APPENDIX L-2
LOCAL TRANSPORTATION ANALYSIS

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CITY OF ENCINITAS
Marea Village Mixed-Use
(Hotel, Residential, Commercial)
1900 N. Coast Highway 101
May 18, 2022

Local Transportation Analysis

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Job #1924

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Executive Summary
Marea Village Mixed-Use

This Local Transportation Analysis (LTA) determines if the proposed project conflicts with the City of Encinitas General Plan Circulation Element Policies 1.2 and 1.3. The project includes a resort hotel with 34 rooms, 94 multi-family dwelling units, and 18,261 square feet of commercial/retail space on the westside of North Coast Highway 101 approximately 500 feet south of La Costa Avenue located in the City of Encinitas, California. The project will replace existing commercial/retail land uses with active businesses.

The goals of Marea Village align with the *North Coast Highway 101 Leucadia Streetscape Improvement Project* Final EIR, February 2018 ("Streetscape EIR") project by allowing people the opportunity to use different modes of travel other than vehicles. The proposed Marea Village mixed-use project has been designed to encourage using multi-modal modes of transportation such as walking and biking in lieu of driving. This is achieved by having mixed land uses, pedestrian connections to the public sidewalk, a dedicated bike lane as part of the Streetscape EIR project, bike parking, located adjacent to Bus Route 101 along Coast Highway, and being close to residential homes that provide surrounding residents an opportunity to walk and/or bike to the retail elements of this project.

The project traffic generation was calculated using the SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project site has active uses creating traffic; therefore, a traffic credit was applied because the existing uses will be replaced by the project. Additionally, the existing and proposed project have pass-by trips already on the study roadways. The project is calculated to generate a net increase of 1,173 ADT, 85 AM peak hour trips, and 124 PM peak hour trips.

This report includes the analysis of existing, existing + cumulative, and horizon year scenarios (with and without project traffic). The existing scenario is based on traffic counts collected before the State's COVID lockdown order. The existing + cumulative and horizon year scenarios have roadway conditions that match the Streetscape EIR.

The City's General Plan Circulation Element Policies 1.2 and 1.3 were evaluated with the addition of project traffic. The project's traffic is forecasted to conflict with Policy 1.3 at the intersection of La Costa Ave/Sheridan Rd under cumulative and horizon year conditions, which includes traffic from other known developments and forecasted horizon year developments. These forecasted volumes may not materialize. City staff are currently evaluating improvement scenarios along La Costa Ave from Coast Highway to I-5 including cross section and intersection control alternatives. However, currently there are no planned improvements to the intersection of La Costa Ave/Sheridan Rd. Therefore, an overriding public need is required and supported through the following project features and public benefits:

1) Providing 8 affordable hotel rooms.
2) Providing 19 affordable housing units (contributes to the Housing Element Update needs).
3) Providing 75 market rate housing units (contributes to the Housing Element Update needs).
4) Providing a roundabout at the project's entrance on Coast Highway, which aligns with and supports the City's Streetscape EIR project.
5) Providing mixed land uses that facilitate walking between housing, lodging, food, and retail uses without having to rely on an automobile.

1.0 Introduction

The purpose of this Local Transportation Analysis is to determine if the proposed project conflicts with the City of Encinitas General Plan Circulation Element Policies 1.2 and 1.3. The mixed-use project includes a resort hotel with 34 rooms, 94 multi-family dwelling units, and 18,261 square feet of commercial/retail space on the westside of North Coast Highway 101 approximately 500 feet south of La Costa Avenue in the City of Encinitas, California. The project will replace an existing commercial/retail land uses that have active businesses. The regional location of the project is shown in **Figure 1**. A site plan is shown in **Figure 2.**

The proposed Marea Village mixed-use project has been designed to encourage using multi-modal modes of transportation including a dedicated bike lane as part of the Streetscape EIR project, walking, biking, and using transit in lieu of driving. This is achieved by having mixed land uses, pedestrian connections to the public sidewalk, bike parking, being located adjacent to Bus Route 101 along Coast Highway, and being close to residential homes that provide surrounding residents an opportunity to walk and/or bike to the retail elements of this project. The goals of Marea Village align with the City's Streetscape EIR project by allowing people the opportunity to use different modes of travel other than vehicles.

This report describes the existing roadway network in the vicinity of the project site and includes a review of the existing and proposed activities for weekday peak AM and PM periods, and daily traffic conditions when the project is completed. The format of this study includes the following chapters:

1.0 Introduction
2.0 Transportation Analysis Methodology
3.0 Existing Conditions
4.0 Project Description
5.0 Existing + Project Conditions
6.0 Cumulative Projects
7.0 Existing + Cumulative Conditions
8.0 Existing + Cumulative + Project Conditions
9.0 Horizon Year 2035 Conditions
10.0 Horizon Year 2035 + Project Conditions
11.0 General Plan Policy Analysis
12.0 Conclusion
13.0 References

Figure 1: Project Location

