future Volume (veh/h)	230	757	0	0	1246	397	373	0	438	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	250	823	0	0	1354	361	405	0	96			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
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	271	2409	0	0	1744	780	438	0	380			
Arrive On Green	0.26	1.00	0.00	0.00	0.82	0.82	0.25	0.00	0.25			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1774	0	1541			
Grp Volume(v), veh/h	250	823	0	0	1354	361	405	0	96			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1541			
Q Serve(g_s), s	19.9	0.0	0.0	0.0	27.2	9.4	32.3	0.0	7.3			
Cycle Q Clear(g_c), s	19.9	0.0	0.0	0.0	27.2	9.4	32.3	0.0	7.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	271	2409	0	0	1744	780	438	0	380			
V/C Ratio(X)	0.92	0.34	0.00	0.00	0.78	0.46	0.92	0.00	0.25			
Avail Cap(c_a), veh/h	329	2409	0	0	1744	780	513	0	445			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.67	1.67	1.00	1.00	1.00			
Upstream Filter(I)	0.17	0.17	0.00	0.00	0.80	0.80	1.00	0.00	1.00			
Uniform Delay (d), s/veh	53.2	0.0	0.0	0.0	8.9	7.3	53.3	0.0	43.9			
Incr Delay (d2), s/veh	6.9	0.1	0.0	0.0	2.8	1.6	20.4	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	10.2	0.0	0.0	0.0	13.5	4.3	18.3	0.0	3.1			
LnGrp Delay(d),s/veh	60.1	0.1	0.0	0.0	11.7	8.9	73.7	0.0	44.1			
LnGrp LOS	E	A			B	A	E		D			
Approach Vol, veh/h		1073			1715			501				
Approach Delay, s/veh		14.0			11.1			68.1				
Approach LOS		B			B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		104.1			27.2	76.9		40.9				
Change Period (Y+Rc), s		5.4			5.1	5.4		5.1				
Max Green Setting (Gmax), s		92.6			26.9	60.6		41.9				
Max Q Clear Time (g_c+I1), s		2.0			21.9	29.2		34.3				
Green Ext Time (p_c), s		18.8			0.2	14.8		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay					20.7							
HCM 2010 LOS					C							

HCM 2010 Signalized Intersection Summary
 32: Encinitas Boulevard & Saxony Road

05/10/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↗↗	↖↖↖	↗	↖↖	↗		
Traffic Volume (veh/h)	237	928	1183	264	408	480		
Future Volume (veh/h)	237	928	1183	264	408	480		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	258	1009	1286	254	443	207		
Adj No. of Lanes	1	2	3	1	2	1		
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	805	2739	1438	436	529	243		
Arrive On Green	0.76	1.00	0.47	0.47	0.15	0.15		
Sat Flow, veh/h	1774	3632	5253	1543	3442	1583		
Grp Volume(v), veh/h	258	1009	1286	254	443	207		
Grp Sat Flow(s),veh/h/ln	1774	1770	1695	1543	1721	1583		
Q Serve(g_s), s	6.7	0.0	33.5	17.4	18.1	18.5		
Cycle Q Clear(g_c), s	6.7	0.0	33.5	17.4	18.1	18.5		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	805	2739	1438	436	529	243		
V/C Ratio(X)	0.32	0.37	0.89	0.58	0.84	0.85		
Avail Cap(c_a), veh/h	805	2739	1704	517	1089	501		
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.00	1.00		
Upstream Filter(I)	0.83	0.83	0.58	0.58	1.00	1.00		
Uniform Delay (d), s/veh	10.4	0.0	36.3	32.0	59.6	59.8		
Incr Delay (d2), s/veh	0.1	0.3	5.5	3.3	2.7	6.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.2	0.1	16.2	7.8	8.8	15.8		
LnGrp Delay(d),s/veh	10.5	0.3	41.8	35.3	62.3	66.0		
LnGrp LOS	B	A	D	D	E	E		
Approach Vol, veh/h		1267	1540		650			
Approach Delay, s/veh		2.4	40.7		63.5			
Approach LOS		A	D		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		117.6		27.4	71.2	46.4		
Change Period (Y+Rc), s		5.4		5.1	5.4	* 5.4		
Max Green Setting (Gmax), s		88.6		45.9	34.9	* 49		
Max Q Clear Time (g_c+I1), s		2.0		20.5	8.7	35.5		
Green Ext Time (p_c), s		5.8		1.8	5.5	5.5		
Intersection Summary								
HCM 2010 Ctrl Delay			30.9					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 33: Westlake Drive/Quail Gardens Drive & Encinitas Boulevard

05/10/2018

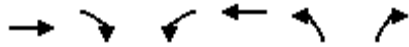


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	783	170	180	1196	93	120	100	150	228	280	250
Future Volume (veh/h)	128	783	170	180	1196	93	120	100	150	228	280	250
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	139	851	185	196	1300	87	130	109	136	248	304	234
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
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	167	1045	606	469	1706	762	157	203	167	285	347	289
Arrive On Green	0.09	0.30	0.30	0.44	0.80	0.80	0.09	0.11	0.11	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1575	1774	3539	1580	1774	1863	1537	1774	1863	1552
Grp Volume(v), veh/h	139	851	185	196	1300	87	130	109	136	248	304	234
Grp Sat Flow(s),veh/h/ln	1774	1770	1575	1774	1770	1580	1774	1863	1537	1774	1863	1552
Q Serve(g_s), s	8.5	24.5	3.3	8.3	20.4	0.7	7.9	6.1	9.5	15.0	17.5	15.9
Cycle Q Clear(g_c), s	8.5	24.5	3.3	8.3	20.4	0.7	7.9	6.1	9.5	15.0	17.5	15.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	1045	606	469	1706	762	157	203	167	285	347	289
V/C Ratio(X)	0.83	0.81	0.31	0.42	0.76	0.11	0.83	0.54	0.81	0.87	0.88	0.81
Avail Cap(c_a), veh/h	169	1277	709	469	1706	762	185	286	236	285	388	323
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	36.0	9.2	24.9	7.5	1.6	49.3	46.4	47.9	45.0	43.5	42.9
Incr Delay (d2), s/veh	24.0	6.1	1.1	0.2	3.3	0.3	19.5	2.2	13.5	23.0	18.2	13.0
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	15.3	12.8	2.1	4.1	10.1	0.3	4.8	3.3	4.7	9.2	10.7	7.8
LnGrp Delay(d),s/veh	73.0	42.1	10.3	25.2	10.8	1.9	68.8	48.6	61.4	68.1	61.8	55.9
LnGrp LOS	E	D	B	C	B	A	E	D	E	E	E	E
Approach Vol, veh/h		1175			1583			375			786	
Approach Delay, s/veh		40.7			12.1			60.2			62.0	
Approach LOS		D			B			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.4	37.8	13.3	24.6	13.8	58.3	21.8	16.1				
Change Period (Y+Rc), s	5.3	* 5.3	3.5	4.1	3.5	5.3	4.1	* 4.1				
Max Green Setting (Gmax), s	19.5	* 40	11.5	22.9	10.5	48.7	17.5	* 17				
Max Q Clear Time (g_c+10), s	10.3	26.5	9.9	19.5	10.5	22.4	17.0	11.5				
Green Ext Time (p_c), s	6.3	5.9	0.0	1.0	0.0	12.7	0.2	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			35.3									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 34: Balour Drive & Encinitas Boulevard

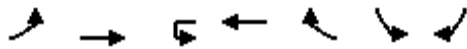
05/10/2018



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵↵	↑↑	↵	↵		
Traffic Volume (veh/h)	870	231	580	1147	222	450		
Future Volume (veh/h)	870	231	580	1147	222	450		
Number	6	16	5	2	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	946	216	630	1247	241	489		
Adj No. of Lanes	2	0	2	2	1	1		
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	1242	283	765	2466	365	677		
Arrive On Green	0.73	0.73	0.44	1.00	0.21	0.21		
Sat Flow, veh/h	2944	650	3442	3632	1774	1583		
Grp Volume(v), veh/h	587	575	630	1247	241	489		
Grp Sat Flow(s),veh/h/ln	1770	1731	1721	1770	1774	1583		
Q Serve(g_s), s	18.2	18.3	14.4	0.0	11.2	18.5		
Cycle Q Clear(g_c), s	18.2	18.3	14.4	0.0	11.2	18.5		
Prop In Lane		0.38	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	771	754	765	2466	365	677		
V/C Ratio(X)	0.76	0.76	0.82	0.51	0.66	0.72		
Avail Cap(c_a), veh/h	771	754	822	2466	365	677		
HCM Platoon Ratio	1.67	1.67	2.00	2.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.62	0.62	1.00	1.00		
Uniform Delay (d), s/veh	9.4	9.4	23.5	0.0	32.9	21.3		
Incr Delay (d2), s/veh	7.0	7.2	4.8	0.5	3.5	3.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.9	9.8	7.2	0.2	5.8	10.6		
LnGrp Delay(d),s/veh	16.4	16.6	28.3	0.5	36.4	24.6		
LnGrp LOS	B	B	C	A	D	C		
Approach Vol, veh/h	1162			1877	730			
Approach Delay, s/veh	16.5			9.8	28.5			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		68.0			23.5	44.5		22.0
Change Period (Y+Rc), s		5.3			3.5	5.3		3.5
Max Green Setting (Gmax), s		62.7			21.5	37.7		18.5
Max Q Clear Time (g_c+l1), s		2.0			16.4	20.3		20.5
Green Ext Time (p_c), s		51.4			2.1	16.4		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			15.5					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 35: Encinitas Boulevard & Via Cantabria

05/10/2018



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR	
Lane Configurations	↶↷	↶↷	↶	↶↷		↶	↶↷	
Traffic Volume (veh/h)	460	860	5	1037	120	120	700	
Future Volume (veh/h)	460	860	5	1037	120	120	700	
Number	1	6		2	12	7	14	
Initial Q (Qb), veh	0	0		0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00				0.97	1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1863		1863	1900	1863	1863	
Adj Flow Rate, veh/h	500	935		1127	120	130	761	
Adj No. of Lanes	2	2		2	0	1	2	
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	1131	2817		1315	140	189	1212	
Arrive On Green	0.11	0.26		0.68	0.68	0.11	0.11	
Sat Flow, veh/h	3442	3632		3311	342	1774	2787	
Grp Volume(v), veh/h	500	935		619	628	130	761	
Grp Sat Flow(s),veh/h/ln	1721	1770		1770	1791	1774	1393	
Q Serve(g_s), s	12.2	19.2		24.0	24.2	6.4	0.0	
Cycle Q Clear(g_c), s	12.2	19.2		24.0	24.2	6.4	0.0	
Prop In Lane	1.00				0.19	1.00	1.00	
Lane Grp Cap(c), veh/h	1131	2817		723	732	189	1212	
V/C Ratio(X)	0.44	0.33		0.86	0.86	0.69	0.63	
Avail Cap(c_a), veh/h	1131	2817		808	818	266	1333	
HCM Platoon Ratio	0.33	0.33		1.67	1.67	1.00	1.00	
Upstream Filter(I)	0.60	0.60		1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	32.4	13.9		12.3	12.3	38.8	19.8	
Incr Delay (d2), s/veh	0.1	0.2		12.4	12.5	1.7	0.5	
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	5.9	9.5		13.6	14.2	3.2	9.5	
LnGrp Delay(d),s/veh	32.5	14.0		24.7	24.8	40.5	20.3	
LnGrp LOS	C	B		C	C	D	C	
Approach Vol, veh/h		1435		1247		891		
Approach Delay, s/veh		20.5		24.8		23.2		
Approach LOS		C		C		C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	34.9	42.1		13.1		76.9		
Change Period (Y+Rc), s	5.3	* 5.3		3.5		5.3		
Max Green Setting (Gmax), s	20	* 41		13.5		58.7		
Max Q Clear Time (g_c+1), s	11.2	26.2		8.4		21.2		
Green Ext Time (p_c), s	3.7	10.5		1.2		14.9		
Intersection Summary								
HCM 2010 Ctrl Delay			22.7					
HCM 2010 LOS			C					
Notes								

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 36: El Camino Real & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↓		↔	↑↓		↔	↑↑↓		↔	↑↑↑	↔
Traffic Volume (veh/h)	283	580	187	322	579	326	213	693	193	694	1617	489
Future Volume (veh/h)	283	580	187	322	579	326	213	693	193	694	1617	489
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	308	630	203	350	629	270	232	753	210	754	1758	532
Adj No. of Lanes	2	2	0	2	2	0	1	3	0	2	3	1
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	334	666	214	379	666	286	418	1477	407	797	1839	565
Arrive On Green	0.16	0.42	0.42	0.11	0.28	0.28	0.39	0.62	0.62	0.39	0.60	0.60
Sat Flow, veh/h	3442	2622	844	3442	2402	1030	1774	3953	1090	3442	5085	1561
Grp Volume(v), veh/h	308	425	408	350	463	436	232	645	318	754	1758	532
Grp Sat Flow(s),veh/h/ln	1721	1770	1696	1721	1770	1663	1774	1695	1653	1721	1695	1561
Q Serve(g_s), s	12.3	32.3	32.4	14.1	35.9	35.9	14.2	14.7	15.0	29.7	45.3	40.6
Cycle Q Clear(g_c), s	12.3	32.3	32.4	14.1	35.9	35.9	14.2	14.7	15.0	29.7	45.3	40.6
Prop In Lane	1.00		0.50	1.00		0.62	1.00		0.66	1.00		1.00
Lane Grp Cap(c), veh/h	334	449	431	379	491	461	418	1266	617	797	1839	565
V/C Ratio(X)	0.92	0.95	0.95	0.92	0.94	0.94	0.56	0.51	0.52	0.95	0.96	0.94
Avail Cap(c_a), veh/h	334	461	442	379	491	461	418	1266	617	870	1849	567
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.56	0.56	0.56	0.96	0.96	0.96	0.51	0.51	0.51
Uniform Delay (d), s/veh	58.1	39.4	39.4	61.7	49.5	49.5	36.8	19.3	19.3	42.1	26.7	22.6
Incr Delay (d2), s/veh	29.4	28.5	29.6	18.2	18.3	19.2	0.9	1.4	2.9	10.7	7.8	16.3
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	7.2	19.3	18.7	7.7	20.0	18.9	7.1	7.1	7.3	15.1	22.2	19.8
LnGrp Delay(d),s/veh	87.5	67.9	69.0	79.9	67.8	68.7	37.7	20.7	22.2	52.8	34.4	39.0
LnGrp LOS	F	E	E	E	E	E	D	C	C	D	C	D
Approach Vol, veh/h		1141			1249			1195			3044	
Approach Delay, s/veh		73.6			71.5			24.4			39.8	
Approach LOS		E			E			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.6	57.6	21.1	41.2	38.3	55.9	17.8	44.5				
Change Period (Y+Rc), s	4.2	5.3	5.7	* 5.7	5.3	* 5.3	* 4.2	5.7				
Max Green Setting (Gmax), s	35	33.3	15.4	* 37	17.8	* 51	* 14	38.3				
Max Q Clear Time (g_c+R1), s	17.0	17.0	16.1	34.4	16.2	47.3	14.3	37.9				
Green Ext Time (p_c), s	0.7	6.7	0.0	1.1	0.2	3.3	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			48.8									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 37: Village Square Drive & Encinitas Boulevard

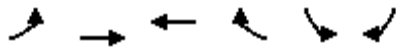
05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	996	10	90	1117	120	10	10	10	110	5	120
Future Volume (veh/h)	131	996	10	90	1117	120	10	10	10	110	5	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	142	1083	11	98	1214	120	11	11	11	120	5	130
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	1990	20	125	1685	166	21	21	21	212	7	180
Arrive On Green	0.10	0.55	0.55	0.07	0.52	0.52	0.04	0.04	0.04	0.12	0.12	0.12
Sat Flow, veh/h	1774	3588	36	1774	3248	320	576	576	576	1774	58	1506
Grp Volume(v), veh/h	142	534	560	98	660	674	33	0	0	120	0	135
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1798	1729	0	0	1774	0	1564
Q Serve(g_s), s	5.8	14.4	14.4	4.0	21.3	21.5	1.4	0.0	0.0	4.8	0.0	6.2
Cycle Q Clear(g_c), s	5.8	14.4	14.4	4.0	21.3	21.5	1.4	0.0	0.0	4.8	0.0	6.2
Prop In Lane	1.00		0.02	1.00		0.18	0.33		0.33	1.00		0.96
Lane Grp Cap(c), veh/h	177	981	1029	125	918	933	63	0	0	212	0	187
V/C Ratio(X)	0.80	0.54	0.54	0.78	0.72	0.72	0.52	0.00	0.00	0.56	0.00	0.72
Avail Cap(c_a), veh/h	202	990	1038	190	967	982	580	0	0	571	0	504
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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.8	10.6	10.6	34.1	13.8	13.8	35.3	0.0	0.0	31.0	0.0	31.6
Incr Delay (d2), s/veh	15.8	0.8	0.8	5.2	2.8	2.8	2.5	0.0	0.0	0.9	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	7.2	7.5	2.2	11.0	11.2	0.7	0.0	0.0	2.4	0.0	2.8
LnGrp Delay(d),s/veh	48.6	11.4	11.3	39.3	16.5	16.6	37.8	0.0	0.0	31.8	0.0	33.6
LnGrp LOS	D	B	B	D	B	B	D			C		C
Approach Vol, veh/h		1236			1432			33			255	
Approach Delay, s/veh		15.6			18.1			37.8			32.8	
Approach LOS		B			B			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	46.6		12.9	10.9	43.9		6.7				
Change Period (Y+Rc), s	3.0	5.3		4.0	3.5	5.3		4.0				
Max Green Setting (Gmax), s	41.7			24.0	8.5	40.7		25.0				
Max Q Clear Time (g_c+I), s	16.4			8.2	7.8	23.5		3.4				
Green Ext Time (p_c), s	0.0	21.3		0.6	0.0	15.2		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				18.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 38: Encinitas Boulevard & Village Park Way

05/10/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↗	↖		↖	↗		
Traffic Volume (veh/h)	241	885	577	114	394	420		
Future Volume (veh/h)	241	885	577	114	394	420		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	262	962	627	98	428	457		
Adj No. of Lanes	1	2	2	0	1	1		
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	292	1951	1042	163	563	502		
Arrive On Green	0.16	0.55	0.34	0.34	0.32	0.32		
Sat Flow, veh/h	1774	3632	3151	477	1774	1583		
Grp Volume(v), veh/h	262	962	362	363	428	457		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1766	1774	1583		
Q Serve(g_s), s	11.0	12.7	12.9	13.0	16.5	21.1		
Cycle Q Clear(g_c), s	11.0	12.7	12.9	13.0	16.5	21.1		
Prop In Lane	1.00			0.27	1.00	1.00		
Lane Grp Cap(c), veh/h	292	1951	603	602	563	502		
V/C Ratio(X)	0.90	0.49	0.60	0.60	0.76	0.91		
Avail Cap(c_a), veh/h	292	2049	652	650	607	542		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	31.1	10.5	20.8	20.8	23.4	24.9		
Incr Delay (d2), s/veh	28.3	0.4	2.3	2.3	5.2	18.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.7	6.3	6.6	6.6	8.9	2.6		
LnGrp Delay(d),s/veh	59.4	10.9	23.1	23.1	28.6	43.7		
LnGrp LOS	E	B	C	C	C	D		
Approach Vol, veh/h		1224	725		885			
Approach Delay, s/veh		21.3	23.1		36.4			
Approach LOS		C	C		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.4		27.6	16.0	32.4		
Change Period (Y+Rc), s		6.5		3.5	3.5	6.5		
Max Green Setting (Gmax), s		44.0		26.0	12.5	28.0		
Max Q Clear Time (g_c+l1), s		14.7		23.1	13.0	15.0		
Green Ext Time (p_c), s		21.3		1.0	0.0	10.9		
Intersection Summary								
HCM 2010 Ctrl Delay			26.5					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

39: Manchester Avenue/Rancho Santa Fe Road & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1052	150	133	523	90	230	283	126	320	273	230
Future Volume (veh/h)	140	1052	150	133	523	90	230	283	126	320	273	230
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	152	1143	151	145	568	81	250	308	115	348	297	202
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	185	994	131	174	978	139	277	420	339	373	520	441
Arrive On Green	0.10	0.32	0.32	0.10	0.31	0.31	0.16	0.23	0.23	0.21	0.28	0.28
Sat Flow, veh/h	1774	3139	414	1774	3106	442	1774	1863	1502	1774	1863	1578
Grp Volume(v), veh/h	152	643	651	145	323	326	250	308	115	348	297	202
Grp Sat Flow(s),veh/h/ln	1774	1770	1783	1774	1770	1778	1774	1863	1502	1774	1863	1578
Q Serve(g_s), s	10.2	38.3	38.3	9.7	18.5	18.6	16.7	18.6	7.8	23.3	16.5	12.8
Cycle Q Clear(g_c), s	10.2	38.3	38.3	9.7	18.5	18.6	16.7	18.6	7.8	23.3	16.5	12.8
Prop In Lane	1.00		0.23	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	560	564	174	557	560	277	420	339	373	520	441
V/C Ratio(X)	0.82	1.15	1.15	0.83	0.58	0.58	0.90	0.73	0.34	0.93	0.57	0.46
Avail Cap(c_a), veh/h	403	560	564	381	557	560	359	479	386	388	520	441
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	1.00	1.00
Uniform Delay (d), s/veh	53.1	41.4	41.4	53.6	34.7	34.8	50.1	43.5	39.3	47.0	37.4	36.0
Incr Delay (d2), s/veh	12.1	85.9	87.9	9.7	2.4	2.4	18.4	6.9	1.3	28.3	2.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	32.0	32.6	5.2	9.4	9.5	9.6	10.4	3.3	14.3	8.9	5.8
LnGrp Delay(d),s/veh	65.3	127.3	129.2	63.3	37.1	37.2	68.6	50.3	40.5	75.3	39.8	37.6
LnGrp LOS	E	F	F	E	D	D	E	D	D	E	D	D
Approach Vol, veh/h		1446			794			673			847	
Approach Delay, s/veh		121.6			42.0			55.4			53.9	
Approach LOS		F			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	44.0	22.4	38.7	16.1	43.8	28.9	32.2				
Change Period (Y+Rc), s	4.0	5.7	3.5	4.9	3.5	5.7	3.5	4.9				
Max Green Setting (Gmax), s	20.0	38.3	24.5	33.1	27.5	37.3	26.5	31.1				
Max Q Clear Time (g_c+1),s	11.7	40.3	18.7	18.5	12.2	20.6	25.3	20.6				
Green Ext Time (p_c), s	0.3	0.0	0.2	7.1	0.5	14.5	0.1	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay					77.7							
HCM 2010 LOS					E							

Intersection

Intersection Delay, s/veh 56.1
 Intersection LOS F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	200	193	150	20	229	600
Future Vol, veh/h	200	193	150	20	229	600
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	217	210	163	22	249	652
Number of Lanes	1	0	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left NB			WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right SB		WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	23.2	12.8	80.6
HCM LOS	C	B	F

Lane	NBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	51%	100%	0%
Vol Thru, %	88%	0%	0%	100%
Vol Right, %	12%	49%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	393	229	600
LT Vol	0	200	229	0
Through Vol	150	0	0	600
RT Vol	20	193	0	0
Lane Flow Rate	185	427	249	652
Geometry Grp	5	2	7	7
Degree of Util (X)	0.329	0.713	0.47	1.14
Departure Headway (Hd)	6.604	6.221	6.799	6.291
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	549	585	533	580
Service Time	4.604	4.221	4.506	3.997
HCM Lane V/C Ratio	0.337	0.73	0.467	1.124
HCM Control Delay	12.8	23.2	15.4	105.5
HCM Lane LOS	B	C	C	F
HCM 95th-tile Q	1.4	5.8	2.5	21.4

HCM 2010 Signalized Intersection Summary
 41: I-5 SB On-Ramp/I-5 SB Off-Ramp & Santa Fe Drive

05/10/2018

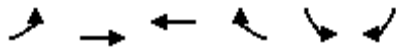


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑						↑	↗
Traffic Volume (veh/h)	0	506	170	445	690	0	0	0	0	80	10	230
Future Volume (veh/h)	0	506	170	445	690	0	0	0	0	80	10	230
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	550	185	484	750	0				87	11	250
Adj No. of Lanes	0	1	1	1	2	0				0	1	1
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	637	529	522	2457	0				285	36	285
Arrive On Green	0.00	0.34	0.34	0.29	0.69	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	1863	1548	1774	3632	0				1583	200	1583
Grp Volume(v), veh/h	0	550	185	484	750	0				98	0	250
Grp Sat Flow(s),veh/h/ln	0	1863	1548	1774	1770	0				1784	0	1583
Q Serve(g_s), s	0.0	22.4	7.3	21.5	6.7	0.0				3.9	0.0	12.5
Cycle Q Clear(g_c), s	0.0	22.4	7.3	21.5	6.7	0.0				3.9	0.0	12.5
Prop In Lane	0.00		1.00	1.00		0.00				0.89		1.00
Lane Grp Cap(c), veh/h	0	637	529	522	2457	0				321	0	285
V/C Ratio(X)	0.00	0.86	0.35	0.93	0.31	0.00				0.30	0.00	0.88
Avail Cap(c_a), veh/h	0	707	587	619	2782	0				352	0	312
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.9	20.0	27.8	4.8	0.0				28.9	0.0	32.4
Incr Delay (d2), s/veh	0.0	9.2	0.1	17.2	0.0	0.0				0.2	0.0	20.7
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	0.0	13.1	3.1	13.0	3.2	0.0				1.9	0.0	7.1
LnGrp Delay(d),s/veh	0.0	34.2	20.1	44.9	4.8	0.0				29.1	0.0	53.1
LnGrp LOS		C	C	D	A					C		D
Approach Vol, veh/h		735			1234						348	
Approach Delay, s/veh		30.6			20.6						46.3	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	38.6	32.8		19.7		61.4						
Change Period (Y+Rc), s	4.7	5.1		5.1		5.1						
Max Green Setting (Gmax), s	28	30.8		16.0		63.8						
Max Q Clear Time (g_c+2p_c), s	28	24.4		14.5		8.7						
Green Ext Time (p_c), s	0.4	3.4		0.2		7.3						
Intersection Summary												
HCM 2010 Ctrl Delay				27.6								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 42: Santa Fe Drive & I-5 NB On-Ramp

05/10/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↗	↔	↗				
Traffic Volume (veh/h)	175	420	1135	375	0	0		
Future Volume (veh/h)	175	420	1135	375	0	0		
Number	5	2	6	16				
Initial Q (Qb), veh	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00			0.97				
Parking Bus, Adj	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863				
Adj Flow Rate, veh/h	190	457	1234	408				
Adj No. of Lanes	1	1	2	1				
Peak Hour Factor	0.92	0.92	0.92	0.92				
Percent Heavy Veh, %	2	2	2	2				
Cap, veh/h	314	1553	1812	784				
Arrive On Green	0.18	0.83	0.51	0.51				
Sat Flow, veh/h	1774	1863	3632	1532				
Grp Volume(v), veh/h	190	457	1234	408				
Grp Sat Flow(s),veh/h/ln	1774	1863	1770	1532				
Q Serve(g_s), s	3.2	1.8	8.5	5.7				
Cycle Q Clear(g_c), s	3.2	1.8	8.5	5.7				
Prop In Lane	1.00			1.00				
Lane Grp Cap(c), veh/h	314	1553	1812	784				
V/C Ratio(X)	0.61	0.29	0.68	0.52				
Avail Cap(c_a), veh/h	530	1986	2203	954				
HCM Platoon Ratio	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	12.3	0.6	5.9	5.3				
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.2				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	1.6	0.8	4.0	2.4				
LnGrp Delay(d),s/veh	13.0	0.6	6.3	5.5				
LnGrp LOS	B	A	A	A				
Approach Vol, veh/h		647	1642					
Approach Delay, s/veh		4.3	6.1					
Approach LOS		A	A					
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		
Phs Duration (G+Y+Rc), s		32.4			10.4	22.0		
Change Period (Y+Rc), s		5.4			* 4.7	5.4		
Max Green Setting (Gmax), s		34.6			* 9.7	20.2		
Max Q Clear Time (g_c+l1), s		3.8			5.2	10.5		
Green Ext Time (p_c), s		11.1			0.1	6.1		
Intersection Summary								
HCM 2010 Ctrl Delay			5.6					
HCM 2010 LOS			A					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 43: I-5 NB Off-Ramp/Regal Road & Santa Fe Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	358	0	0	920	71	301	100	168	60	0	300
Future Volume (veh/h)	72	358	0	0	920	71	301	100	168	60	0	300
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	78	389	0	0	1000	77	230	267	158	65	0	326
Adj No. of Lanes	1	1	0	0	3	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	2	2
Cap, veh/h	126	686	0	0	1150	88	313	329	276	70	0	350
Arrive On Green	0.07	0.37	0.00	0.00	0.24	0.24	0.18	0.18	0.18	0.26	0.00	0.26
Sat Flow, veh/h	1774	1863	0	0	4972	369	1774	1863	1562	265	0	1329
Grp Volume(v), veh/h	78	389	0	0	705	372	230	267	158	391	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	1695	1783	1774	1863	1562	1595	0	0
Q Serve(g_s), s	3.5	13.6	0.0	0.0	16.2	16.3	10.0	11.2	7.5	19.5	0.0	0.0
Cycle Q Clear(g_c), s	3.5	13.6	0.0	0.0	16.2	16.3	10.0	11.2	7.5	19.5	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.21	1.00		1.00	0.17		0.83
Lane Grp Cap(c), veh/h	126	686	0	0	812	427	313	329	276	419	0	0
V/C Ratio(X)	0.62	0.57	0.00	0.00	0.87	0.87	0.73	0.81	0.57	0.93	0.00	0.00
Avail Cap(c_a), veh/h	155	730	0	0	838	441	351	369	309	419	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.7	20.5	0.0	0.0	29.7	29.7	31.7	32.2	30.7	29.3	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.5	0.0	0.0	9.0	15.9	7.8	12.7	2.8	27.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	7.0	0.0	0.0	8.6	9.8	5.5	6.9	3.5	11.8	0.0	0.0
LnGrp Delay(d),s/veh	38.7	21.0	0.0	0.0	38.7	45.7	39.4	44.8	33.5	56.5	0.0	0.0
LnGrp LOS	D	C			D	D	D	D	C	E		
Approach Vol, veh/h		467			1077			655			391	
Approach Delay, s/veh		23.9			41.1			40.2			56.5	
Approach LOS		C			D			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		35.4		26.5	10.5	24.9		19.5				
Change Period (Y+Rc), s		5.4		5.1	* 4.7	5.4		5.1				
Max Green Setting (Gmax), s		31.9		21.4	* 7.1	20.1		16.1				
Max Q Clear Time (g_c+I1), s		15.6		21.5	5.5	18.3		13.2				
Green Ext Time (p_c), s		6.0		0.0	0.0	1.2		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				40.1								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 44: MacKinnon Avenue/Nardo Road & Santa Fe Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	428	85	210	761	120	100	70	120	40	90	50
Future Volume (veh/h)	65	428	85	210	761	120	100	70	120	40	90	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	0.98		0.95	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	465	92	228	827	130	109	76	89	43	98	54
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	715	141	267	899	141	179	113	112	107	219	105
Arrive On Green	0.05	0.48	0.48	0.15	0.57	0.57	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	1504	298	1774	1564	246	517	488	483	238	946	453
Grp Volume(v), veh/h	71	0	557	228	0	957	274	0	0	195	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1801	1774	0	1810	1488	0	0	1636	0	0
Q Serve(g_s), s	3.3	0.0	19.8	10.5	0.0	40.1	6.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	19.8	10.5	0.0	40.1	14.4	0.0	0.0	8.3	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.14	0.40		0.32	0.22		0.28
Lane Grp Cap(c), veh/h	91	0	856	267	0	1040	404	0	0	431	0	0
V/C Ratio(X)	0.78	0.00	0.65	0.85	0.00	0.92	0.68	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	95	0	856	327	0	1087	464	0	0	496	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.4	0.0	16.8	34.8	0.0	16.2	30.2	0.0	0.0	28.0	0.0	0.0
Incr Delay (d2), s/veh	32.1	0.0	1.9	16.6	0.0	12.2	3.6	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	0.0	10.2	6.4	0.0	23.2	6.3	0.0	0.0	4.0	0.0	0.0
LnGrp Delay(d),s/veh	71.6	0.0	18.6	51.4	0.0	28.4	33.8	0.0	0.0	28.9	0.0	0.0
LnGrp LOS	E		B	D		C	C			C		
Approach Vol, veh/h		628			1185			274			195	
Approach Delay, s/veh		24.6			32.8			33.8			28.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.2	44.5		23.5	7.8	52.8		23.5				
Change Period (Y+Rc), s	3.5	4.5		4.0	3.5	4.5		4.0				
Max Green Setting (Gmax), s	10.5	39.5		23.0	4.5	50.5		23.0				
Max Q Clear Time (g_c+1),s	11.5	21.8		10.3	5.3	42.1		16.4				
Green Ext Time (p_c), s	0.2	11.8		2.9	0.0	6.2		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			30.3									
HCM 2010 LOS			C									

Intersection						
Int Delay, s/veh	20.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	204	493	801	184	41	238
Future Vol, veh/h	204	493	801	184	41	238
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	222	536	871	200	45	259




















Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1071	0	0 1950 971
Stage 1	-	-	- 971 -
Stage 2	-	-	- 979 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	651	-	- 71 307
Stage 1	-	-	- 367 -
Stage 2	-	-	- 364 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	651	-	- 47 307
Mov Cap-2 Maneuver	-	-	- 153 -
Stage 1	-	-	- 367 -
Stage 2	-	-	- 240 -

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	137.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	651	-	-	-	267
HCM Lane V/C Ratio	0.341	-	-	-	1.136
HCM Control Delay (s)	13.4	-	-	-	137.5
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1.5	-	-	-	13.2

HCM 2010 Signalized Intersection Summary
 46: Lake Drive & Santa Fe Drive

05/10/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	389	75	400	785	10	65	5	140	10	10	10
Future Volume (veh/h)	5	389	75	400	785	10	65	5	140	10	10	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.99		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	5	423	82	435	853	11	71	5	125	11	11	11
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	1040	202	630	1263	16	156	24	156	143	129	94
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	638	1510	293	890	1835	24	435	145	954	365	789	577
Grp Volume(v), veh/h	5	0	505	435	0	864	201	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	638	0	1803	890	0	1859	1534	0	0	1731	0	0
Q Serve(g_s), s	0.3	0.0	7.0	23.7	0.0	15.5	5.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.8	0.0	7.0	30.7	0.0	15.5	7.2	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.01	0.35		0.62	0.33		0.33
Lane Grp Cap(c), veh/h	392	0	1241	630	0	1279	336	0	0	367	0	0
V/C Ratio(X)	0.01	0.00	0.41	0.69	0.00	0.68	0.60	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	398	0	1258	638	0	1296	522	0	0	556	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.8	0.0	3.9	10.5	0.0	5.2	23.0	0.0	0.0	20.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	4.1	0.0	1.9	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.5	6.4	0.0	8.3	3.1	0.0	0.0	0.4	0.0	0.0
LnGrp Delay(d),s/veh	9.8	0.0	4.3	14.6	0.0	7.1	23.6	0.0	0.0	20.5	0.0	0.0
LnGrp LOS	A		A	B		A	C			C		
Approach Vol, veh/h		510			1299			201				33
Approach Delay, s/veh		4.4			9.6			23.6				20.5
Approach LOS		A			A			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.5		12.9		44.5		12.9				
Change Period (Y+Rc), s		5.0		3.5		5.0		3.5				
Max Green Setting (Gmax), s		40.0		16.5		40.0		16.5				
Max Q Clear Time (g_c+I1), s		17.8		2.9		32.7		9.2				
Green Ext Time (p_c), s		19.0		0.8		6.8		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			9.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

47: El Camino Real & Santa Fe Drive

05/10/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↖	↘	↖	↑↑↑	↓↓	↘		
Traffic Volume (veh/h)	345	184	232	805	1253	863		
Future Volume (veh/h)	345	184	232	805	1253	863		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.95		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	375	200	252	875	1362	938		
Adj No. of Lanes	2	1	1	3	2	1		
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	654	301	261	3333	1624	990		
Arrive On Green	0.19	0.19	0.15	0.66	0.46	0.46		
Sat Flow, veh/h	3442	1583	1774	5253	3632	1500		
Grp Volume(v), veh/h	375	200	252	875	1362	938		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1695	1770	1500		
Q Serve(g_s), s	7.1	8.3	10.1	5.1	24.1	32.7		
Cycle Q Clear(g_c), s	7.1	8.3	10.1	5.1	24.1	32.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	654	301	261	3333	1624	990		
V/C Ratio(X)	0.57	0.66	0.96	0.26	0.84	0.95		
Avail Cap(c_a), veh/h	1594	733	261	3333	1624	990		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	26.2	26.7	30.2	5.1	17.0	10.1		
Incr Delay (d2), s/veh	1.1	3.6	45.6	0.1	4.1	17.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.4	7.4	8.2	2.4	12.7	23.0		
LnGrp Delay(d),s/veh	27.4	30.3	75.8	5.2	21.1	27.6		
LnGrp LOS	C	C	E	A	C	C		
Approach Vol, veh/h	575			1127	2300			
Approach Delay, s/veh	28.4			20.9	23.7			
Approach LOS	C			C	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		52.7		18.5	14.0	38.7		
Change Period (Y+Rc), s		6.0		5.0	3.5	* 6		
Max Green Setting (Gmax), s		46.0		33.0	10.5	* 33		
Max Q Clear Time (g_c+l1), s		7.1		10.3	12.1	34.7		
Green Ext Time (p_c), s		33.4		3.2	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			23.6					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

48: San Elijo Avenue & Birmingham Drive

05/10/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	190	90	265	235	195	635		
Future Volume (veh/h)	190	90	265	235	195	635		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	207	98	288	255	212	690		
Adj No. of Lanes	1	1	1	0	1	1		
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	282	251	383	339	269	1222		
Arrive On Green	0.16	0.16	0.43	0.43	0.15	0.66		
Sat Flow, veh/h	1774	1583	893	791	1774	1863		
Grp Volume(v), veh/h	207	98	0	543	212	690		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1684	1774	1863		
Q Serve(g_s), s	5.1	2.5	0.0	12.5	5.3	9.3		
Cycle Q Clear(g_c), s	5.1	2.5	0.0	12.5	5.3	9.3		
Prop In Lane	1.00	1.00		0.47	1.00			
Lane Grp Cap(c), veh/h	282	251	0	721	269	1222		
V/C Ratio(X)	0.74	0.39	0.00	0.75	0.79	0.56		
Avail Cap(c_a), veh/h	619	553	0	827	368	1442		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	17.3	0.0	11.1	18.7	4.3		
Incr Delay (d2), s/veh	1.4	0.4	0.0	3.1	8.6	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.6	1.1	0.0	6.4	3.2	4.8		
LnGrp Delay(d),s/veh	19.8	17.7	0.0	14.2	27.4	4.9		
LnGrp LOS	B	B		B	C	A		
Approach Vol, veh/h	305		543			902		
Approach Delay, s/veh	19.1		14.2			10.2		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	10.4	24.1		11.3		34.6		
Change Period (Y+Rc), s	3.5	4.5		4.0		4.5		
Max Green Setting (Gmax), s	22.5			16.0		35.5		
Max Q Clear Time (g_c+I1), s	14.5			7.1		11.3		
Green Ext Time (p_c), s	0.2	5.1		0.3		10.6		
Intersection Summary								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					

Intersection

Int Delay, s/veh 35.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑		↑
Traffic Vol, veh/h	0	410	530	530	320	0	0	0	0	50	0	130
Future Vol, veh/h	0	410	530	530	320	0	0	0	0	50	0	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	446	576	576	348	0	0	0	0	54	0	141

Major/Minor

	Major1			Major2			Minor2				
Conflicting Flow All	-	0	-	446	0	0			1946	-	348
Stage 1	-	-	-	-	-	-			1500	-	-
Stage 2	-	-	-	-	-	-			446	-	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	-	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	-	3.318
Pot Cap-1 Maneuver	0	-	0	1114	-	0			71	0	695
Stage 1	0	-	0	-	-	0			204	0	-
Stage 2	0	-	0	-	-	0			645	0	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1114	-	-			~ 25	0	695
Mov Cap-2 Maneuver	-	-	-	-	-	-			~ 25	0	-
Stage 1	-	-	-	-	-	-			73	0	-
Stage 2	-	-	-	-	-	-			645	0	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	7.3	250.6
HCM LOS			F

Minor Lane/Major Mvmt

	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1114	-	25	695
HCM Lane V/C Ratio	-	0.517	-	2.174	0.203
HCM Control Delay (s)	-	11.6	0	872.1	11.5
HCM Lane LOS	-	B	A	F	B
HCM 95th %tile Q(veh)	-	3.1	-	6.7	0.8

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Intersection Delay, s/veh	109.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↑	↗		↔	↗			
Traffic Vol, veh/h	260	200	0	0	710	160	140	0	160	0	0	0
Future Vol, veh/h	260	200	0	0	710	160	140	0	160	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	283	217	0	0	772	174	152	0	174	0	0	0
Number of Lanes	0	1	0	0	1	1	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	52.1	172.9	14.8
HCM LOS	F	F	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	57%	0%	0%
Vol Thru, %	0%	0%	43%	100%	0%
Vol Right, %	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	160	460	710	160
LT Vol	140	0	260	0	0
Through Vol	0	0	200	710	0
RT Vol	0	160	0	0	160
Lane Flow Rate	152	174	500	772	174
Geometry Grp	7	7	6	7	7
Degree of Util (X)	0.343	0.333	0.934	1.399	0.281
Departure Headway (Hd)	8.693	7.45	7.158	6.527	5.812
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	417	485	510	563	619
Service Time	6.393	5.15	5.158	4.262	3.547
HCM Lane V/C Ratio	0.365	0.359	0.98	1.371	0.281
HCM Control Delay	15.9	13.8	52.1	209.4	10.8
HCM Lane LOS	C	B	F	F	B
HCM 95th-tile Q	1.5	1.4	11.4	35.5	1.1

HCM 2010 AWSC
 51: Manchester Avenue & I-5 SB On-Off Ramps

05/10/2018

Intersection

Intersection Delay, s/veh	858.8
Intersection LOS	F

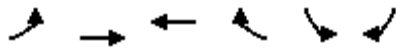
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑	↗	↘	↗
Traffic Vol, veh/h	530	260	681	1511	42	10
Future Vol, veh/h	530	260	681	1511	42	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	576	283	740	1642	46	11
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	77.5	468.4	13.8
HCM LOS	F	F	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	530	260	681	1511	42	10
LT Vol	530	0	0	0	42	0
Through Vol	0	260	681	0	0	0
RT Vol	0	0	0	1511	0	10
Lane Flow Rate	576	283	740	1642	46	11
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	1.108	0.504	1.2	2.345	0.113	0.023
Departure Headway (Hd)	8.768	8.264	6.053	5.346	10.25	9.019
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	421	441	607	706	352	399
Service Time	6.468	5.964	3.753	3.046	7.95	6.719
HCM Lane V/C Ratio	1.368	0.642	1.219	2.326	0.131	0.028
HCM Control Delay	106.2	19.1	126.5	622.5	14.3	11.9
HCM Lane LOS	F	C	F	F	B	B
HCM 95th-tile Q	16.1	2.8	25.4	118.2	0.4	0.1

HCM 2010 Signalized Intersection Summary
 52: Manchester Avenue & I-5 NB On-Off Ramps

05/10/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	50	252	1952	359	880	230		
Future Volume (veh/h)	50	252	1952	359	880	230		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	54	274	2122	390	957	250		
Adj No. of Lanes	1	1	2	1	2	1		
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	69	1217	2064	904	941	433		
Arrive On Green	0.04	0.65	0.58	0.58	0.27	0.27		
Sat Flow, veh/h	1774	1863	3632	1550	3442	1583		
Grp Volume(v), veh/h	54	274	2122	390	957	250		
Grp Sat Flow(s),veh/h/ln	1774	1863	1770	1550	1721	1583		
Q Serve(g_s), s	4.5	8.9	87.2	21.0	40.9	20.4		
Cycle Q Clear(g_c), s	4.5	8.9	87.2	21.0	40.9	20.4		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	69	1217	2064	904	941	433		
V/C Ratio(X)	0.78	0.23	1.03	0.43	1.02	0.58		
Avail Cap(c_a), veh/h	75	1223	2064	904	941	433		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	71.2	10.5	31.2	17.4	54.3	46.9		
Incr Delay (d2), s/veh	34.0	0.0	27.4	0.1	33.5	1.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	4.6	50.3	9.0	23.7	0.2		
LnGrp Delay(d),s/veh	105.2	10.6	58.5	17.5	87.8	48.1		
LnGrp LOS	F	B	F	B	F	D		
Approach Vol, veh/h		328	2512		1207			
Approach Delay, s/veh		26.1	52.2		79.6			
Approach LOS		C	D		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		103.5		46.0	10.5	93.0		
Change Period (Y+Rc), s		5.8		5.1	* 4.7	5.8		
Max Green Setting (Gmax), s		98.2		40.9	* 6.3	87.2		
Max Q Clear Time (g_c+l1), s		10.9		42.9	6.5	89.2		
Green Ext Time (p_c), s		26.5		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			58.2					
HCM 2010 LOS			E					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 53: Manchester Avenue & El Camino Real

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗		↖	↖↗	↗	↖	↖↗	↗
Traffic Volume (veh/h)	30	10	10	474	10	272	30	778	395	244	1133	40
Future Volume (veh/h)	30	10	10	474	10	272	30	778	395	244	1133	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	33	11	11	411	157	296	33	846	0	265	1232	43
Adj No. of Lanes	0	1	1	1	1	0	1	2	1	1	2	1
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	47	16	56	521	169	318	43	1090	488	298	1564	685
Arrive On Green	0.04	0.04	0.04	0.29	0.29	0.29	0.02	0.31	0.00	0.17	0.44	0.44
Sat Flow, veh/h	1347	449	1583	1774	574	1082	1774	3539	1583	1774	3539	1549
Grp Volume(v), veh/h	44	0	11	411	0	453	33	846	0	265	1232	43
Grp Sat Flow(s),veh/h/ln	795	0	1583	1774	0	1655	1774	1770	1583	1774	1770	1549
Q Serve(g_s), s	2.4	0.0	0.7	21.3	0.0	26.6	1.8	21.7	0.0	14.6	29.8	1.6
Cycle Q Clear(g_c), s	2.4	0.0	0.7	21.3	0.0	26.6	1.8	21.7	0.0	14.6	29.8	1.6
Prop In Lane	0.75		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	0	56	521	0	486	43	1090	488	298	1564	685
V/C Ratio(X)	0.70	0.00	0.20	0.79	0.00	0.93	0.77	0.78	0.00	0.89	0.79	0.06
Avail Cap(c_a), veh/h	287	0	254	550	0	514	284	1268	567	408	1564	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	0.0	46.8	32.4	0.0	34.3	48.5	31.4	0.0	40.7	23.9	16.0
Incr Delay (d2), s/veh	5.0	0.0	0.6	6.5	0.0	22.7	10.6	2.8	0.0	13.5	3.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.3	11.3	0.0	15.2	1.0	11.0	0.0	8.3	15.4	0.7
LnGrp Delay(d),s/veh	52.7	0.0	47.5	38.9	0.0	57.1	59.0	34.3	0.0	54.2	27.6	16.1
LnGrp LOS	D		D	D		E	E	C		D	C	B
Approach Vol, veh/h		55			864			879			1540	
Approach Delay, s/veh		51.7			48.4			35.2			31.9	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.8	37.3		8.0	7.4	50.7		33.8				
Change Period (Y+Rc), s	4.0	* 6.5		4.5	5.0	6.5		4.5				
Max Green Setting (Gmax), s	20.0	* 36		16.0	16.0	41.5		31.0				
Max Q Clear Time (g_c+10), s	10.6	23.7		4.4	3.8	31.8		28.6				
Green Ext Time (p_c), s	0.2	7.0		0.1	0.0	9.1		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				37.4								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

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

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

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary
 109: Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↑ ↑ ↗			↖ ↗	↑ ↑	↖	↖	↑	↖	↖	↑	↖
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	3	0	2	2	1	1	1	1	1	1	1
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	9999	9999	0	9999	9999	9999	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	0	1721	1770	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(1)	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 118: Via Cantebria & Garden View Road

05/10/2018



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↘	↙	↖	↗	↘	↙	↖	↗	↘	↙
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	9999	9999	9999	0	9999	9999	0	9999	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	1863	0	1774	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c)	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0
Through Vol	0	0	0	0	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	0	0	0	0	0
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0	0	0	0	0	0	0
Departure Headway (Hd)	4.534	4.534	2.8	4.534	4.534	4.534	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	0	0	0	0	0
Service Time	2.234	2.234	0.5	2.234	2.234	2.234	2.234	0.5
HCM Lane V/C Ratio	0	0	0	0	0	0	0	0
HCM Control Delay	7.2	7.2	5.5	7.2	7.2	7.2	7.2	5.5
HCM Lane LOS	N	N	N	N	N	N	N	N
HCM 95th-tile Q	0	0	0	0	0	0	0	0

Intersection

Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0
Through Vol	0	0	0	0	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	0	0	0	0	0
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0	0	0	0	0	0	0
Departure Headway (Hd)	4.534	2.8	4.534	2.8	4.534	2.8	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	0	0	0	0	0
Service Time	2.234	0.5	2.234	0.5	2.234	0.5	2.234	0.5
HCM Lane V/C Ratio	0	0	0	0	0	0	0	0
HCM Control Delay	7.2	5.5	7.2	5.5	7.2	5.5	7.2	5.5
HCM Lane LOS	N	N	N	N	N	N	N	N
HCM 95th-tile Q	0	0	0	0	0	0	0	0

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

169: Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	9999	9999	0	9999	9999	0	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(1)	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 173: Santa Fe Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	9999	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	0-74510	0	0-74510	0	0	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap	092376453020	092376453020	0	092376453020	092376453020	0	0	080004292608	0	0	080004292608	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	183118250686	183118250686	0	183118250686	183118250686	0	0	1280068655136	0	0	1280068655136	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 181: Santa Fe Drive





























05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	9999	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	1774	3632	0	0-74510	0	0-74510	0	0	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap	8092376	1520281	0	8092376	1520281	0	0	8000429	0	0	8000429	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c)	1831524	5288508	0	1831524	5288508	0	0	12800686	0	0	12800686	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 1: Carlsbad Boulevard & Poinsettia Lane

05/10/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		 	 	 
Traffic Volume (veh/h)	10	20	10	240	0	210	5	973	370	200	684	55
Future Volume (veh/h)	10	20	10	240	0	210	5	973	370	200	684	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	0	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	22	11	261	0	228	5	1058	402	217	743	60
Adj No. of Lanes	1	1	1	2	0	1	1	2	1	2	2	1
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	0	2	2	2	2	2	2	2
Cap, veh/h	202	212	169	0	0	0	9	1708	742	329	2028	864
Arrive On Green	0.11	0.11	0.11	0.00	0.00	0.00	0.01	0.48	0.48	0.10	0.57	0.57
Sat Flow, veh/h	1774	1863	1486				1774	3539	1539	3442	3539	1507
Grp Volume(v), veh/h	11	22	11		0.0		5	1058	402	217	743	60
Grp Sat Flow(s),veh/h/ln	1774	1863	1486				1774	1770	1539	1721	1770	1507
Q Serve(g_s), s	0.3	0.6	0.4				0.2	11.8	9.8	3.3	6.1	0.9
Cycle Q Clear(g_c), s	0.3	0.6	0.4				0.2	11.8	9.8	3.3	6.1	0.9
Prop In Lane	1.00		1.00				1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	212	169				9	1708	742	329	2028	864
V/C Ratio(X)	0.05	0.10	0.06				0.53	0.62	0.54	0.66	0.37	0.07
Avail Cap(c_a), veh/h	1125	1182	943				132	2027	881	469	2245	956
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	21.3	21.2				26.6	10.2	9.7	23.4	6.2	5.1
Incr Delay (d2), s/veh	0.2	0.4	0.3				15.7	0.4	0.6	0.8	0.1	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	0.2	0.3	0.2				0.1	5.8	4.3	1.6	2.9	0.4
LnGrp Delay(d),s/veh	21.4	21.7	21.5				42.3	10.7	10.3	24.2	6.3	5.1
LnGrp LOS	C	C	C				D	B	B	C	A	A
Approach Vol, veh/h		44						1465			1020	
Approach Delay, s/veh		21.5						10.7			10.0	
Approach LOS		C						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	9.6	32.4		11.6	4.8	37.2						
Change Period (Y+Rc), s	4.5	6.5		5.5	4.5	6.5						
Max Green Setting (Gmax), s	7.3	30.7		34.0	4.0	34.0						
Max Q Clear Time (g_c+I1), s	5.3	13.8		2.6	2.2	8.1						
Green Ext Time (p_c), s	0.1	11.7		0.2	0.0	15.6						
Intersection Summary												
HCM 2010 Ctrl Delay			10.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 2: I-5 SB On-Ramp/I-5 SB Off-Ramp & Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	850	230	770	900	0	0	0	0	340	5	220
Future Volume (veh/h)	0	850	230	770	900	0	0	0	0	340	5	220
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	924	250	837	978	0				374	0	239
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
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	1153	498	942	2365	0				649	0	290
Arrive On Green	0.00	0.33	0.33	0.27	0.67	0.00				0.18	0.00	0.18
Sat Flow, veh/h	0	3632	1530	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	924	250	837	978	0				374	0	239
Grp Sat Flow(s),veh/h/ln	0	1770	1530	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.3	9.0	16.0	8.7	0.0				6.6	0.0	10.0
Cycle Q Clear(g_c), s	0.0	16.3	9.0	16.0	8.7	0.0				6.6	0.0	10.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1153	498	942	2365	0				649	0	290
V/C Ratio(X)	0.00	0.80	0.50	0.89	0.41	0.00				0.58	0.00	0.82
Avail Cap(c_a), veh/h	0	1178	509	1070	2520	0				828	0	370
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.1	18.6	23.9	5.2	0.0				25.6	0.0	26.9
Incr Delay (d2), s/veh	0.0	3.7	0.3	7.9	0.2	0.0				0.3	0.0	9.2
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	8.5	3.9	8.6	4.3	0.0				3.2	0.0	5.1
LnGrp Delay(d),s/veh	0.0	24.7	18.9	31.8	5.5	0.0				25.9	0.0	36.1
LnGrp LOS		C	B	C	A					C		D
Approach Vol, veh/h		1174			1815						613	
Approach Delay, s/veh		23.5			17.6						29.9	
Approach LOS		C			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	23.5	27.4		17.6		50.9						
Change Period (Y+Rc), s	4.7	5.1		5.1		5.1						
Max Green Setting (Gmax), s	22.8			16.0		48.8						
Max Q Clear Time (g_c+10), s	18.3			12.0		10.7						
Green Ext Time (p_c), s	0.8	4.0		0.6		23.7						
Intersection Summary												
HCM 2010 Ctrl Delay				21.6								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 3: I-5 NB Off-Ramp/I-5 NB On-Ramp & Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	1000	0	0	1240	290	430	10	860	0	0	0
Future Volume (veh/h)	190	1000	0	0	1240	290	430	10	860	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	207	1087	0	0	1348	315	467	11	935			
Adj No. of Lanes	1	2	0	0	3	1	0	1	2			
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	247	1855	0	0	1634	490	586	14	940			
Arrive On Green	0.14	0.52	0.00	0.00	0.32	0.32	0.34	0.34	0.34			
Sat Flow, veh/h	1774	3632	0	0	5253	1526	1735	41	2787			
Grp Volume(v), veh/h	207	1087	0	0	1348	315	478	0	935			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1526	1776	0	1393			
Q Serve(g_s), s	8.4	15.6	0.0	0.0	18.1	13.0	18.0	0.0	24.7			
Cycle Q Clear(g_c), s	8.4	15.6	0.0	0.0	18.1	13.0	18.0	0.0	24.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	247	1855	0	0	1634	490	599	0	940			
V/C Ratio(X)	0.84	0.59	0.00	0.00	0.82	0.64	0.80	0.00	0.99			
Avail Cap(c_a), veh/h	272	1914	0	0	1647	494	599	0	940			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.9	12.1	0.0	0.0	23.1	21.4	22.2	0.0	24.4			
Incr Delay (d2), s/veh	17.2	0.7	0.0	0.0	3.3	2.2	6.9	0.0	27.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.3	7.7	0.0	0.0	8.9	5.7	9.9	0.0	13.0			
LnGrp Delay(d),s/veh	48.1	12.8	0.0	0.0	26.4	23.6	29.1	0.0	52.2			
LnGrp LOS	D	B			C	C	C		D			
Approach Vol, veh/h		1294			1663			1413				
Approach Delay, s/veh		18.4			25.9			44.4				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.8			15.0	28.8		30.0				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		39.9			* 11	23.9		24.9				
Max Q Clear Time (g_c+l1), s		17.6			10.4	20.1		26.7				
Green Ext Time (p_c), s		18.9			0.0	3.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					29.7							
HCM 2010 LOS					C							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 4: Aviara Parkway & Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔	↔↔		↔↔	↔↔		↔	↔↔	
Traffic Volume (veh/h)	270	480	270	30	380	110	300	230	30	130	350	440
Future Volume (veh/h)	270	480	270	30	380	110	300	230	30	130	350	440
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	293	522	293	33	413	120	326	250	25	141	380	128
Adj No. of Lanes	2	1	2	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	632	1255	46	714	205	407	800	79	176	592	197
Arrive On Green	0.11	0.34	0.34	0.03	0.26	0.26	0.12	0.25	0.25	0.10	0.23	0.23
Sat Flow, veh/h	3442	1863	2728	1774	2714	781	3442	3253	323	1774	2611	868
Grp Volume(v), veh/h	293	522	293	33	268	265	326	135	140	141	256	252
Grp Sat Flow(s),veh/h/ln	1721	1863	1364	1774	1770	1725	1721	1770	1806	1774	1770	1710
Q Serve(g_s), s	6.7	20.9	2.9	1.5	10.7	10.9	7.5	5.1	5.1	6.3	10.6	10.8
Cycle Q Clear(g_c), s	6.7	20.9	2.9	1.5	10.7	10.9	7.5	5.1	5.1	6.3	10.6	10.8
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.18	1.00		0.51
Lane Grp Cap(c), veh/h	373	632	1255	46	465	454	407	435	444	176	401	388
V/C Ratio(X)	0.78	0.83	0.23	0.72	0.58	0.58	0.80	0.31	0.32	0.80	0.64	0.65
Avail Cap(c_a), veh/h	403	811	1516	92	655	638	446	670	683	258	698	674
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	1.00	1.00
Uniform Delay (d), s/veh	35.2	24.6	4.6	39.2	26.0	26.0	34.8	25.0	25.0	35.8	28.3	28.4
Incr Delay (d2), s/veh	9.2	6.3	0.1	14.4	1.6	1.7	8.9	0.5	0.5	9.0	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	11.8	1.4	0.9	5.4	5.4	4.0	2.5	2.6	3.5	5.4	5.3
LnGrp Delay(d),s/veh	44.4	30.9	4.7	53.7	27.6	27.7	43.8	25.5	25.5	44.7	30.4	30.7
LnGrp LOS	D	C	A	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1108			566			601			649	
Approach Delay, s/veh		27.5			29.2			35.4			33.6	
Approach LOS		C			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	25.9	8.1	33.5	15.1	24.4	14.3	27.3				
Change Period (Y+Rc), s	5.5	6.0	6.0	* 6	5.5	6.0	5.5	6.0				
Max Green Setting (Gmax), s	10.0	30.7	4.2	* 35	10.5	32.0	9.5	30.0				
Max Q Clear Time (g_c+I), s	10.0	7.1	3.5	22.9	9.5	12.8	8.7	12.9				
Green Ext Time (p_c), s	0.1	6.0	0.3	4.7	0.1	5.6	0.1	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			30.8									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

5: Highway 101/Carlsbad Boulevard & La Costa Avenue

05/10/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	341	272	641	336	250	524		
Future Volume (veh/h)	341	272	641	336	250	524		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	371	0	697	0	272	570		
Adj No. of Lanes	1	1	2	1	1	2		
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	445	397	1087	486	324	1991		
Arrive On Green	0.25	0.00	0.31	0.00	0.18	0.56		
Sat Flow, veh/h	1774	1583	3632	1583	1774	3632		
Grp Volume(v), veh/h	371	0	697	0	272	570		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1774	1770		
Q Serve(g_s), s	10.9	0.0	9.4	0.0	8.2	4.6		
Cycle Q Clear(g_c), s	10.9	0.0	9.4	0.0	8.2	4.6		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	445	397	1087	486	324	1991		
V/C Ratio(X)	0.83	0.00	0.64	0.00	0.84	0.29		
Avail Cap(c_a), veh/h	869	775	1393	623	386	2420		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	19.6	0.0	16.5	0.0	21.7	6.3		
Incr Delay (d2), s/veh	4.2	0.0	0.6	0.0	11.4	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	15.9	0.0	4.6	0.0	5.0	2.2		
LnGrp Delay(d),s/veh	23.7	0.0	17.1	0.0	33.1	6.4		
LnGrp LOS	C		B		C	A		
Approach Vol, veh/h	371		697			842		
Approach Delay, s/veh	23.7		17.1			15.0		
Approach LOS	C		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	14.1	22.2		18.8		36.3		
Change Period (Y+Rc), s	4.0	5.3		5.0		5.3		
Max Green Setting (Gmax), s	10.0	21.7		27.0		37.7		
Max Q Clear Time (g_c+10),s	10.2	11.4		12.9		6.6		
Green Ext Time (p_c), s	0.1	5.6		1.0		9.7		
Intersection Summary								
HCM 2010 Ctrl Delay			17.5					
HCM 2010 LOS			B					

HCM 2010 TWSC
6: Vulcan Avenue & La Costa Avenue

05/10/2018

Intersection						
Int Delay, s/veh	21.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	530	61	244	551	72	189
Future Vol, veh/h	530	61	244	551	72	189
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	576	66	265	599	78	205

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	651	0	1747
Stage 1	-	-	-	-	618
Stage 2	-	-	-	-	1129
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	935	-	95
Stage 1	-	-	-	-	538
Stage 2	-	-	-	-	309
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	935	-	~ 54
Mov Cap-2 Maneuver	-	-	-	-	~ 54
Stage 1	-	-	-	-	534
Stage 2	-	-	-	-	178



















Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	124.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	54	485	-	-	935	-
HCM Lane V/C Ratio	1.449	0.424	-	-	0.284	-
HCM Control Delay (s)	\$ 404.5	17.8	-	-	10.4	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	7.1	2.1	-	-	1.2	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 Signalized Intersection Summary
 7: I-5 SB On-Ramp/I-5 SB Off-Ramp & La Costa Avenue

05/10/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	667	222	797	580	0	0	0	0	553	5	195
Future Volume (veh/h)	0	667	222	797	580	0	0	0	0	553	5	195
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	725	241	866	630	0				605	0	212
Adj No. of Lanes	0	2	0	2	2	0				2	0	1
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	787	262	1084	2407	0				697	0	311
Arrive On Green	0.00	0.30	0.30	0.32	0.68	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	2704	868	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	491	475	866	630	0				605	0	212
Grp Sat Flow(s),veh/h/ln	0	1770	1710	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	22.8	22.8	19.6	5.9	0.0				14.0	0.0	10.6
Cycle Q Clear(g_c), s	0.0	22.8	22.8	19.6	5.9	0.0				14.0	0.0	10.6
Prop In Lane	0.00		0.51	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	534	515	1084	2407	0				697	0	311
V/C Ratio(X)	0.00	0.92	0.92	0.80	0.26	0.00				0.87	0.00	0.68
Avail Cap(c_a), veh/h	0	554	535	1084	2407	0				789	0	352
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.7	28.7	26.6	5.3	0.0				33.1	0.0	31.7
Incr Delay (d2), s/veh	0.0	23.6	24.2	4.0	0.3	0.0				8.5	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	0.0	14.6	14.1	9.9	2.9	0.0				7.7	0.0	4.9
LnGrp Delay(d),s/veh	0.0	52.3	52.9	30.6	5.6	0.0				41.6	0.0	34.9
LnGrp LOS		D	D	C	A					D		C
Approach Vol, veh/h		966			1496						817	
Approach Delay, s/veh		52.6			20.1						39.9	
Approach LOS		D			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	32.2	31.0		21.8		63.2						
Change Period (Y+Rc), s	5.4	* 5.4		5.1		5.4						
Max Green Setting (Gmax), s	24.3	* 27		18.9		55.6						
Max Q Clear Time (g_c+I1), s	21.6	24.8		16.0		7.9						
Green Ext Time (p_c), s	1.5	0.8		0.7		5.4						
Intersection Summary												
HCM 2010 Ctrl Delay				34.6								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 8: I-5 NB Off-Ramp/I-5 NB On-Ramp & La Costa Avenue

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	1018	0	0	1222	471	155	5	905	0	0	0
Future Volume (veh/h)	202	1018	0	0	1222	471	155	5	905	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	220	1107	0	0	1328	512	168	5	713			
Adj No. of Lanes	1	2	0	0	3	1	0	1	2			
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	257	2050	0	0	1927	584	497	15	802			
Arrive On Green	0.14	0.58	0.00	0.00	0.13	0.13	0.29	0.29	0.29			
Sat Flow, veh/h	1774	3632	0	0	5253	1542	1725	51	2787			
Grp Volume(v), veh/h	220	1107	0	0	1328	512	173	0	713			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1542	1776	0	1393			
Q Serve(g_s), s	10.3	16.3	0.0	0.0	21.3	27.7	6.5	0.0	20.8			
Cycle Q Clear(g_c), s	10.3	16.3	0.0	0.0	21.3	27.7	6.5	0.0	20.8			
Prop In Lane	1.00		0.00	0.00		1.00	0.97		1.00			
Lane Grp Cap(c), veh/h	257	2050	0	0	1927	584	512	0	802			
V/C Ratio(X)	0.86	0.54	0.00	0.00	0.69	0.88	0.34	0.00	0.89			
Avail Cap(c_a), veh/h	278	2050	0	0	1927	584	625	0	980			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.95	0.95	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.5	11.0	0.0	0.0	32.4	35.2	23.9	0.0	29.0			
Incr Delay (d2), s/veh	22.1	1.0	0.0	0.0	1.9	16.0	0.1	0.0	7.7			
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	10.6	8.1	0.0	0.0	10.3	14.5	3.2	0.0	8.9			
LnGrp Delay(d),s/veh	57.5	12.0	0.0	0.0	34.3	51.2	24.0	0.0	36.7			
LnGrp LOS	E	B			C	D	C		D			
Approach Vol, veh/h		1327			1840			886				
Approach Delay, s/veh		19.5			39.0			34.2				
Approach LOS		B			D			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		55.4			17.0	38.4		29.6				
Change Period (Y+Rc), s		* 6.2			* 4.7	6.2		5.1				
Max Green Setting (Gmax), s		* 44			* 13	25.8		29.9				
Max Q Clear Time (g_c+I1), s		18.3			12.3	29.7		22.8				
Green Ext Time (p_c), s		16.3			0.1	0.0		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay					31.6							
HCM 2010 LOS					C							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

9: Piraeus Street & La Costa Avenue

05/10/2018

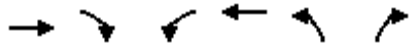


Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑↑	↵	↵		
Traffic Volume (veh/h)	1813	110	75	1561	102	82		
Future Volume (veh/h)	1813	110	75	1561	102	82		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1971	111	82	1697	111	89		
Adj No. of Lanes	2	0	1	4	1	1		
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	1874	104	142	4584	248	222		
Arrive On Green	0.37	0.37	0.08	0.72	0.14	0.14		
Sat Flow, veh/h	3496	190	1774	6669	1774	1583		
Grp Volume(v), veh/h	1014	1068	82	1697	111	89		
Grp Sat Flow(s),veh/h/ln	1770	1823	1774	1602	1774	1583		
Q Serve(g_s), s	46.8	46.8	3.8	8.7	4.9	4.4		
Cycle Q Clear(g_c), s	46.8	46.8	3.8	8.7	4.9	4.4		
Prop In Lane		0.10	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	974	1004	142	4584	248	222		
V/C Ratio(X)	1.04	1.06	0.58	0.37	0.45	0.40		
Avail Cap(c_a), veh/h	974	1004	190	4584	253	225		
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.56	0.56	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	26.8	26.8	37.7	4.7	33.5	33.3		
Incr Delay (d2), s/veh	33.1	40.5	1.4	0.2	0.5	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	11.8	34.8	1.9	3.8	2.4	1.9		
LnGrp Delay(d),s/veh	59.9	67.4	39.1	4.9	34.0	33.7		
LnGrp LOS	F	F	D	A	C	C		
Approach Vol, veh/h	2082			1779	200			
Approach Delay, s/veh	63.7			6.5	33.9			
Approach LOS	E			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	64.0	54.0				68.0		17.0
Change Period (Y+Rc), s	7.2	* 7.2				7.2		5.1
Max Green Setting (Gmax), s	* 47					60.6		12.1
Max Q Clear Time (g_c+I), s	48.8					10.7		6.9
Green Ext Time (p_c), s	2.2	0.0				42.5		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			37.2					
HCM 2010 LOS			D					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 10: Saxony Road & La Costa Avenue

05/10/2018



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	1747	148	195	1503	93	160		
Future Volume (veh/h)	1747	148	195	1503	93	160		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1899	161	212	1634	101	174		
Adj No. of Lanes	2	0	1	2	1	1		
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	2002	167	227	2746	231	206		
Arrive On Green	0.61	0.61	0.13	0.78	0.13	0.13		
Sat Flow, veh/h	3400	276	1774	3632	1774	1583		
Grp Volume(v), veh/h	1004	1056	212	1634	101	174		
Grp Sat Flow(s),veh/h/ln	1770	1814	1774	1770	1774	1583		
Q Serve(g_s), s	60.6	64.6	13.9	22.5	6.2	12.6		
Cycle Q Clear(g_c), s	60.6	64.6	13.9	22.5	6.2	12.6		
Prop In Lane		0.15	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1071	1098	227	2746	231	206		
V/C Ratio(X)	0.94	0.96	0.93	0.60	0.44	0.84		
Avail Cap(c_a), veh/h	1071	1098	227	2746	424	378		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	21.1	21.9	50.7	5.5	47.0	49.8		
Incr Delay (d2), s/veh	15.2	18.9	41.4	0.5	1.3	9.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh	33.8	37.8	9.4	10.9	3.1	6.0		
LnGrp Delay(d),s/veh	36.3	40.8	92.0	6.0	48.3	58.8		
LnGrp LOS	D	D	F	A	D	E		
Approach Vol, veh/h	2060			1846	275			
Approach Delay, s/veh	38.6			15.9	54.9			
Approach LOS	D			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		20.3	20.0	77.0				97.0
Change Period (Y+Rc), s		5.0	5.0	6.0				6.0
Max Green Setting (Gmax), s		28.0	15.0	71.0				91.0
Max Q Clear Time (g_c+l1), s		14.6	15.9	66.6				24.5
Green Ext Time (p_c), s		0.7	0.0	4.4				65.9
Intersection Summary								
HCM 2010 Ctrl Delay			29.6					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary
 11: El Camino Real & La Costa Avenue

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↗	↑↑	↗	↔↔↔	↔↔↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	840	802	365	210	518	195	390	1250	95	290	1115	840
Future Volume (veh/h)	840	802	365	210	518	195	390	1250	95	290	1115	840
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	913	872	301	228	563	169	424	1359	89	315	1212	754
Adj No. of Lanes	2	2	1	1	2	1	2	3	0	2	3	1
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	988	1085	477	249	566	250	436	1429	94	385	1476	907
Arrive On Green	0.29	0.31	0.31	0.14	0.16	0.16	0.21	0.49	0.49	0.19	0.48	0.48
Sat Flow, veh/h	3442	3539	1555	1774	3539	1560	3442	4877	319	3442	5085	1559
Grp Volume(v), veh/h	913	872	301	228	563	169	424	945	503	315	1212	754
Grp Sat Flow(s),veh/h/ln	1721	1770	1555	1774	1770	1560	1721	1695	1806	1721	1695	1559
Q Serve(g_s), s	38.6	34.0	25.0	19.0	23.8	11.8	18.3	39.9	39.9	13.2	30.6	43.5
Cycle Q Clear(g_c), s	38.6	34.0	25.0	19.0	23.8	11.8	18.3	39.9	39.9	13.2	30.6	43.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	988	1085	477	249	566	250	436	993	529	385	1476	907
V/C Ratio(X)	0.92	0.80	0.63	0.91	0.99	0.68	0.97	0.95	0.95	0.82	0.82	0.83
Avail Cap(c_a), veh/h	1055	1102	484	278	566	250	436	1003	535	385	1476	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	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	51.9	47.9	44.7	63.6	62.9	35.3	58.9	37.3	37.3	59.5	35.3	22.6
Incr Delay (d2), s/veh	13.0	4.2	2.3	29.2	36.3	7.1	35.7	18.9	28.7	12.2	5.3	8.8
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	20.2	17.2	11.0	11.3	14.5	5.6	10.9	21.2	24.0	6.9	14.9	30.0
LnGrp Delay(d),s/veh	64.9	52.1	47.1	92.8	99.2	42.4	94.6	56.2	66.0	71.7	40.6	31.3
LnGrp LOS	E	D	D	F	F	D	F	E	E	E	D	C
Approach Vol, veh/h		2086			960			1872			2281	
Approach Delay, s/veh		57.0			87.7			67.5			41.8	
Approach LOS		E			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.8	49.9	25.3	52.0	23.2	49.5	47.3	30.0				
Change Period (Y+Rc), s	6.0	* 6	* 4.2	* 6	* 4.2	6.0	* 4.2	6.0				
Max Green Setting (Gmax), s	45.0	* 44	* 24	* 47	* 19	40.6	* 46	24.0				
Max Q Clear Time (g_c+1), s	15.0	41.9	21.0	36.0	20.3	45.5	40.6	25.8				
Green Ext Time (p_c), s	0.0	2.0	0.1	6.6	0.0	0.0	2.5	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					59.0							
HCM 2010 LOS					E							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 12: Highway 101 & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	
Traffic Volume (veh/h)	30	70	30	231	50	264	40	837	255	306	716	30
Future Volume (veh/h)	30	70	30	231	50	264	40	837	255	306	716	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	76	33	251	54	287	43	910	277	333	778	33
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	93	40	417	60	321	54	983	800	353	1455	62
Arrive On Green	0.10	0.10	0.10	0.24	0.24	0.24	0.03	0.28	0.28	0.20	0.42	0.42
Sat Flow, veh/h	404	930	404	1774	257	1365	1774	3539	1541	1774	3459	147
Grp Volume(v), veh/h	142	0	0	251	0	341	43	910	277	333	398	413
Grp Sat Flow(s),veh/h/ln	738	0	0	1774	0	1622	1774	1770	1541	1774	1770	1836
Q Serve(g_s), s	7.8	0.0	0.0	12.3	0.0	19.9	2.4	24.5	10.5	18.1	16.5	16.5
Cycle Q Clear(g_c), s	7.8	0.0	0.0	12.3	0.0	19.9	2.4	24.5	10.5	18.1	16.5	16.5
Prop In Lane	0.23		0.23	1.00		0.84	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	174	0	0	417	0	381	54	983	800	353	744	773
V/C Ratio(X)	0.82	0.00	0.00	0.60	0.00	0.89	0.79	0.93	0.35	0.94	0.53	0.53
Avail Cap(c_a), veh/h	284	0	0	507	0	464	109	1015	814	353	744	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	0.0	0.0	33.4	0.0	36.3	47.2	34.4	14.2	38.7	21.2	21.2
Incr Delay (d2), s/veh	3.5	0.0	0.0	0.5	0.0	15.5	9.1	13.2	0.1	33.0	0.4	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	8.9	0.0	0.0	6.1	0.0	10.5	1.3	13.7	6.6	12.1	8.0	8.3
LnGrp Delay(d),s/veh	46.7	0.0	0.0	33.9	0.0	51.8	56.2	47.6	14.3	71.7	21.6	21.6
LnGrp LOS	D			C		D	E	D	B	E	C	C
Approach Vol, veh/h		142			592			1230			1144	
Approach Delay, s/veh		46.7			44.2			40.4			36.2	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.0	32.5		14.3	9.0	46.5		28.1				
Change Period (Y+Rc), s	3.5	5.3		4.5	6.0	5.3		5.1				
Max Green Setting (Gmax), s	19.5	28.1		16.0	6.0	39.1		28.0				
Max Q Clear Time (g_c+20), s	20.1	26.5		9.8	4.4	18.5		21.9				
Green Ext Time (p_c), s	0.0	0.7		0.2	0.0	8.7		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				39.8								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
 13: Vulcan Avenue & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	75	476	80	80	422	43	102	196	140	40	183	61
Future Volume (veh/h)	75	476	80	80	422	43	102	196	140	40	183	61
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	82	517	87	87	459	47	111	213	77	43	199	66
Adj No. of Lanes	1	1	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	525	808	136	373	1192	122	336	387	140	318	395	131
Arrive On Green	0.08	0.52	0.52	0.37	0.37	0.37	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1774	1553	261	810	3243	331	1104	1307	472	1084	1336	443
Grp Volume(v), veh/h	82	0	604	87	250	256	111	0	290	43	0	265
Grp Sat Flow(s),veh/h/ln	1774	0	1815	810	1770	1804	1104	0	1779	1084	0	1779
Q Serve(g_s), s	1.2	0.0	11.8	4.3	5.1	5.2	4.6	0.0	6.8	1.7	0.0	6.1
Cycle Q Clear(g_c), s	1.2	0.0	11.8	8.6	5.1	5.2	10.7	0.0	6.8	8.5	0.0	6.1
Prop In Lane	1.00		0.14	1.00		0.18	1.00		0.27	1.00		0.25
Lane Grp Cap(c), veh/h	525	0	944	373	650	663	336	0	526	318	0	526
V/C Ratio(X)	0.16	0.00	0.64	0.23	0.38	0.39	0.33	0.00	0.55	0.14	0.00	0.50
Avail Cap(c_a), veh/h	612	0	1203	448	815	831	525	0	830	503	0	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.3	0.0	8.5	14.3	11.5	11.5	18.8	0.0	14.7	18.2	0.0	14.4
Incr Delay (d2), s/veh	0.1	0.0	1.0	0.5	0.5	0.5	0.2	0.0	0.3	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	6.1	1.0	2.6	2.7	1.4	0.0	3.4	0.5	0.0	3.0
LnGrp Delay(d),s/veh	7.4	0.0	9.6	14.8	12.1	12.1	19.0	0.0	15.0	18.3	0.0	14.7
LnGrp LOS	A		A	B	B	B	B		B	B		B
Approach Vol, veh/h		686			593			401			308	
Approach Delay, s/veh		9.3			12.5			16.1			15.2	
Approach LOS		A			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		29.7		19.7	7.6	22.2		19.7				
Change Period (Y+Rc), s		4.0		5.1	3.5	4.0		5.1				
Max Green Setting (Gmax), s		32.8		23.1	6.5	22.8		23.1				
Max Q Clear Time (g_c+l1), s		13.8		10.5	3.2	10.6		12.7				
Green Ext Time (p_c), s		10.3		2.1	0.0	7.6		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				12.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 14: Orpheus Avenue & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗		↖	↗	
Traffic Volume (veh/h)	20	576	80	200	735	170	30	30	200	140	30	30
Future Volume (veh/h)	20	576	80	200	735	170	30	30	200	140	30	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	626	87	217	799	185	33	33	174	152	33	33
Adj No. of Lanes	1	2	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	902	125	486	1338	578	477	75	394	349	247	247
Arrive On Green	0.05	0.29	0.29	0.14	0.38	0.38	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1774	3123	433	3442	3539	1528	1325	259	1364	1170	854	854
Grp Volume(v), veh/h	22	354	359	217	799	185	33	0	207	152	0	66
Grp Sat Flow(s),veh/h/ln	1774	1770	1786	1721	1770	1528	1325	0	1622	1170	0	1708
Q Serve(g_s), s	0.6	9.7	9.7	3.2	9.9	4.7	1.0	0.0	5.7	6.6	0.0	1.6
Cycle Q Clear(g_c), s	0.6	9.7	9.7	3.2	9.9	4.7	2.6	0.0	5.7	12.3	0.0	1.6
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.84	1.00		0.50
Lane Grp Cap(c), veh/h	92	511	516	486	1338	578	477	0	469	349	0	494
V/C Ratio(X)	0.24	0.69	0.70	0.45	0.60	0.32	0.07	0.00	0.44	0.44	0.00	0.13
Avail Cap(c_a), veh/h	325	704	711	505	1338	578	945	0	1041	762	0	1096
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	24.8	17.2	17.2	21.5	13.6	12.0	15.3	0.0	15.8	20.8	0.0	14.3
Incr Delay (d2), s/veh	0.5	0.7	0.7	0.2	0.5	0.1	0.0	0.0	0.2	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.8	4.9	1.5	4.9	2.0	0.4	0.0	2.6	2.1	0.0	0.7
LnGrp Delay(d),s/veh	25.3	17.9	17.9	21.7	14.1	12.1	15.3	0.0	16.0	21.1	0.0	14.4
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		735			1201			240			218	
Approach Delay, s/veh		18.2			15.2			15.9			19.1	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	20.9		20.9	7.9	25.7		20.9				
Change Period (Y+Rc), s	5.1	5.1		5.1	5.1	5.1		5.1				
Max Green Setting (Gmax), s	21.7			35.0	10.0	19.7		35.0				
Max Q Clear Time (g_c+I), s	11.7			14.3	2.6	11.9		7.7				
Green Ext Time (p_c), s	0.1	4.0		1.4	0.0	4.5		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				16.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 15: I-5 SB On-Ramp/I-5 SB Off-Ramp & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	765	281	506	715	0	0	0	0	380	0	220
Future Volume (veh/h)	0	765	281	506	715	0	0	0	0	380	0	220
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	832	305	550	777	0				413	0	239
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
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	1207	536	680	2217	0				703	0	314
Arrive On Green	0.00	0.34	0.34	0.20	0.63	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	3632	1572	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	832	305	550	777	0				413	0	239
Grp Sat Flow(s),veh/h/ln	0	1770	1572	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	11.8	9.2	8.9	6.1	0.0				6.1	0.0	8.3
Cycle Q Clear(g_c), s	0.0	11.8	9.2	8.9	6.1	0.0				6.1	0.0	8.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1207	536	680	2217	0				703	0	314
V/C Ratio(X)	0.00	0.69	0.57	0.81	0.35	0.00				0.59	0.00	0.76
Avail Cap(c_a), veh/h	0	1450	644	942	2729	0				2137	0	954
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	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.5	15.7	22.3	5.2	0.0				21.1	0.0	22.0
Incr Delay (d2), s/veh	0.0	0.7	0.4	2.5	0.0	0.0				0.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	4.0	4.4	2.9	0.0				3.0	0.0	3.7
LnGrp Delay(d),s/veh	0.0	17.2	16.0	24.8	5.2	0.0				21.4	0.0	23.5
LnGrp LOS		B	B	C	A					C		C
Approach Vol, veh/h		1137			1327						652	
Approach Delay, s/veh		16.9			13.3						22.2	
Approach LOS		B			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.6	24.9		16.6		41.5						
Change Period (Y+Rc), s	5.1	5.1		5.1		5.1						
Max Green Setting (Gmax), s	10.9	23.8		35.0		44.8						
Max Q Clear Time (g_c+10), s	10.9	13.8		10.3		8.1						
Green Ext Time (p_c), s	0.6	6.0		1.2		11.0						
Intersection Summary												
HCM 2010 Ctrl Delay				16.5								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
 16: I-5 NB Off-Ramp/I-5 NB On-Ramp & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↘	↖	↗	↘			
Traffic Volume (veh/h)	250	895	0	0	1016	595	205	90	734	0	0	0
Future Volume (veh/h)	250	895	0	0	1016	595	205	90	734	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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		0.98			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863			
Adj Flow Rate, veh/h	272	973	0	0	1104	647	160	185	798			
Adj No. of Lanes	1	2	0	0	3	0	1	1	2			
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	307	2265	0	0	1390	649	432	453	754			
Arrive On Green	0.17	0.64	0.00	0.00	0.41	0.41	0.24	0.24	0.24			
Sat Flow, veh/h	1774	3632	0	0	3558	1583	1774	1863	3099			
Grp Volume(v), veh/h	272	973	0	0	1104	647	160	185	798			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	1863	1549			
Q Serve(g_s), s	13.5	12.3	0.0	0.0	25.6	36.7	6.8	7.5	21.9			
Cycle Q Clear(g_c), s	13.5	12.3	0.0	0.0	25.6	36.7	6.8	7.5	21.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	307	2265	0	0	1390	649	432	453	754			
V/C Ratio(X)	0.88	0.43	0.00	0.00	0.79	1.00	0.37	0.41	1.06			
Avail Cap(c_a), veh/h	365	2265	0	0	1390	649	432	453	754			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.66	0.66	0.00	0.00	0.47	0.47	1.00	1.00	1.00			
Uniform Delay (d), s/veh	36.3	8.0	0.0	0.0	23.2	26.5	28.3	28.6	34.0			
Incr Delay (d2), s/veh	12.7	0.4	0.0	0.0	2.3	23.5	0.2	0.2	49.3			
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	7.7	6.1	0.0	0.0	12.4	20.2	3.3	3.9	14.5			
LnGrp Delay(d),s/veh	49.0	8.4	0.0	0.0	25.5	49.9	28.5	28.8	83.4			
LnGrp LOS	D	A			C	D	C	C	F			
Approach Vol, veh/h		1245			1751			1143				
Approach Delay, s/veh		17.3			34.5			66.9				
Approach LOS		B			C			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		63.0			20.7	42.3		27.0				
Change Period (Y+Rc), s		5.4			5.1	5.4		5.1				
Max Green Setting (Gmax), s		57.6			18.5	34.0		21.9				
Max Q Clear Time (g_c+l1), s		14.3			15.5	38.7		23.9				
Green Ext Time (p_c), s		23.5			0.1	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					38.3							
HCM 2010 LOS					D							
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
 17: Saxony Road & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	90	1452	260	201	1206	70	214	162	265	60	151	50
Future Volume (veh/h)	90	1452	260	201	1206	70	214	162	265	60	151	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	98	1578	268	218	1311	71	233	176	288	65	164	54
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	1509	251	183	1821	98	195	158	259	65	235	78
Arrive On Green	0.07	0.50	0.50	0.10	0.53	0.53	0.11	0.25	0.25	0.04	0.18	0.18
Sat Flow, veh/h	1774	3039	505	1774	3415	185	1774	637	1042	1774	1343	442
Grp Volume(v), veh/h	98	904	942	218	678	704	233	0	464	65	0	218
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1830	1774	0	1679	1774	0	1785
Q Serve(g_s), s	8.2	74.5	74.5	15.5	43.5	43.7	16.5	0.0	37.3	5.5	0.0	17.2
Cycle Q Clear(g_c), s	8.2	74.5	74.5	15.5	43.5	43.7	16.5	0.0	37.3	5.5	0.0	17.2
Prop In Lane	1.00		0.28	1.00		0.10	1.00		0.62	1.00		0.25
Lane Grp Cap(c), veh/h	119	879	881	183	943	976	195	0	417	65	0	313
V/C Ratio(X)	0.83	1.03	1.07	1.19	0.72	0.72	1.19	0.00	1.11	1.00	0.00	0.70
Avail Cap(c_a), veh/h	148	879	881	183	943	976	195	0	417	65	0	321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	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	69.1	37.7	37.8	67.3	26.5	26.6	66.8	0.0	56.4	72.2	0.0	58.1
Incr Delay (d2), s/veh	21.4	37.8	50.7	126.6	2.5	2.5	126.5	0.0	77.8	111.3	0.0	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	4.7	45.6	48.9	14.0	22.0	22.8	14.9	0.0	26.3	4.7	0.0	8.9
LnGrp Delay(d),s/veh	90.6	75.6	88.4	193.9	29.0	29.1	193.2	0.0	134.2	183.6	0.0	63.3
LnGrp LOS	F	F	F	F	C	C	F		F	F		E
Approach Vol, veh/h		1944			1600			697			283	
Approach Delay, s/veh		82.6			51.5			153.9			90.9	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	79.8	20.0	31.2	13.5	85.3	9.0	42.2				
Change Period (Y+Rc), s	3.5	5.3	3.5	* 4.9	3.5	5.3	3.5	4.9				
Max Green Setting (Gmax), s	10.5	74.5	16.5	* 27	12.5	77.5	5.5	37.3				
Max Q Clear Time (g_c+1),s	11.5	76.5	18.5	19.2	10.2	45.7	7.5	39.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	26.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				83.1								
HCM 2010 LOS				F								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 18: Quail Gardens Drive & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	1740	144	239	1108	117	135	91	332	85	81	74
Future Volume (veh/h)	103	1740	144	239	1108	117	135	91	332	85	81	74
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	112	1891	150	260	1204	116	147	99	160	92	88	80
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	135	1890	148	251	2068	199	221	336	280	202	336	285
Arrive On Green	0.08	0.57	0.57	0.14	0.63	0.63	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	3326	260	1774	3263	314	1208	1863	1553	1113	1863	1575
Grp Volume(v), veh/h	112	994	1047	260	652	668	147	99	160	92	88	80
Grp Sat Flow(s),veh/h/ln	1774	1770	1817	1774	1770	1807	1208	1863	1553	1113	1863	1575
Q Serve(g_s), s	8.6	76.3	78.3	19.5	29.4	29.6	16.4	6.3	13.0	10.7	5.6	6.0
Cycle Q Clear(g_c), s	8.6	76.3	78.3	19.5	29.4	29.6	22.0	6.3	13.0	17.1	5.6	6.0
Prop In Lane	1.00		0.14	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	1006	1032	251	1122	1145	221	336	280	202	336	285
V/C Ratio(X)	0.83	0.99	1.01	1.04	0.58	0.58	0.66	0.29	0.57	0.46	0.26	0.28
Avail Cap(c_a), veh/h	187	1006	1032	251	1122	1145	241	366	305	220	366	310
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	1.00	1.00
Uniform Delay (d), s/veh	62.8	29.3	29.7	59.1	14.6	14.7	58.0	48.9	51.6	56.2	48.5	48.7
Incr Delay (d2), s/veh	14.5	25.6	31.5	66.3	0.8	0.8	4.4	0.2	1.1	0.6	0.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	44.2	48.0	14.1	14.6	14.9	5.7	3.3	5.6	3.3	2.9	2.6
LnGrp Delay(d),s/veh	77.3	54.9	61.2	125.5	15.5	15.5	62.4	49.0	52.6	56.8	48.7	48.9
LnGrp LOS	E	D	F	F	B	B	E	D	D	E	D	D
Approach Vol, veh/h		2153			1580			406			260	
Approach Delay, s/veh		59.1			33.6			55.3			51.7	
Approach LOS		E			C			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.0	85.0		29.8	14.0	94.0		29.8				
Change Period (Y+Rc), s	3.5	6.7		4.9	3.5	6.7		4.9				
Max Green Setting (Gmax), s	19.5	78.3		27.1	14.5	83.3		27.1				
Max Q Clear Time (g_c+2t), s	21.5	80.3		19.1	10.6	31.6		24.0				
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	50.1		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				49.2								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary

19: Garden View Road/Calle Barcelona & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Traffic Volume (veh/h)	410	1407	370	150	1131	220	310	140	80	110	120	343
Future Volume (veh/h)	410	1407	370	150	1131	220	310	140	80	110	120	343
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	446	1529	337	163	1229	223	337	152	74	120	130	308
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	514	1621	346	279	1517	273	370	203	94	447	193	172
Arrive On Green	0.25	0.93	0.93	0.16	1.00	1.00	0.11	0.09	0.09	0.13	0.11	0.11
Sat Flow, veh/h	3442	2902	620	3442	2997	540	3442	2349	1091	3442	1770	1583
Grp Volume(v), veh/h	446	914	952	163	722	730	337	113	113	120	130	308
Grp Sat Flow(s),veh/h/ln	1721	1770	1753	1721	1770	1767	1721	1770	1670	1721	1770	1583
Q Serve(g_s), s	16.8	34.1	53.2	5.9	0.0	0.0	13.1	8.4	9.0	4.2	9.5	14.7
Cycle Q Clear(g_c), s	16.8	34.1	53.2	5.9	0.0	0.0	13.1	8.4	9.0	4.2	9.5	14.7
Prop In Lane	1.00		0.35	1.00		0.31	1.00		0.65	1.00		1.00
Lane Grp Cap(c), veh/h	514	988	979	279	896	895	370	153	144	447	193	172
V/C Ratio(X)	0.87	0.92	0.97	0.58	0.81	0.82	0.91	0.74	0.78	0.27	0.67	1.79
Avail Cap(c_a), veh/h	854	1039	1030	279	896	895	370	258	244	447	193	172
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	3.2	3.8	54.5	0.0	0.0	59.6	60.2	60.4	53.0	57.9	60.2
Incr Delay (d2), s/veh	5.3	15.4	22.9	2.1	5.2	5.6	26.1	6.7	9.0	0.3	8.9	376.2
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	18.3	18.1	27.8	2.9	1.3	1.4	7.6	4.4	4.5	2.0	5.1	24.4
LnGrp Delay(d),s/veh	54.6	18.5	26.7	56.6	5.2	5.6	85.7	66.9	69.4	53.3	66.8	436.4
LnGrp LOS	D	B	C	E	A	A	F	E	E	D	E	F
Approach Vol, veh/h		2312			1615			563			558	
Approach Delay, s/veh		28.8			10.6			78.7			267.9	
Approach LOS		C			B			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	79.3	18.0	20.0	23.7	73.3	21.0	17.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	5.3	3.5	5.7	3.5	5.3				
Max Green Setting (Gmax), s	79	* 79	14.5	14.7	33.5	54.3	9.5	19.7				
Max Q Clear Time (g_c+I), s	55.2	15.1	16.7	18.8	2.0	6.2	11.0					
Green Ext Time (p_c), s	0.0	16.6	0.0	0.0	1.4	17.4	0.6	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay					55.0							
HCM 2010 LOS					D							
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 20: Town Center Place & Leucadia Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↗	↖	↗	↗	↖	↗
Traffic Volume (veh/h)	160	1217	330	340	829	282	382	100	400	204	70	150
Future Volume (veh/h)	160	1217	330	340	829	282	382	100	400	204	70	150
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	174	1323	158	370	901	264	262	323	359	149	178	141
Adj No. of Lanes	2	2	1	2	2	1	1	1	1	1	1	1
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	738	1578	695	415	1198	709	355	373	310	194	204	169
Arrive On Green	0.43	0.89	0.89	0.20	0.57	0.57	0.20	0.20	0.20	0.11	0.11	0.11
Sat Flow, veh/h	3442	3539	1559	3442	3539	1583	1774	1863	1549	1774	1863	1550
Grp Volume(v), veh/h	174	1323	158	370	901	264	262	323	359	149	178	141
Grp Sat Flow(s),veh/h/ln	1721	1770	1559	1721	1770	1583	1774	1863	1549	1774	1863	1550
Q Serve(g_s), s	4.3	21.7	1.9	14.1	26.0	11.3	18.7	22.7	27.0	11.0	12.7	12.0
Cycle Q Clear(g_c), s	4.3	21.7	1.9	14.1	26.0	11.3	18.7	22.7	27.0	11.0	12.7	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	738	1578	695	415	1198	709	355	373	310	194	204	169
V/C Ratio(X)	0.24	0.84	0.23	0.89	0.75	0.37	0.74	0.87	1.16	0.77	0.87	0.83
Avail Cap(c_a), veh/h	738	1578	695	446	1696	932	355	373	310	197	207	172
HCM Platoon Ratio	2.00	2.00	2.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.29	0.29	0.29	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	5.2	4.2	53.1	25.0	15.6	50.7	52.3	54.0	58.5	59.2	58.9
Incr Delay (d2), s/veh	0.0	1.7	0.2	12.1	2.7	0.9	7.0	18.2	101.3	14.9	29.9	26.1
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	12.1	9.7	0.8	7.4	13.0	6.0	9.9	13.6	20.3	6.2	8.2	6.4
LnGrp Delay(d),s/veh	31.5	6.9	4.4	65.2	27.8	16.5	57.7	70.5	155.3	73.3	89.1	85.0
LnGrp LOS	C	A	A	E	C	B	E	E	F	E	F	F
Approach Vol, veh/h		1655			1535			944			468	
Approach Delay, s/veh		9.3			34.8			99.2			82.8	
Approach LOS		A			C			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.8	65.5		18.8	34.2	51.0		31.0				
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0				
Max Green Setting (Gmax), s	10.5	58.7		15.0	11.5	* 65		27.0				
Max Q Clear Time (g_c+1),s	11.0	23.7		14.7	6.3	28.0		29.0				
Green Ext Time (p_c), s	0.1	24.3		0.0	4.6	17.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			43.7									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 21: El Camino Real & Leucadia Boulevard/Olivenhain Road

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑		↔↔	↑↑↑	↔	↔↔	↑↑↑	
Traffic Volume (veh/h)	343	1194	254	933	820	201	408	1596	835	250	752	203
Future Volume (veh/h)	343	1194	254	933	820	201	408	1596	835	250	752	203
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	373	1298	276	1014	891	218	443	1735	796	272	817	166
Adj No. of Lanes	2	3	1	2	3	0	2	3	1	2	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	421	1074	328	801	1369	334	1102	2330	1078	265	1086	216
Arrive On Green	0.20	0.35	0.35	0.23	0.34	0.34	0.53	0.77	0.77	0.13	0.34	0.34
Sat Flow, veh/h	3442	5085	1552	3442	4083	994	3442	5085	1549	3442	5405	1074
Grp Volume(v), veh/h	373	1298	276	1014	739	370	443	1735	796	272	724	259
Grp Sat Flow(s),veh/h/ln	1721	1695	1552	1721	1695	1687	1721	1695	1549	1721	1602	1673
Q Serve(g_s), s	14.2	28.5	22.1	31.4	25.0	25.2	10.3	25.1	23.6	10.4	18.1	18.7
Cycle Q Clear(g_c), s	14.2	28.5	22.1	31.4	25.0	25.2	10.3	25.1	23.6	10.4	18.1	18.7
Prop In Lane	1.00		1.00	1.00		0.59	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	421	1074	328	801	1137	566	1102	2330	1078	265	966	336
V/C Ratio(X)	0.89	1.21	0.84	1.27	0.65	0.65	0.40	0.74	0.74	1.03	0.75	0.77
Avail Cap(c_a), veh/h	510	1074	328	801	1137	566	1102	2330	1078	265	1371	477
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	0.45	0.45	0.45	1.00	1.00	1.00	0.62	0.62	0.62	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	43.7	41.6	51.8	38.1	38.2	23.7	11.5	3.4	58.8	41.8	42.0
Incr Delay (d2), s/veh	6.6	98.2	8.9	129.9	1.4	2.9	0.1	1.4	2.8	62.1	5.3	15.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	23.0	10.2	29.3	11.9	12.2	4.8	11.8	8.6	7.2	8.4	10.1
LnGrp Delay(d),s/veh	59.4	141.9	50.6	181.7	39.5	41.1	23.8	12.9	6.3	121.0	47.2	57.6
LnGrp LOS	E	F	D	F	D	D	C	B	A	F	D	E
Approach Vol, veh/h		1947			2123			2974			1255	
Approach Delay, s/veh		113.2			107.7			12.7			65.3	
Approach LOS		F			F			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.9	35.0	49.7	33.6	21.1	51.8	15.0	68.4				
Change Period (Y+Rc), s	6.5	* 6.5	6.5	* 6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	30	* 29	14.4	* 39	20.0	39.9	10.4	42.5				
Max Q Clear Time (g_c+R), s	30.5	30.5	12.3	20.7	16.2	27.2	12.4	27.1				
Green Ext Time (p_c), s	0.0	0.0	2.0	6.4	0.3	8.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			68.5									
HCM 2010 LOS			E									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 22: El Camino Real & Town Center Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↲	↰	↱	↲	↰	↱	↲	↰	↱	↲
Traffic Volume (veh/h)	416	70	202	140	70	140	296	2018	55	175	1512	252
Future Volume (veh/h)	416	70	202	140	70	140	296	2018	55	175	1512	252
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	506	0	220	114	129	152	322	2193	60	190	1643	234
Adj No. of Lanes	2	0	1	1	1	1	2	4	0	2	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	597	0	261	198	207	174	369	2586	71	556	2669	380
Arrive On Green	0.17	0.00	0.17	0.11	0.11	0.11	0.21	0.80	0.80	0.32	0.93	0.93
Sat Flow, veh/h	3548	0	1548	1774	1863	1558	3442	6461	177	3442	5712	813
Grp Volume(v), veh/h	506	0	220	114	129	152	322	1631	622	190	1382	495
Grp Sat Flow(s),veh/h/ln	1774	0	1548	1774	1863	1558	1721	1602	1832	1721	1602	1719
Q Serve(g_s), s	18.7	0.0	18.6	8.2	8.9	13.0	12.2	28.4	28.5	5.7	6.0	6.0
Cycle Q Clear(g_c), s	18.7	0.0	18.6	8.2	8.9	13.0	12.2	28.4	28.5	5.7	6.0	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.47
Lane Grp Cap(c), veh/h	597	0	261	198	207	174	369	1924	733	556	2245	803
V/C Ratio(X)	0.85	0.00	0.84	0.58	0.62	0.88	0.87	0.85	0.85	0.34	0.62	0.62
Avail Cap(c_a), veh/h	802	0	350	204	214	179	472	2058	784	556	2245	803
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	1.00	1.00	0.28	0.28	0.28	0.22	0.22	0.22
Uniform Delay (d), s/veh	54.5	0.0	54.4	57.0	57.3	59.1	52.1	10.9	10.9	40.2	2.6	2.6
Incr Delay (d2), s/veh	6.4	0.0	13.2	2.3	3.8	33.2	3.7	1.5	3.7	0.0	0.3	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	19.7	0.0	8.9	4.2	4.8	7.2	6.0	12.2	14.4	2.7	2.2	2.5
LnGrp Delay(d),s/veh	60.9	0.0	67.6	59.3	61.0	92.3	55.9	12.4	14.6	40.3	2.8	3.3
LnGrp LOS	E		E	E	E	F	E	B	B	D	A	A
Approach Vol, veh/h		726			395			2575			2067	
Approach Delay, s/veh		62.9			72.6			18.3			6.4	
Approach LOS		E			E			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	38.0			27.2	19.0	69.3		19.5				
Change Period (Y+Rc), s	6.2	* 6.2		4.5	4.5	6.2		4.5				
Max Green Setting (Gmax), s	58			30.5	18.5	50.8		15.5				
Max Q Clear Time (g_c+I1), s	30.5			20.7	14.2	8.0		15.0				
Green Ext Time (p_c), s	2.0	23.6		2.0	0.3	29.7		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

23: El Camino Real & Garden View Road

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑		↵	↑↑		↵	↑↑↑	↵	↵	↑↑↑	↵
Traffic Volume (veh/h)	130	210	270	197	260	322	245	1840	158	316	1456	135
Future Volume (veh/h)	130	210	270	197	260	322	245	1840	158	316	1456	135
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	141	228	58	214	283	350	266	2000	172	343	1583	147
Adj No. of Lanes	1	2	0	1	2	0	1	3	1	1	3	1
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	151	335	83	217	277	247	452	2175	667	361	1846	575
Arrive On Green	0.09	0.12	0.12	0.12	0.16	0.16	0.51	0.86	0.86	0.34	0.61	0.61
Sat Flow, veh/h	1774	2809	700	1774	1770	1583	1774	5085	1560	1774	5085	1583
Grp Volume(v), veh/h	141	142	144	214	283	350	266	2000	172	343	1583	147
Grp Sat Flow(s),veh/h/ln	1774	1770	1739	1774	1770	1583	1774	1695	1560	1774	1695	1583
Q Serve(g_s), s	10.7	10.4	10.7	16.3	21.1	21.1	14.2	36.0	2.8	25.5	34.5	4.5
Cycle Q Clear(g_c), s	10.7	10.4	10.7	16.3	21.1	21.1	14.2	36.0	2.8	25.5	34.5	4.5
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	211	207	217	277	247	452	2175	667	361	1846	575
V/C Ratio(X)	0.93	0.67	0.70	0.99	1.02	1.41	0.59	0.92	0.26	0.95	0.86	0.26
Avail Cap(c_a), veh/h	151	211	207	217	277	247	452	2175	667	361	2098	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53	0.70	0.70	0.70
Uniform Delay (d), s/veh	61.4	56.9	57.1	59.1	57.0	57.0	28.1	8.2	5.8	43.9	23.7	10.6
Incr Delay (d2), s/veh	52.8	7.5	9.1	57.1	60.2	208.6	1.1	4.4	0.5	27.6	3.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	5.5	5.7	11.4	14.9	23.6	7.0	16.2	1.2	15.1	16.5	2.1
LnGrp Delay(d),s/veh	114.2	64.4	66.1	116.3	117.2	265.6	29.2	12.6	6.3	71.5	27.6	11.3
LnGrp LOS	F	E	E	F	F	F	C	B	A	E	C	B
Approach Vol, veh/h		427			847			2438			2073	
Approach Delay, s/veh		81.4			178.3			14.0			33.7	
Approach LOS		F			F			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	63.0	20.0	21.0	39.7	54.3	15.0	26.0				
Change Period (Y+Rc), s	3.5	5.3	3.5	4.9	5.3	* 5.3	3.5	4.9				
Max Green Setting (Gmax), s	20.0	57.7	16.5	16.1	29.5	* 56	11.5	21.1				
Max Q Clear Time (g_c+1), s	20.0	38.0	18.3	12.7	16.2	36.5	12.7	23.1				
Green Ext Time (p_c), s	0.0	16.5	0.0	1.6	11.7	12.5	0.0	0.0				

Intersection Summary

HCM 2010 Ctrl Delay	50.1
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

24: El Camino Real & Mountain Vista Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↔	↔	↔	↔	↔↔↔	↔↔↔		↔↔↔	↔↔↔	
Traffic Volume (veh/h)	50	90	91	313	100	259	185	1509	296	394	1790	90
Future Volume (veh/h)	50	90	91	313	100	259	185	1509	296	394	1790	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	54	138	72	224	271	282	201	1640	322	428	1946	98
Adj No. of Lanes	0	2	1	1	1	1	1	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	187	106	315	331	275	223	1899	370	565	2467	124
Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.21	0.74	0.74	0.27	0.83	0.83
Sat Flow, veh/h	980	2696	1526	1774	1863	1549	1774	4273	833	3442	4960	249
Grp Volume(v), veh/h	100	92	72	224	271	282	201	1299	663	428	1329	715
Grp Sat Flow(s),veh/h/ln	1814	1863	1526	1774	1863	1549	1774	1695	1716	1721	1695	1819
Q Serve(g_s), s	7.3	6.5	6.2	16.0	18.9	24.0	14.9	37.0	38.0	15.4	25.9	26.2
Cycle Q Clear(g_c), s	7.3	6.5	6.2	16.0	18.9	24.0	14.9	37.0	38.0	15.4	25.9	26.2
Prop In Lane	0.54		1.00	1.00		1.00	1.00		0.49	1.00		0.14
Lane Grp Cap(c), veh/h	126	129	106	315	331	275	223	1507	762	565	1686	905
V/C Ratio(X)	0.79	0.71	0.68	0.71	0.82	1.02	0.90	0.86	0.87	0.76	0.79	0.79
Avail Cap(c_a), veh/h	128	131	107	315	331	275	283	1570	794	565	1686	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.46	0.46	0.46	0.49	0.49	0.49
Uniform Delay (d), s/veh	61.9	61.5	61.4	52.2	53.4	55.5	52.5	14.4	14.6	46.5	7.9	8.0
Incr Delay (d2), s/veh	29.4	17.9	17.6	6.2	13.9	60.6	12.3	3.3	6.6	2.6	1.9	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	4.0	3.1	8.4	11.0	14.9	8.0	17.5	18.9	7.5	11.8	13.4
LnGrp Delay(d),s/veh	91.3	79.4	79.0	58.5	67.3	116.2	64.8	17.7	21.2	49.2	9.8	11.5
LnGrp LOS	F	E	E	E	E	F	E	B	C	D	A	B
Approach Vol, veh/h		264			777			2163			2472	
Approach Delay, s/veh		83.8			82.5			23.2			17.1	
Approach LOS		F			F			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.9	20.5	72.6		29.0	27.7	65.5				
Change Period (Y+Rc), s		3.5	3.5	5.5		5.0	5.5	* 5.5				
Max Green Setting (Gmax), s		9.5	21.5	62.5		24.0	21.5	* 63				
Max Q Clear Time (g_c+l1), s		9.3	16.9	28.2		26.0	17.4	40.0				
Green Ext Time (p_c), s		0.0	0.1	30.2		0.0	0.7	20.0				
Intersection Summary												
HCM 2010 Ctrl Delay				31.5								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 AWSC
 25: Rancho Santa Fe Road & Lone Jack Road

05/10/2018

Intersection

Intersection Delay, s/veh69.1

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗			↖	↗	↖	↗	
Traffic Vol, veh/h	10	10	20	180	20	130	10	561	140	160	422	10
Future Vol, veh/h	10	10	20	180	20	130	10	561	140	160	422	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	22	196	22	141	11	610	152	174	459	11
Number of Lanes	0	1	1	1	1	0	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12.6	16.8	119.7	41.2
HCM LOS	B	C	F	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	2%	0%	50%	0%	100%	0%	100%	0%
Vol Thru, %	98%	0%	50%	0%	0%	13%	0%	98%
Vol Right, %	0%	100%	0%	100%	0%	87%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	571	140	20	20	180	150	160	432
LT Vol	10	0	10	0	180	0	160	0
Through Vol	561	0	10	0	0	20	0	422
RT Vol	0	140	0	20	0	130	0	10
Lane Flow Rate	621	152	22	22	196	163	174	470
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	1.237	0.273	0.056	0.05	0.46	0.331	0.366	0.922
Departure Headway (Hd)	7.176	6.451	9.811	8.814	8.887	7.739	7.967	7.437
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	509	555	367	409	409	468	454	493
Service Time	4.936	4.21	7.511	6.514	6.587	5.439	5.667	5.137
HCM Lane V/C Ratio	1.22	0.274	0.06	0.054	0.479	0.348	0.383	0.953
HCM Control Delay	146.2	11.6	13.1	12	18.9	14.2	15.2	50.8
HCM Lane LOS	F	B	B	B	C	B	C	F
HCM 95th-tile Q	24.3	1.1	0.2	0.2	2.4	1.4	1.7	10.8

HCM 2010 Signalized Intersection Summary
 26: El Camino Real & Via Molena

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	242	20	150	70	30	60	330	1733	100	165	1581	165
Future Volume (veh/h)	242	20	150	70	30	60	330	1733	100	165	1581	165
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	263	22	103	76	33	65	359	1884	109	179	1718	179
Adj No. of Lanes	0	1	1	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	22	255	66	29	56	401	2518	145	202	1832	190
Arrive On Green	0.16	0.16	0.16	0.09	0.09	0.09	0.38	0.86	0.86	0.19	0.66	0.66
Sat Flow, veh/h	1643	137	1566	742	322	634	1774	4918	284	1774	4669	485
Grp Volume(v), veh/h	285	0	103	174	0	0	359	1297	696	179	1246	651
Grp Sat Flow(s),veh/h/ln	1781	0	1566	1698	0	0	1774	1695	1812	1774	1695	1764
Q Serve(g_s), s	21.5	0.0	8.0	12.0	0.0	0.0	25.7	20.7	20.9	13.3	44.3	44.8
Cycle Q Clear(g_c), s	21.5	0.0	8.0	12.0	0.0	0.0	25.7	20.7	20.9	13.3	44.3	44.8
Prop In Lane	0.92		1.00	0.44		0.37	1.00		0.16	1.00		0.27
Lane Grp Cap(c), veh/h	290	0	255	151	0	0	401	1736	928	202	1330	692
V/C Ratio(X)	0.98	0.00	0.40	1.15	0.00	0.00	0.90	0.75	0.75	0.89	0.94	0.94
Avail Cap(c_a), veh/h	290	0	255	151	0	0	401	1736	928	237	1356	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.09	0.09	0.52	0.52	0.52
Uniform Delay (d), s/veh	56.3	0.0	50.6	61.5	0.0	0.0	40.5	6.3	6.3	53.8	21.8	21.9
Incr Delay (d2), s/veh	47.6	0.0	0.4	120.2	0.0	0.0	2.7	0.3	0.5	16.8	8.1	14.1
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	14.4	0.0	3.5	10.7	0.0	0.0	12.8	9.0	10.1	7.4	21.7	24.1
LnGrp Delay(d),s/veh	103.9	0.0	51.0	181.7	0.0	0.0	43.2	6.6	6.8	70.6	29.8	35.9
LnGrp LOS	F		D	F			D	A	A	E	C	D
Approach Vol, veh/h		388			174			2352			2076	
Approach Delay, s/veh		89.9			181.7			12.2			35.3	
Approach LOS		F			F			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.4	74.4		27.0	35.8	58.0		17.0				
Change Period (Y+Rc), s	4.0	5.3		5.0	5.3	* 5		5.0				
Max Green Setting (Gmax), s	10.0	63.7		22.0	28.0	* 54		12.0				
Max Q Clear Time (g_c+1), s	11.3	22.9		23.5	27.7	46.8		14.0				
Green Ext Time (p_c), s	0.1	27.7		0.0	0.0	6.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			33.8									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh42.4
 Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕	↕	↕	↕	
Traffic Vol, veh/h	10	10	10	110	20	300	10	416	85	160	422	5
Future Vol, veh/h	10	10	10	110	20	300	10	416	85	160	422	5
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	120	22	326	11	452	92	174	459	5
Number of Lanes	0	1	0	1	1	0	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	13.6	23.2	54.5	47.5
HCM LOS	B	C	F	E

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	2%	0%	33%	100%	0%	100%	0%
Vol Thru, %	98%	0%	33%	0%	6%	0%	99%
Vol Right, %	0%	100%	33%	0%	94%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	426	85	30	110	320	160	427
LT Vol	10	0	10	110	0	160	0
Through Vol	416	0	10	0	20	0	422
RT Vol	0	85	10	0	300	0	5
Lane Flow Rate	463	92	33	120	348	174	464
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.976	0.176	0.088	0.283	0.708	0.386	0.962
Departure Headway (Hd)	7.589	6.856	9.66	8.522	7.33	7.984	7.46
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	477	522	373	421	494	450	487
Service Time	5.353	4.62	7.66	6.281	5.088	5.748	5.224
HCM Lane V/C Ratio	0.971	0.176	0.088	0.285	0.704	0.387	0.953
HCM Control Delay	63.2	11.1	13.6	14.6	26.1	15.7	59.4
HCM Lane LOS	F	B	B	B	D	C	F
HCM 95th-tile Q	12.4	0.6	0.3	1.1	5.5	1.8	12.1

HCM 2010 Signalized Intersection Summary

28: Highway 101 & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Volume (veh/h)	60	250	40	342	190	340	50	772	534	253	664	60
Future Volume (veh/h)	60	250	40	342	190	340	50	772	534	253	664	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	65	272	43	372	207	370	54	839	580	275	722	65
Adj No. of Lanes	0	2	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	335	55	438	460	649	70	1086	864	299	1433	129
Arrive On Green	0.13	0.13	0.13	0.08	0.08	0.08	0.07	0.51	0.51	0.28	0.73	0.73
Sat Flow, veh/h	594	2598	428	1774	1863	1546	1774	3539	1541	1774	3285	296
Grp Volume(v), veh/h	200	0	180	372	207	370	54	839	580	275	389	398
Grp Sat Flow(s),veh/h/ln	1833	0	1787	1774	1863	1546	1774	1770	1541	1774	1770	1811
Q Serve(g_s), s	12.8	0.0	11.7	24.8	12.7	22.2	3.6	23.0	36.8	18.0	11.3	11.3
Cycle Q Clear(g_c), s	12.8	0.0	11.7	24.8	12.7	22.2	3.6	23.0	36.8	18.0	11.3	11.3
Prop In Lane	0.32		0.24	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	236	0	230	438	460	649	70	1086	864	299	772	790
V/C Ratio(X)	0.85	0.00	0.78	0.85	0.45	0.57	0.78	0.77	0.67	0.92	0.50	0.50
Avail Cap(c_a), veh/h	307	0	299	548	576	745	386	1086	864	386	772	790
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	0.0	50.6	52.9	47.3	32.9	55.5	25.9	14.2	42.3	10.7	10.7
Incr Delay (d2), s/veh	12.9	0.0	6.8	8.5	0.6	0.7	6.7	5.3	4.1	20.5	2.3	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	7.4	0.0	6.2	13.3	6.7	9.7	1.9	11.9	20.1	10.5	5.9	6.0
LnGrp Delay(d),s/veh	64.0	0.0	57.4	61.4	47.9	33.6	62.3	31.2	18.3	62.8	13.0	13.0
LnGrp LOS	E		E	E	D	C	E	C	B	E	B	B
Approach Vol, veh/h		380			949			1473			1062	
Approach Delay, s/veh		60.9			47.6			27.3			25.9	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.2	41.7		19.5	8.7	57.3		34.5				
Change Period (Y+Rc), s	4.0	4.9		4.0	4.0	4.9		4.9				
Max Green Setting (Gmax), s	20.0	18.9		20.1	26.1	18.9		37.1				
Max Q Clear Time (g_c+20), s	20.0	38.8		14.8	5.6	13.3		26.8				
Green Ext Time (p_c), s	0.2	0.0		0.6	0.0	4.7		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				35.2								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary
 29: Vulcan Avenue & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	800	87	381	701	162	151	330	344	170	255	70
Future Volume (veh/h)	70	800	87	381	701	162	151	330	344	170	255	70
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	76	870	95	414	762	137	164	359	374	185	277	76
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	1024	112	435	1527	274	263	591	880	171	591	491
Arrive On Green	0.09	0.53	0.53	0.41	0.85	0.85	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3219	351	1774	2998	539	1021	1863	1549	720	1863	1547
Grp Volume(v), veh/h	76	478	487	414	450	449	164	359	374	185	277	76
Grp Sat Flow(s),veh/h/ln	1774	1770	1801	1774	1770	1768	1021	1863	1549	720	1863	1547
Q Serve(g_s), s	5.0	27.7	27.7	27.1	7.9	7.9	18.4	19.6	16.7	18.5	14.3	4.2
Cycle Q Clear(g_c), s	5.0	27.7	27.7	27.1	7.9	7.9	32.7	19.6	16.7	38.1	14.3	4.2
Prop In Lane	1.00		0.20	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	563	573	435	901	900	263	591	880	171	591	491
V/C Ratio(X)	0.79	0.85	0.85	0.95	0.50	0.50	0.62	0.61	0.42	1.08	0.47	0.15
Avail Cap(c_a), veh/h	170	563	573	466	901	900	263	591	880	171	591	491
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	25.7	25.7	34.7	5.0	5.0	45.9	34.6	15.1	54.0	32.8	29.4
Incr Delay (d2), s/veh	3.4	9.7	9.6	25.4	1.6	1.6	4.6	1.8	0.3	91.8	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	14.8	15.0	16.3	4.1	4.1	5.5	10.4	7.2	10.0	7.5	1.8
LnGrp Delay(d),s/veh	57.3	35.4	35.3	60.1	6.6	6.6	50.5	36.4	15.4	145.7	33.4	29.5
LnGrp LOS	E	D	D	E	A	A	D	D	B	F	C	C
Approach Vol, veh/h		1041			1313			897			538	
Approach Delay, s/veh		36.9			23.5			30.2			71.5	
Approach LOS		D			C			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.9	44.1		43.0	10.0	67.0		43.0				
Change Period (Y+Rc), s	3.5	5.9		4.9	3.5	5.9		4.9				
Max Green Setting (Gmax), s	30.5	36.1		38.1	11.5	56.1		38.1				
Max Q Clear Time (g_c+20),s	29.7	29.7		40.1	7.0	9.9		34.7				
Green Ext Time (p_c), s	0.4	4.9		0.0	0.0	17.2		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay				35.6								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary
 30: I-5 SB On-Ramp/I-5 SB Off-Ramp & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1143	511	455	1024	0	0	0	0	417	10	350
Future Volume (veh/h)	0	1143	511	455	1024	0	0	0	0	417	10	350
Number	5	2	12	1	6	16				7	4	14
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1242	519	495	1113	0				453	11	193
Adj No. of Lanes	0	2	0	1	2	0				0	1	1
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	1135	453	633	3021	0				405	10	367
Arrive On Green	0.00	0.77	0.77	0.71	1.00	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	2564	987	1774	3632	0				1734	42	1569
Grp Volume(v), veh/h	0	873	888	495	1113	0				464	0	193
Grp Sat Flow(s),veh/h/ln	0	1770	1689	1774	1770	0				1776	0	1569
Q Serve(g_s), s	0.0	66.6	66.6	26.2	0.0	0.0				33.9	0.0	15.6
Cycle Q Clear(g_c), s	0.0	66.6	66.6	26.2	0.0	0.0				33.9	0.0	15.6
Prop In Lane	0.00		0.58	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	813	776	633	3021	0				415	0	367
V/C Ratio(X)	0.00	1.07	1.14	0.78	0.37	0.00				1.12	0.00	0.53
Avail Cap(c_a), veh/h	0	813	776	633	3021	0				415	0	367
HCM Platoon Ratio	1.00	1.67	1.67	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.54	0.54	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.9	16.9	17.1	0.0	0.0				55.6	0.0	48.5
Incr Delay (d2), s/veh	0.0	46.0	73.8	0.5	0.0	0.0				80.1	0.0	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	0.0	41.6	45.7	12.6	0.0	0.0				25.8	0.0	6.8
LnGrp Delay(d),s/veh	0.0	62.9	90.7	17.6	0.0	0.0				135.6	0.0	49.2
LnGrp LOS		F	F	B	A					F		D
Approach Vol, veh/h		1761			1608						657	
Approach Delay, s/veh		76.9			5.4						110.2	
Approach LOS		E			A						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	57.3	72.0		39.0		129.3						
Change Period (Y+Rc), s	5.4	* 5.4		5.1		5.4						
Max Green Setting (Gmax), s	29.3	* 67		33.9		100.6						
Max Q Clear Time (g_c+2p_c), s	29.3	68.6		35.9		2.0						
Green Ext Time (p_c), s	0.6	0.0		0.0		24.7						
Intersection Summary												
HCM 2010 Ctrl Delay				53.8								
HCM 2010 LOS				D								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 31: I-5 NB Off-Ramp/I-5 NB On-Ramp & Encinitas Boulevard

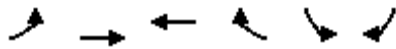
05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	1260	0	0	1117	489	382	0	629	0	0	0
Future Volume (veh/h)	280	1260	0	0	1117	489	382	0	629	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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		0.99			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	304	1370	0	0	1214	423	415	0	499			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
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	307	2076	0	0	1339	599	605	0	532			
Arrive On Green	0.29	0.98	0.00	0.00	0.63	0.63	0.34	0.00	0.34			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1774	0	1560			
Grp Volume(v), veh/h	304	1370	0	0	1214	423	415	0	499			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1560			
Q Serve(g_s), s	24.7	3.3	0.0	0.0	42.9	25.8	29.2	0.0	44.9			
Cycle Q Clear(g_c), s	24.7	3.3	0.0	0.0	42.9	25.8	29.2	0.0	44.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	307	2076	0	0	1339	599	605	0	532			
V/C Ratio(X)	0.99	0.66	0.00	0.00	0.91	0.71	0.69	0.00	0.94			
Avail Cap(c_a), veh/h	307	2076	0	0	1339	599	674	0	593			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.67	1.67	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	51.4	0.6	0.0	0.0	24.5	21.3	41.1	0.0	46.3			
Incr Delay (d2), s/veh	13.1	0.2	0.0	0.0	8.4	5.3	2.3	0.0	21.3			
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	13.2	0.9	0.0	0.0	22.1	12.0	14.7	0.0	22.6			
LnGrp Delay(d),s/veh	64.5	0.8	0.0	0.0	32.9	26.7	43.4	0.0	67.6			
LnGrp LOS	E	A			C	C	D		E			
Approach Vol, veh/h		1674			1637			914				
Approach Delay, s/veh		12.4			31.3			56.6				
Approach LOS		B			C			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		90.4			30.2	60.2		54.6				
Change Period (Y+Rc), s		5.4			5.1	5.4		5.1				
Max Green Setting (Gmax), s		79.4			25.1	49.2		55.1				
Max Q Clear Time (g_c+l1), s		5.3			26.7	44.9		46.9				
Green Ext Time (p_c), s		26.7			0.0	3.8		2.5				
Intersection Summary												
HCM 2010 Ctrl Delay					29.3							
HCM 2010 LOS					C							

HCM 2010 Signalized Intersection Summary
 32: Encinitas Boulevard & Saxony Road

05/10/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	363	1486	1225	289	444	401		
Future Volume (veh/h)	363	1486	1225	289	444	401		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	395	1615	1332	260	483	145		
Adj No. of Lanes	1	2	3	1	2	1		
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	414	2715	2536	767	552	254		
Arrive On Green	0.47	1.00	0.83	0.83	0.16	0.16		
Sat Flow, veh/h	1774	3632	5253	1537	3442	1583		
Grp Volume(v), veh/h	395	1615	1332	260	483	145		
Grp Sat Flow(s),veh/h/ln	1774	1770	1695	1537	1721	1583		
Q Serve(g_s), s	31.1	0.0	11.3	5.7	19.9	12.3		
Cycle Q Clear(g_c), s	31.1	0.0	11.3	5.7	19.9	12.3		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	414	2715	2536	767	552	254		
V/C Ratio(X)	0.95	0.59	0.53	0.34	0.87	0.57		
Avail Cap(c_a), veh/h	586	2715	2536	767	757	348		
HCM Platoon Ratio	2.00	2.00	1.67	1.67	1.00	1.00		
Upstream Filter(I)	0.44	0.44	0.15	0.15	1.00	1.00		
Uniform Delay (d), s/veh	38.0	0.0	7.0	6.6	59.4	56.2		
Incr Delay (d2), s/veh	11.6	0.4	0.1	0.2	7.8	1.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	16.4	0.2	5.1	2.4	10.1	10.8		
LnGrp Delay(d),s/veh	49.6	0.4	7.1	6.7	67.3	57.7		
LnGrp LOS	D	A	A	A	E	E		
Approach Vol, veh/h		2010	1592		628			
Approach Delay, s/veh		10.1	7.1		65.1			
Approach LOS		B	A		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		116.6		28.4	38.9	77.7		
Change Period (Y+Rc), s		5.4		5.1	5.1	5.4		
Max Green Setting (Gmax), s		102.6		31.9	47.9	49.6		
Max Q Clear Time (g_c+l1), s		2.0		21.9	33.1	13.3		
Green Ext Time (p_c), s		36.4		1.4	0.8	23.2		
Intersection Summary								
HCM 2010 Ctrl Delay			17.1					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 33: Westlake Drive/Quail Gardens Drive & Encinitas Boulevard

05/10/2018

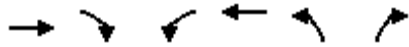


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	1245	170	240	1595	146	250	320	340	130	180	160
Future Volume (veh/h)	286	1245	170	240	1595	146	250	320	340	130	180	160
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	311	1353	185	261	1734	159	272	348	370	141	196	174
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
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	989	3163	1617	283	1704	744	266	387	328	116	229	190
Arrive On Green	0.56	0.89	0.89	0.27	0.80	0.80	0.15	0.21	0.21	0.07	0.12	0.12
Sat Flow, veh/h	1774	3539	1543	1774	3539	1544	1774	1863	1581	1774	1863	1547
Grp Volume(v), veh/h	311	1353	185	261	1734	159	272	348	370	141	196	174
Grp Sat Flow(s),veh/h/ln	1774	1770	1543	1774	1770	1544	1774	1863	1581	1774	1863	1547
Q Serve(g_s), s	12.2	8.6	2.3	18.6	62.6	3.2	19.5	23.7	27.0	8.5	13.4	14.4
Cycle Q Clear(g_c), s	12.2	8.6	2.3	18.6	62.6	3.2	19.5	23.7	27.0	8.5	13.4	14.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	989	3163	1617	283	1704	744	266	387	328	116	229	190
V/C Ratio(X)	0.31	0.43	0.11	0.92	1.02	0.21	1.02	0.90	1.13	1.22	0.85	0.91
Avail Cap(c_a), veh/h	989	3163	1617	321	1704	744	266	387	328	116	229	190
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	1.2	3.0	46.9	12.7	6.9	55.3	50.2	124.6	60.8	55.9	56.3
Incr Delay (d2), s/veh	0.0	0.3	0.1	27.9	26.3	0.7	61.0	23.2	88.5	152.6	25.7	41.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	4.1	1.0	11.2	35.0	1.4	14.0	14.7	8.1	9.1	8.5	8.4
LnGrp Delay(d),s/veh	15.5	1.5	3.1	74.8	39.0	7.6	116.3	73.4	213.0	213.4	81.5	98.0
LnGrp LOS	B	A	A	E	F	A	F	E	F	F	F	F
Approach Vol, veh/h		1849			2154			990			511	
Approach Delay, s/veh		4.0			41.0			137.4			123.5	
Approach LOS		A			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	122.2	23.0	20.1	78.5	67.9	12.0	31.1				
Change Period (Y+Rc), s	3.5	5.3	3.5	4.1	5.3	* 5.3	3.5	4.1				
Max Green Setting (Gmax), s	20.5	54.6	19.5	16.0	15.5	* 63	8.5	27.0				
Max Q Clear Time (g_c+20), s	20.6	10.6	21.5	16.4	14.2	64.6	10.5	29.0				
Green Ext Time (p_c), s	0.1	18.5	0.0	0.0	0.2	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.6									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 34: Balour Drive & Encinitas Boulevard

05/10/2018

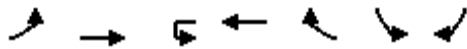


Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↖↗	↑↑	↖	↗		
Traffic Volume (veh/h)	1713	162	500	2052	229	400		
Future Volume (veh/h)	1713	162	500	2052	229	400		
Number	6	16	5	2	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1862	164	543	2230	249	435		
Adj No. of Lanes	2	0	2	2	1	1		
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	1830	159	625	2753	274	532		
Arrive On Green	0.93	0.93	0.36	1.00	0.15	0.15		
Sat Flow, veh/h	3389	286	3442	3632	1774	1583		
Grp Volume(v), veh/h	987	1039	543	2230	249	435		
Grp Sat Flow(s),veh/h/ln	1770	1812	1721	1770	1774	1583		
Q Serve(g_s), s	72.2	72.2	19.1	0.0	17.9	9.1		
Cycle Q Clear(g_c), s	72.2	72.2	19.1	0.0	17.9	9.1		
Prop In Lane		0.16	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	983	1007	625	2753	274	532		
V/C Ratio(X)	1.00	1.03	0.87	0.81	0.91	0.82		
Avail Cap(c_a), veh/h	983	1007	625	2753	341	592		
HCM Platoon Ratio	1.67	1.67	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.20	0.20	1.00	1.00		
Uniform Delay (d), s/veh	4.7	4.7	39.9	0.0	54.1	39.5		
Incr Delay (d2), s/veh	29.8	37.0	3.1	0.6	21.6	7.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	17.6	40.6	9.3	0.2	10.4	4.9		
LnGrp Delay(d),s/veh	34.5	41.7	43.1	0.6	75.7	46.6		
LnGrp LOS	F	F	D	A	E	D		
Approach Vol, veh/h	2026			2773	684			
Approach Delay, s/veh	38.2			8.9	57.2			
Approach LOS	D			A	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		106.4			28.9	77.5		23.6
Change Period (Y+Rc), s		5.3			5.3	* 5.3		3.5
Max Green Setting (Gmax), s		96.2			20.5	* 72		25.0
Max Q Clear Time (g_c+I1), s		2.0			21.1	74.2		19.9
Green Ext Time (p_c), s		85.3			0.0	0.0		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			25.7					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 35: Encinitas Boulevard & Via Cantebria

05/10/2018



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR	
Lane Configurations	↖ ↗	↑↑	↔	↑↑		↖ ↗	↖ ↗	
Traffic Volume (veh/h)	800	1303	5	1652	150	130	730	
Future Volume (veh/h)	800	1303	5	1652	150	130	730	
Number	1	6		2	12	7	14	
Initial Q (Qb), veh	0	0		0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00				1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1863		1863	1900	1863	1863	
Adj Flow Rate, veh/h	870	1416		1796	147	141	793	
Adj No. of Lanes	2	2		2	0	1	2	
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	900	2976		1832	148	162	984	
Arrive On Green	0.52	1.00		0.92	0.92	0.09	0.09	
Sat Flow, veh/h	3442	3632		3410	268	1774	2787	
Grp Volume(v), veh/h	870	1416		947	996	141	793	
Grp Sat Flow(s),veh/h/ln	1721	1770		1770	1815	1774	1393	
Q Serve(g_s), s	31.7	0.0		50.6	66.2	10.2	11.9	
Cycle Q Clear(g_c), s	31.7	0.0		50.6	66.2	10.2	11.9	
Prop In Lane	1.00				0.15	1.00	1.00	
Lane Grp Cap(c), veh/h	900	2976		977	1003	162	984	
V/C Ratio(X)	0.97	0.48		0.97	0.99	0.87	0.81	
Avail Cap(c_a), veh/h	919	2976		977	1003	162	984	
HCM Platoon Ratio	2.00	2.00		1.67	1.67	1.00	1.00	
Upstream Filter(I)	0.17	0.17		1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	30.5	0.0		4.2	4.8	58.3	38.0	
Incr Delay (d2), s/veh	6.4	0.1		22.1	26.9	34.9	4.6	
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	15.5	0.0		27.0	35.6	6.6	24.1	
LnGrp Delay(d),s/veh	36.8	0.1		26.3	31.7	93.1	42.7	
LnGrp LOS	D	A		C	C	F	D	
Approach Vol, veh/h		2286		1943		934		
Approach Delay, s/veh		14.1		29.1		50.3		
Approach LOS		B		C		D		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	37.5	77.1		15.4		114.6		
Change Period (Y+Rc), s	3.5	5.3		3.5		5.3		
Max Green Setting (Gmax), s	34.7	71.1		11.9		100.3		
Max Q Clear Time (g_c+Rc), s	37.7	68.2		13.9		2.0		
Green Ext Time (p_c), s	0.3	2.9		0.0		95.2		
Intersection Summary								
HCM 2010 Ctrl Delay				26.3				
HCM 2010 LOS				C				
Notes								

User approved ignoring U-Turning movement.

HCM 2010 Signalized Intersection Summary
 36: El Camino Real & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↓		↔	↑↓		↔	↑↑↓		↔	↑↑↑	↔
Traffic Volume (veh/h)	418	564	196	344	649	344	228	1061	303	642	1171	460
Future Volume (veh/h)	418	564	196	344	649	344	228	1061	303	642	1171	460
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	454	613	213	374	705	300	248	1153	329	698	1273	500
Adj No. of Lanes	2	2	0	2	2	0	1	3	0	2	3	1
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	425	658	228	463	644	274	269	1139	325	641	1649	503
Arrive On Green	0.21	0.43	0.43	0.22	0.44	0.44	0.25	0.48	0.48	0.31	0.54	0.54
Sat Flow, veh/h	3442	2579	895	3442	2421	1030	1774	3933	1122	3442	5085	1552
Grp Volume(v), veh/h	454	420	406	374	515	490	248	994	488	698	1273	500
Grp Sat Flow(s),veh/h/ln	1721	1770	1705	1721	1770	1681	1774	1695	1665	1721	1695	1552
Q Serve(g_s), s	17.8	32.5	32.6	14.8	38.3	38.3	19.6	41.7	41.7	26.8	28.4	46.0
Cycle Q Clear(g_c), s	17.8	32.5	32.6	14.8	38.3	38.3	19.6	41.7	41.7	26.8	28.4	46.0
Prop In Lane	1.00		0.53	1.00		0.61	1.00		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	425	451	435	463	471	447	269	982	482	641	1649	503
V/C Ratio(X)	1.07	0.93	0.93	0.81	1.09	1.10	0.92	1.01	1.01	1.09	0.77	0.99
Avail Cap(c_a), veh/h	425	478	461	463	471	447	269	982	482	641	1649	503
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	0.38	0.38	0.38	0.87	0.87	0.87	0.31	0.31	0.31
Uniform Delay (d), s/veh	57.1	40.1	40.2	54.1	40.0	40.0	53.0	37.2	37.2	49.6	28.8	32.9
Incr Delay (d2), s/veh	62.7	24.6	25.6	3.9	55.6	56.2	31.5	29.9	41.3	49.0	1.1	20.8
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	12.1	18.9	18.4	7.3	25.9	24.7	11.9	23.5	24.6	17.0	13.2	22.3
LnGrp Delay(d),s/veh	119.8	64.8	65.8	57.9	95.6	96.2	84.5	67.0	78.5	98.7	29.9	53.6
LnGrp LOS	F	E	E	E	F	F	F	F	F	F	C	D
Approach Vol, veh/h		1280			1379			1730			2471	
Approach Delay, s/veh		84.6			85.6			72.8			54.1	
Approach LOS		F			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	47.0	23.6	42.4	26.0	52.0	22.0	44.0				
Change Period (Y+Rc), s	4.2	* 5.3	4.2	* 5.7	4.2	* 5.3	4.2	* 5.7				
Max Green Setting (Gmax), s	20.8	* 42	17.2	* 39	21.8	* 47	17.8	* 38				
Max Q Clear Time (g_c+20.8), s	20.8	43.7	16.8	34.6	21.6	48.0	19.8	40.3				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.1	0.1	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			70.9									
HCM 2010 LOS			E									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 37: Village Square Drive & Encinitas Boulevard

05/10/2018



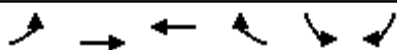
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	779	20	80	1105	180	41	10	30	240	10	311
Future Volume (veh/h)	220	779	20	80	1105	180	41	10	30	240	10	311
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	239	847	21	87	1201	170	45	11	33	261	11	338
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	1939	48	110	1315	185	45	11	33	296	8	257
Arrive On Green	0.28	0.92	0.92	0.10	0.70	0.70	0.05	0.05	0.05	0.17	0.17	0.17
Sat Flow, veh/h	1774	3529	88	1774	3116	439	864	211	633	1774	50	1541
Grp Volume(v), veh/h	239	425	443	87	680	691	89	0	0	261	0	349
Grp Sat Flow(s),veh/h/ln	1774	1770	1847	1774	1770	1785	1708	0	0	1774	0	1591
Q Serve(g_s), s	12.1	3.2	3.2	4.6	30.4	31.0	5.0	0.0	0.0	13.8	0.0	16.0
Cycle Q Clear(g_c), s	12.1	3.2	3.2	4.6	30.4	31.0	5.0	0.0	0.0	13.8	0.0	16.0
Prop In Lane	1.00		0.05	1.00		0.25	0.51		0.37	1.00		0.97
Lane Grp Cap(c), veh/h	293	972	1015	110	747	754	89	0	0	296	0	265
V/C Ratio(X)	0.81	0.44	0.44	0.79	0.91	0.92	1.00	0.00	0.00	0.88	0.00	1.32
Avail Cap(c_a), veh/h	293	972	1015	185	806	813	89	0	0	296	0	265
HCM Platoon Ratio	1.67	1.67	1.67	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.11	0.11	0.11	0.43	0.43	0.43	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	1.9	1.9	42.4	12.7	12.8	45.5	0.0	0.0	39.1	0.0	40.0
Incr Delay (d2), s/veh	1.9	0.2	0.2	2.0	8.6	9.1	95.6	0.0	0.0	24.5	0.0	166.5
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	0.0	1.3	1.4	2.3	16.1	16.5	4.7	0.0	0.0	8.8	0.0	19.3
LnGrp Delay(d),s/veh	35.3	2.1	2.1	44.4	21.3	21.8	141.1	0.0	0.0	63.6	0.0	206.5
LnGrp LOS	D	A	A	D	C	C	F			E		F
Approach Vol, veh/h		1107			1458			89			610	
Approach Delay, s/veh		9.2			22.9			141.1			145.4	
Approach LOS		A			C			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	58.0		20.0	21.2	45.8		9.0				
Change Period (Y+Rc), s	3.0	5.3		4.0	5.3	* 5.3		4.0				
Max Green Setting (Gmax), s	10.0	48.7		16.0	14.5	* 44		5.0				
Max Q Clear Time (g_c+I), s	10.0	5.2		18.0	14.1	33.0		7.0				
Green Ext Time (p_c), s	0.0	8.8		0.0	0.1	7.5		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.4									
HCM 2010 LOS			D									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

38: Encinitas Boulevard & Village Park Way

05/10/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	351	698	924	226	154	371		
Future Volume (veh/h)	351	698	924	226	154	371		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	382	759	1004	221	167	403		
Adj No. of Lanes	1	2	2	0	1	1		
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	392	2163	1013	222	489	436		
Arrive On Green	0.22	0.61	0.35	0.35	0.28	0.28		
Sat Flow, veh/h	1774	3632	2980	634	1774	1583		
Grp Volume(v), veh/h	382	759	615	610	167	403		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1751	1774	1583		
Q Serve(g_s), s	18.9	9.4	30.5	30.7	6.7	21.9		
Cycle Q Clear(g_c), s	18.9	9.4	30.5	30.7	6.7	21.9		
Prop In Lane	1.00			0.36	1.00	1.00		
Lane Grp Cap(c), veh/h	392	2163	621	614	489	436		
V/C Ratio(X)	0.98	0.35	0.99	0.99	0.34	0.92		
Avail Cap(c_a), veh/h	392	2163	621	614	522	466		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	34.2	8.5	28.5	28.6	25.6	31.1		
Incr Delay (d2), s/veh	38.9	0.2	33.5	34.7	0.4	23.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	13.5	4.6	20.6	20.7	3.3	19.8		
LnGrp Delay(d),s/veh	73.1	8.7	62.0	63.3	26.0	54.5		
LnGrp LOS	E	A	E	E	C	D		
Approach Vol, veh/h		1141	1225		570			
Approach Delay, s/veh		30.3	62.6		46.1			
Approach LOS		C	E		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.5		27.8	23.0	37.5		
Change Period (Y+Rc), s		6.5		3.5	3.5	6.5		
Max Green Setting (Gmax), s		54.0		26.0	19.5	31.0		
Max Q Clear Time (g_c+l1), s		11.4		23.9	20.9	32.7		
Green Ext Time (p_c), s		32.8		0.5	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			46.8					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary
 39: Rancho Santa Fe Road & Encinitas Boulevard

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	534	100	116	754	166	230	283	83	180	273	230
Future Volume (veh/h)	190	534	100	116	754	166	230	283	83	180	273	230
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	207	580	89	126	820	146	250	308	90	196	297	200
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	219	1065	163	133	910	162	257	486	407	219	446	373
Arrive On Green	0.12	0.35	0.35	0.08	0.30	0.30	0.15	0.26	0.26	0.12	0.24	0.24
Sat Flow, veh/h	1774	3078	471	1774	3003	535	1774	1863	1560	1774	1863	1561
Grp Volume(v), veh/h	207	333	336	126	483	483	250	308	90	196	297	200
Grp Sat Flow(s),veh/h/ln	1774	1770	1780	1774	1770	1768	1774	1863	1560	1774	1863	1561
Q Serve(g_s), s	10.8	14.1	14.2	6.6	24.4	24.4	13.1	13.6	4.2	10.1	13.4	10.4
Cycle Q Clear(g_c), s	10.8	14.1	14.2	6.6	24.4	24.4	13.1	13.6	4.2	10.1	13.4	10.4
Prop In Lane	1.00		0.26	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	613	616	133	536	536	257	486	407	219	446	373
V/C Ratio(X)	0.94	0.54	0.55	0.94	0.90	0.90	0.97	0.63	0.22	0.89	0.67	0.54
Avail Cap(c_a), veh/h	219	616	619	133	540	540	257	620	519	219	580	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	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	40.5	24.5	24.5	42.8	31.1	31.1	39.6	30.5	27.0	40.2	32.0	30.9
Incr Delay (d2), s/veh	45.6	1.8	1.8	60.9	19.0	19.0	47.8	2.9	0.6	33.0	3.7	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	8.1	7.1	7.2	5.5	14.6	14.6	9.8	7.4	1.9	7.0	7.4	4.8
LnGrp Delay(d),s/veh	86.1	26.3	26.3	103.8	50.0	50.0	87.4	33.4	27.6	73.2	35.8	33.4
LnGrp LOS	F	C	C	F	D	D	F	C	C	E	D	C
Approach Vol, veh/h		876			1092			648			693	
Approach Delay, s/veh		40.4			56.2			53.4			45.7	
Approach LOS		D			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.0	37.9	17.0	27.2	15.0	33.9	15.0	29.2				
Change Period (Y+Rc), s	4.0	5.7	3.5	4.9	3.5	5.7	3.5	4.9				
Max Green Setting (Gmax), s	32.4	13.5	29.0	11.5	28.4	11.5	31.0					
Max Q Clear Time (g_c+I), s	16.2	15.1	15.4	12.8	26.4	12.1	15.6					
Green Ext Time (p_c), s	0.0	12.7	0.0	6.7	0.0	1.9	0.0	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay			49.3									
HCM 2010 LOS			D									

Intersection

Intersection Delay, s/veh 19.8

Intersection LOS C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↙		↘		↘	↑
Traffic Vol, veh/h	160	225	320	30	263	270
Future Vol, veh/h	160	225	320	30	263	270
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	174	245	348	33	286	293
Number of Lanes	1	0	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left NB			WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right SB		WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	22.4	20.4	17.5
HCM LOS	C	C	C

Lane	NBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	42%	100%	0%
Vol Thru, %	91%	0%	0%	100%
Vol Right, %	9%	58%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	350	385	263	270
LT Vol	0	160	263	0
Through Vol	320	0	0	270
RT Vol	30	225	0	0
Lane Flow Rate	380	418	286	293
Geometry Grp	5	2	7	7
Degree of Util (X)	0.655	0.704	0.559	0.533
Departure Headway (Hd)	6.202	6.053	7.042	6.532
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	578	594	509	549
Service Time	4.283	4.127	4.831	4.32
HCM Lane V/C Ratio	0.657	0.704	0.562	0.534
HCM Control Delay	20.4	22.4	18.5	16.6
HCM Lane LOS	C	C	C	C
HCM 95th-tile Q	4.8	5.7	3.4	3.1

HCM 2010 Signalized Intersection Summary
 41: I-5 SB On-Ramp/I-5 SB Off-Ramp & Santa Fe Drive

05/10/2018

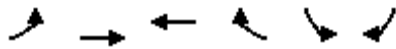


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑						↑	↗
Traffic Volume (veh/h)	0	750	310	187	569	0	0	0	0	240	10	261
Future Volume (veh/h)	0	750	310	187	569	0	0	0	0	240	10	261
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	815	337	203	618	0				261	11	284
Adj No. of Lanes	0	1	1	1	2	0				0	1	1
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	798	652	320	2380	0				341	14	317
Arrive On Green	0.00	0.86	0.86	0.06	0.22	0.00				0.20	0.20	0.20
Sat Flow, veh/h	0	1863	1522	1774	3632	0				1706	72	1583
Grp Volume(v), veh/h	0	815	337	203	618	0				272	0	284
Grp Sat Flow(s),veh/h/ln	0	1863	1522	1774	1770	0				1777	0	1583
Q Serve(g_s), s	0.0	34.3	4.6	8.9	11.5	0.0				11.6	0.0	14.0
Cycle Q Clear(g_c), s	0.0	34.3	4.6	8.9	11.5	0.0				11.6	0.0	14.0
Prop In Lane	0.00		1.00	1.00		0.00				0.96		1.00
Lane Grp Cap(c), veh/h	0	798	652	320	2380	0				355	0	317
V/C Ratio(X)	0.00	1.02	0.52	0.63	0.26	0.00				0.77	0.00	0.90
Avail Cap(c_a), veh/h	0	880	719	320	2380	0				355	0	317
HCM Platoon Ratio	1.00	2.00	2.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.7	3.6	35.0	14.7	0.0				30.2	0.0	31.2
Incr Delay (d2), s/veh	0.0	37.4	2.9	2.9	0.2	0.0				8.7	0.0	25.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	23.3	2.2	4.7	5.7	0.0				6.5	0.0	8.3
LnGrp Delay(d),s/veh	0.0	43.1	6.5	37.9	14.9	0.0				38.9	0.0	57.0
LnGrp LOS		F	A	D	B					D		E
Approach Vol, veh/h		1152			821						556	
Approach Delay, s/veh		32.4			20.6						48.2	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.1	40.8		21.1		58.9						
Change Period (Y+Rc), s	5.1	* 5.1		5.1		5.1						
Max Green Setting (Gmax), s	38	* 38		16.0		53.8						
Max Q Clear Time (g_c+10), s	36.3	* 36.3		16.0		13.5						
Green Ext Time (p_c), s	0.1	0.8		0.0		3.1						
Intersection Summary												
HCM 2010 Ctrl Delay				32.0								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 42: Santa Fe Drive & I-5 NB On-Ramp

05/10/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↶	↑	↑↑	↷				
Traffic Volume (veh/h)	356	679	756	375	0	0		
Future Volume (veh/h)	356	679	756	375	0	0		
Number	5	2	6	16				
Initial Q (Qb), veh	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00			0.97				
Parking Bus, Adj	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863				
Adj Flow Rate, veh/h	387	738	822	408				
Adj No. of Lanes	1	1	2	1				
Peak Hour Factor	0.92	0.92	0.92	0.92				
Percent Heavy Veh, %	2	2	2	2				
Cap, veh/h	419	1737	2257	975				
Arrive On Green	0.47	1.00	1.00	1.00				
Sat Flow, veh/h	1774	1863	3632	1529				
Grp Volume(v), veh/h	387	738	822	408				
Grp Sat Flow(s),veh/h/ln	1774	1863	1770	1529				
Q Serve(g_s), s	16.4	0.0	0.0	0.0				
Cycle Q Clear(g_c), s	16.4	0.0	0.0	0.0				
Prop In Lane	1.00			1.00				
Lane Grp Cap(c), veh/h	419	1737	2257	975				
V/C Ratio(X)	0.92	0.42	0.36	0.42				
Avail Cap(c_a), veh/h	783	1737	2257	975				
HCM Platoon Ratio	2.00	2.00	2.00	2.00				
Upstream Filter(l)	0.34	0.34	0.74	0.74				
Uniform Delay (d), s/veh	20.5	0.0	0.0	0.0				
Incr Delay (d2), s/veh	1.4	0.3	0.3	1.0				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	7.9	0.1	0.1	0.3				
LnGrp Delay(d),s/veh	21.9	0.3	0.3	1.0				
LnGrp LOS	C	A	A	A				
Approach Vol, veh/h		1125	1230					
Approach Delay, s/veh		7.7	0.5					
Approach LOS		A	A					
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		
Phs Duration (G+Y+Rc), s		80.0			23.6	56.4		
Change Period (Y+Rc), s		5.4			* 4.7	5.4		
Max Green Setting (Gmax), s		74.6			* 35	34.6		
Max Q Clear Time (g_c+l1), s		2.0			18.4	2.0		
Green Ext Time (p_c), s		10.9			0.5	10.0		
Intersection Summary								
HCM 2010 Ctrl Delay			4.0					
HCM 2010 LOS			A					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 43: I-5 NB Off-Ramp/Regal Road & Santa Fe Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	528	0	0	647	82	273	203	213	40	0	220
Future Volume (veh/h)	151	528	0	0	647	82	273	203	213	40	0	220
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	164	574	0	0	703	89	259	274	199	43	0	239
Adj No. of Lanes	1	1	0	0	3	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	2	2
Cap, veh/h	363	870	0	0	893	112	335	352	295	37	0	203
Arrive On Green	0.41	0.93	0.00	0.00	0.20	0.20	0.19	0.19	0.19	0.15	0.00	0.15
Sat Flow, veh/h	1774	1863	0	0	4745	575	1774	1863	1562	245	0	1364
Grp Volume(v), veh/h	164	574	0	0	519	273	259	274	199	282	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	1695	1761	1774	1863	1562	1610	0	0
Q Serve(g_s), s	5.4	4.2	0.0	0.0	11.6	11.8	11.1	11.2	9.5	11.9	0.0	0.0
Cycle Q Clear(g_c), s	5.4	4.2	0.0	0.0	11.6	11.8	11.1	11.2	9.5	11.9	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.33	1.00		1.00	0.15		0.85
Lane Grp Cap(c), veh/h	363	870	0	0	662	344	335	352	295	239	0	0
V/C Ratio(X)	0.45	0.66	0.00	0.00	0.78	0.79	0.77	0.78	0.67	1.18	0.00	0.00
Avail Cap(c_a), veh/h	363	870	0	0	831	432	397	417	350	239	0	0
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.92	0.92	0.00	0.00	0.73	0.73	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.4	1.5	0.0	0.0	30.6	30.7	30.8	30.8	30.1	34.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	3.6	0.0	0.0	6.8	13.0	8.7	8.7	4.9	114.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.4	0.0	0.0	6.0	7.0	6.2	6.6	4.5	12.9	0.0	0.0
LnGrp Delay(d),s/veh	20.7	5.2	0.0	0.0	37.4	43.6	39.5	39.5	35.1	148.8	0.0	0.0
LnGrp LOS	C	A			D	D	D	D	D	F		
Approach Vol, veh/h		738			792			732			282	
Approach Delay, s/veh		8.6			39.5			38.3			148.8	
Approach LOS		A			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		42.8		17.0	21.8	21.0		20.2				
Change Period (Y+Rc), s		5.4		5.1	5.4	* 5.4		5.1				
Max Green Setting (Gmax), s		34.6		11.9	10.3	* 20		17.9				
Max Q Clear Time (g_c+l1), s		6.2		13.9	7.4	13.8		13.2				
Green Ext Time (p_c), s		2.6		0.0	0.9	1.8		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				42.3								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 44: MacKinnon Avenue/Nardo Road & Santa Fe Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	593	125	145	544	65	90	80	100	40	80	20
Future Volume (veh/h)	50	593	125	145	544	65	90	80	100	40	80	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	54	645	136	158	591	71	98	87	64	43	87	22
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	746	157	197	934	112	188	136	85	136	237	51
Arrive On Green	0.04	0.50	0.50	0.11	0.57	0.57	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	1493	315	1774	1632	196	538	665	416	317	1155	249
Grp Volume(v), veh/h	54	0	781	158	0	662	249	0	0	152	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1807	1774	0	1828	1620	0	0	1722	0	0
Q Serve(g_s), s	2.0	0.0	24.8	5.7	0.0	15.8	4.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	24.8	5.7	0.0	15.8	9.1	0.0	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.11	0.39		0.26	0.28		0.14
Lane Grp Cap(c), veh/h	68	0	903	197	0	1046	409	0	0	424	0	0
V/C Ratio(X)	0.79	0.00	0.87	0.80	0.00	0.63	0.61	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	123	0	958	204	0	1054	588	0	0	611	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.0	0.0	14.3	28.2	0.0	9.3	24.0	0.0	0.0	22.4	0.0	0.0
Incr Delay (d2), s/veh	18.4	0.0	8.2	19.7	0.0	1.3	1.8	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	14.2	3.8	0.0	8.3	4.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	49.5	0.0	22.5	47.9	0.0	10.7	25.7	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	D		C	D		B	C			C		
Approach Vol, veh/h		835			820			249			152	
Approach Delay, s/veh		24.3			17.8			25.7			23.1	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	37.0		17.3	6.0	41.7		17.3				
Change Period (Y+Rc), s	3.5	4.5		4.0	3.5	4.5		4.0				
Max Green Setting (Gmax), s	34.5			21.0	4.5	37.5		21.0				
Max Q Clear Time (g_c+I1), s	26.8			6.7	4.0	17.8		11.1				
Green Ext Time (p_c), s	0.0	5.7		2.5	0.0	11.8		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				21.8								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 19.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations	↘	↑	↗		↘	
Traffic Vol, veh/h	261	548	532	137	94	177
Future Vol, veh/h	261	548	532	137	94	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	284	596	578	149	102	192

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	727	0	-	0	1816	653
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	1163	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	876	-	-	-	~ 86	467
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	297	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	876	-	-	-	~ 58	467
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	201	-

Approach EB WB SB

HCM Control Delay, s 3.6 0 117.9
HCM LOS F

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1




















Capacity (veh/h)	876	-	-	-	273
HCM Lane V/C Ratio	0.324	-	-	-	1.079
HCM Control Delay (s)	11.1	-	-	-	117.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1.4	-	-	-	11.9

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 Signalized Intersection Summary
 46: Lake Drive & Santa Fe Drive

05/10/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	517	100	225	504	5	70	10	180	10	10	10
Future Volume (veh/h)	15	517	100	225	504	5	70	10	180	10	10	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	16	562	109	245	548	5	76	11	158	11	11	11
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	556	976	189	468	1186	11	163	34	195	163	149	110
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	852	1516	294	763	1843	17	374	175	998	366	765	566
Grp Volume(v), veh/h	16	0	671	245	0	553	245	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	852	0	1811	763	0	1860	1547	0	0	1697	0	0
Q Serve(g_s), s	0.5	0.0	11.1	14.1	0.0	8.0	5.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.5	0.0	11.1	25.2	0.0	8.0	7.9	0.0	0.0	0.8	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.01	0.31		0.64	0.33		0.33
Lane Grp Cap(c), veh/h	556	0	1165	468	0	1197	391	0	0	422	0	0
V/C Ratio(X)	0.03	0.00	0.58	0.52	0.00	0.46	0.63	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	574	0	1202	483	0	1235	570	0	0	599	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.9	0.0	5.3	12.4	0.0	4.8	20.2	0.0	0.0	17.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	2.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	5.8	3.2	0.0	4.2	3.5	0.0	0.0	0.4	0.0	0.0
LnGrp Delay(d),s/veh	7.0	0.0	6.4	14.4	0.0	5.4	20.8	0.0	0.0	17.4	0.0	0.0
LnGrp LOS	A		A	B		A	C			B		
Approach Vol, veh/h		687			798			245				33
Approach Delay, s/veh		6.4			8.1			20.8				17.4
Approach LOS		A			A			C				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.9		13.8		38.9		13.8				
Change Period (Y+Rc), s		5.0		3.5		5.0		3.5				
Max Green Setting (Gmax), s		35.0		16.5		35.0		16.5				
Max Q Clear Time (g_c+I1), s		13.1		2.8		27.2		9.9				
Green Ext Time (p_c), s		16.6		0.9		6.8		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary
 47: El Camino Real & Santa Fe Drive

05/10/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↖↗	↗	↖	↑↑↑	↑↑	↗		
Traffic Volume (veh/h)	583	229	182	1059	979	687		
Future Volume (veh/h)	583	229	182	1059	979	687		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	634	249	198	1151	1064	747		
Adj No. of Lanes	2	1	1	3	2	1		
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	942	434	123	2829	1531	1119		
Arrive On Green	0.27	0.27	0.07	0.56	0.43	0.43		
Sat Flow, veh/h	3442	1583	1774	5253	3632	1583		
Grp Volume(v), veh/h	634	249	198	1151	1064	747		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1695	1770	1583		
Q Serve(g_s), s	10.6	8.8	4.5	8.4	15.8	17.0		
Cycle Q Clear(g_c), s	10.6	8.8	4.5	8.4	15.8	17.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	942	434	123	2829	1531	1119		
V/C Ratio(X)	0.67	0.57	1.61	0.41	0.69	0.67		
Avail Cap(c_a), veh/h	1754	807	123	2829	1569	1136		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	20.9	20.3	30.1	8.2	14.9	5.3		
Incr Delay (d2), s/veh	1.2	1.7	306.9	0.1	1.4	1.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	15.2	7.9	12.7	3.9	8.0	13.6		
LnGrp Delay(d),s/veh	22.1	22.0	337.0	8.4	16.3	6.9		
LnGrp LOS	C	C	F	A	B	A		
Approach Vol, veh/h	883			1349	1811			
Approach Delay, s/veh	22.1			56.6	12.4			
Approach LOS	C			E	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		42.0		22.7	8.0	34.0		
Change Period (Y+Rc), s		6.0		5.0	3.5	* 6		
Max Green Setting (Gmax), s		36.0		33.0	4.5	* 29		
Max Q Clear Time (g_c+l1), s		10.4		12.6	6.5	19.0		
Green Ext Time (p_c), s		21.9		5.1	0.0	9.0		
Intersection Summary								
HCM 2010 Ctrl Delay			29.3					
HCM 2010 LOS			C					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
48: Vulcan Avenue & Birmingham Drive

05/10/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	200	100	545	345	110	250		
Future Volume (veh/h)	200	100	545	345	110	250		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	217	109	592	375	120	272		
Adj No. of Lanes	1	1	1	0	1	1		
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	262	234	653	414	150	1382		
Arrive On Green	0.15	0.15	0.61	0.61	0.08	0.74		
Sat Flow, veh/h	1774	1583	1067	676	1774	1863		
Grp Volume(v), veh/h	217	109	0	967	120	272		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1743	1774	1863		
Q Serve(g_s), s	9.2	4.9	0.0	37.2	5.1	3.4		
Cycle Q Clear(g_c), s	9.2	4.9	0.0	37.2	5.1	3.4		
Prop In Lane	1.00	1.00		0.39	1.00			
Lane Grp Cap(c), veh/h	262	234	0	1067	150	1382		
V/C Ratio(X)	0.83	0.47	0.00	0.91	0.80	0.20		
Avail Cap(c_a), veh/h	368	329	0	1256	150	1583		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	31.9	30.0	0.0	13.0	34.6	3.0		
Incr Delay (d2), s/veh	7.3	0.5	0.0	8.4	26.5	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	0.0	2.2	0.0	19.9	3.6	1.8		
LnGrp Delay(d),s/veh	39.2	30.6	0.0	21.4	61.2	3.1		
LnGrp LOS	D	C		C	E	A		
Approach Vol, veh/h	326		967			392		
Approach Delay, s/veh	36.3		21.4			20.9		
Approach LOS	D		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	10.0	51.7		15.4		61.7		
Change Period (Y+Rc), s	3.5	4.5		4.0		4.5		
Max Green Setting (Gmax), s	55.5			16.0		65.5		
Max Q Clear Time (g_c+I1), s	39.2			11.2		5.4		
Green Ext Time (p_c), s	0.0	7.9		0.3		12.3		
Intersection Summary								
HCM 2010 Ctrl Delay			24.2					
HCM 2010 LOS			C					

Intersection

Int Delay, s/veh 13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗		↖					↘		↗
Traffic Vol, veh/h	0	560	200	140	370	0	0	0	0	120	5	280
Future Vol, veh/h	0	560	200	140	370	0	0	0	0	120	5	280
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	609	217	152	402	0	0	0	0	130	5	304

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	609	0	0	1316	1316	402
Stage 1	-	-	-	-	-	-	707	707	-
Stage 2	-	-	-	-	-	-	609	609	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	970	-	0	174	158	648
Stage 1	0	-	0	-	-	0	489	438	-
Stage 2	0	-	0	-	-	0	543	485	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	970	-	-	139	0	648
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	0	-
Stage 1	-	-	-	-	-	-	390	0	-
Stage 2	-	-	-	-	-	-	543	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.6	47.5
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	970	-	139	648
HCM Lane V/C Ratio	-	0.157	-	0.938	0.47
HCM Control Delay (s)	-	9.4	0	122.5	15.4
HCM Lane LOS	-	A	A	F	C
HCM 95th %tile Q(veh)	-	0.6	-	6.5	2.5

Intersection	
Intersection Delay, s/veh	115.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↑	↗		↔	↗			
Traffic Vol, veh/h	240	440	0	0	300	110	210	5	390	0	0	0
Future Vol, veh/h	240	440	0	0	300	110	210	5	390	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	261	478	0	0	326	120	228	5	424	0	0	0
Number of Lanes	0	1	0	0	1	1	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	250.7	22.1	27.6
HCM LOS	F	C	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	98%	0%	35%	0%	0%
Vol Thru, %	2%	0%	65%	100%	0%
Vol Right, %	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	390	680	300	110
LT Vol	210	0	240	0	0
Through Vol	5	0	440	300	0
RT Vol	0	390	0	0	110
Lane Flow Rate	234	424	739	326	120
Geometry Grp	7	7	6	7	7
Degree of Util (X)	0.507	0.781	1.489	0.671	0.223
Departure Headway (Hd)	8.655	7.425	7.253	8.055	7.327
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	418	492	503	453	493
Service Time	6.355	5.125	5.292	5.755	5.027
HCM Lane V/C Ratio	0.56	0.862	1.469	0.72	0.243
HCM Control Delay	19.9	31.8	250.7	25.7	12.1
HCM Lane LOS	C	D	F	D	B
HCM 95th-tile Q	2.8	7	37.5	4.8	0.8

Intersection

Intersection Delay, s/veh84.3
 Intersection LOS F

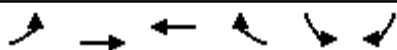
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑	↗	↘	↗
Traffic Vol, veh/h	150	191	475	920	41	40
Future Vol, veh/h	150	191	475	920	41	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	208	516	1000	45	43
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	12.9	106	11.3
HCM LOS	B	F	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	191	475	920	41	40
LT Vol	150	0	0	0	41	0
Through Vol	0	191	475	0	0	0
RT Vol	0	0	0	920	0	40
Lane Flow Rate	163	208	516	1000	45	43
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.302	0.356	0.758	1.273	0.099	0.082
Departure Headway (Hd)	7.08	6.574	5.288	4.583	8.361	7.136
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	510	550	682	790	431	505
Service Time	4.78	4.274	3.051	2.346	6.061	4.836
HCM Lane V/C Ratio	0.32	0.378	0.757	1.266	0.104	0.085
HCM Control Delay	12.8	12.9	22.8	149	12	10.5
HCM Lane LOS	B	B	C	F	B	B
HCM 95th-tile Q	1.3	1.6	7	36.6	0.3	0.3

HCM 2010 Signalized Intersection Summary
 52: Manchester Avenue & I-5 NB On-Off Ramps

05/10/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	→	↔	↗	↙	↘		
Traffic Volume (veh/h)	50	212	1045	228	1540	450		
Future Volume (veh/h)	50	212	1045	228	1540	450		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	54	230	1136	248	1674	489		
Adj No. of Lanes	1	1	2	1	2	1		
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	69	775	1182	517	1667	767		
Arrive On Green	0.04	0.42	0.33	0.33	0.48	0.48		
Sat Flow, veh/h	1774	1863	3632	1548	3442	1583		
Grp Volume(v), veh/h	54	230	1136	248	1674	489		
Grp Sat Flow(s),veh/h/ln	1774	1863	1770	1548	1721	1583		
Q Serve(g_s), s	3.3	9.0	34.4	13.9	52.9	25.2		
Cycle Q Clear(g_c), s	3.3	9.0	34.4	13.9	52.9	25.2		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	69	775	1182	517	1667	767		
V/C Ratio(X)	0.78	0.30	0.96	0.48	1.00	0.64		
Avail Cap(c_a), veh/h	81	788	1183	517	1667	767		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	52.0	21.3	35.7	28.9	28.2	21.0		
Incr Delay (d2), s/veh	27.6	0.1	17.5	0.3	23.1	1.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.2	4.6	19.6	6.0	30.3	22.8		
LnGrp Delay(d),s/veh	79.6	21.3	53.2	29.1	51.3	22.4		
LnGrp LOS	E	C	D	C	F	C		
Approach Vol, veh/h		284	1384		2163			
Approach Delay, s/veh		32.4	48.9		44.7			
Approach LOS		C	D		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		51.2		58.0	9.0	42.3		
Change Period (Y+Rc), s		5.8		5.1	* 4.7	5.8		
Max Green Setting (Gmax), s		46.2		52.9	* 5	36.5		
Max Q Clear Time (g_c+l1), s		11.0		54.9	5.3	36.4		
Green Ext Time (p_c), s		7.5		0.0	0.0	0.1		
Intersection Summary								
HCM 2010 Ctrl Delay			45.3					
HCM 2010 LOS			D					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

53: Manchester Avenue/El Camino Real & Rancho Santa Fe Road

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗	↖	↖	↗	↗	↖	↗	↗
Traffic Volume (veh/h)	10	5	10	385	5	224	5	1481	434	142	810	5
Future Volume (veh/h)	10	5	10	385	5	224	5	1481	434	142	810	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	5	11	333	124	243	5	1610	0	154	880	5
Adj No. of Lanes	0	1	1	1	1	0	1	2	1	1	2	1
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	25	11	31	410	130	255	9	1715	767	179	2024	882
Arrive On Green	0.02	0.02	0.02	0.23	0.23	0.23	0.01	0.48	0.00	0.10	0.57	0.57
Sat Flow, veh/h	1238	563	1583	1774	564	1104	1774	3539	1583	1774	3539	1542
Grp Volume(v), veh/h	16	0	11	333	0	367	5	1610	0	154	880	5
Grp Sat Flow(s),veh/h/ln1801	0	1583	1774	0	1668	1774	1770	1583	1774	1770	1542	
Q Serve(g_s), s	1.0	0.0	0.8	21.2	0.0	25.8	0.3	51.2	0.0	10.2	16.9	0.2
Cycle Q Clear(g_c), s	1.0	0.0	0.8	21.2	0.0	25.8	0.3	51.2	0.0	10.2	16.9	0.2
Prop In Lane	0.69		1.00	1.00		0.66	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	0	31	410	0	385	9	1715	767	179	2024	882
V/C Ratio(X)	0.45	0.00	0.35	0.81	0.00	0.95	0.55	0.94	0.00	0.86	0.43	0.01
Avail Cap(c_a), veh/h	242	0	213	410	0	385	238	1792	802	179	2024	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh57.7	0.0	57.6	43.4	0.0	45.2	59.1	29.0	0.0	52.7	14.5	10.9	
Incr Delay (d2), s/veh	3.2	0.0	2.5	11.1	0.0	33.5	17.9	10.0	0.0	31.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.6	0.0	0.4	11.6	0.0	15.5	0.2	27.2	0.0	6.5	8.3	0.1	
LnGrp Delay(d),s/veh	61.0	0.0	60.1	54.4	0.0	78.6	77.0	39.0	0.0	83.8	15.1	11.0
LnGrp LOS	E		E	D		E	E	D		F	B	B
Approach Vol, veh/h		27		700			1615		1039			
Approach Delay, s/veh		60.6		67.1			39.1		25.2			
Approach LOS		E		E			D		C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0			6.9	5.6	74.6		32.0				
Change Period (Y+Rc), s	4.0	* 6.5		4.5	5.0	6.5		4.5				
Max Green Setting (Gmax), s	10.0	* 60		16.0	16.0	55.0		27.5				
Max Q Clear Time (g_c+1), s	10.2	53.2		3.0	2.3	18.9		27.8				
Green Ext Time (p_c), s	0.0	4.5		0.0	0.0	31.4		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

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

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

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

109: Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘	↖ ↗ ↘		↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	3	0	2	2	1	1	1	1	1	1	1
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	9999	9999	0	9999	9999	9999	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	0	1721	1770	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(18)	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c18)	1774	5253	0	3442	3539	1583	1774	1863	1583	1774	1863	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 118: Via Cantebria & Garden View Road

05/10/2018



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↘	↙	↕	↔	↖	↗	↘	↙	↕	↔
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	9999	9999	9999	0	9999	9999	0	9999	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	1863	0	1774	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(veh/h)	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	3539	1583	1774	3632	0	1774	1863	0	1774	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0
Through Vol	0	0	0	0	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	0	0	0	0	0
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0	0	0	0	0	0	0
Departure Headway (Hd)	4.534	4.534	2.8	4.534	4.534	4.534	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	0	0	0	0	0
Service Time	2.234	2.234	0.5	2.234	2.234	2.234	2.234	0.5
HCM Lane V/C Ratio	0	0	0	0	0	0	0	0
HCM Control Delay	7.2	7.2	5.5	7.2	7.2	7.2	7.2	5.5
HCM Lane LOS	N	N	N	N	N	N	N	N
HCM 95th-tile Q	0	0	0	0	0	0	0	0

Intersection

Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0
Through Vol	0	0	0	0	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	0	0	0	0	0
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0	0	0	0	0	0	0
Departure Headway (Hd)	4.534	2.8	4.534	2.8	4.534	2.8	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	0	0	0	0	0
Service Time	2.234	0.5	2.234	0.5	2.234	0.5	2.234	0.5
HCM Lane V/C Ratio	0	0	0	0	0	0	0	0
HCM Control Delay	7.2	5.5	7.2	5.5	7.2	5.5	7.2	5.5
HCM Lane LOS	N	N	N	N	N	N	N	N
HCM 95th-tile Q	0	0	0	0	0	0	0	0

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary
 169: Poinsettia Lane

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
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	9999	9999	0	9999	9999	0	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(veh/h)	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	3632	0	1774	3632	0	1774	1863	1583	1774	1863	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

173: Santa Fe Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	9999	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	0-74510	0	0-74510	0	0	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(1)	1774	1863	0	1774	1863	0	0	1863	0	0	1863	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c1)	1774	1863	0	1774	1863	0	0	1863	0	0	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

181: Santa Fe Drive

05/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	9999	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	1774	3632	0	0-74510	0	0-74510	0	0	0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(veh/h)	1774	3632	0	1774	3632	0	0	1863	0	0	1863	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c18)	1774	3632	0	1774	3632	0	0	1863	0	0	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),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
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

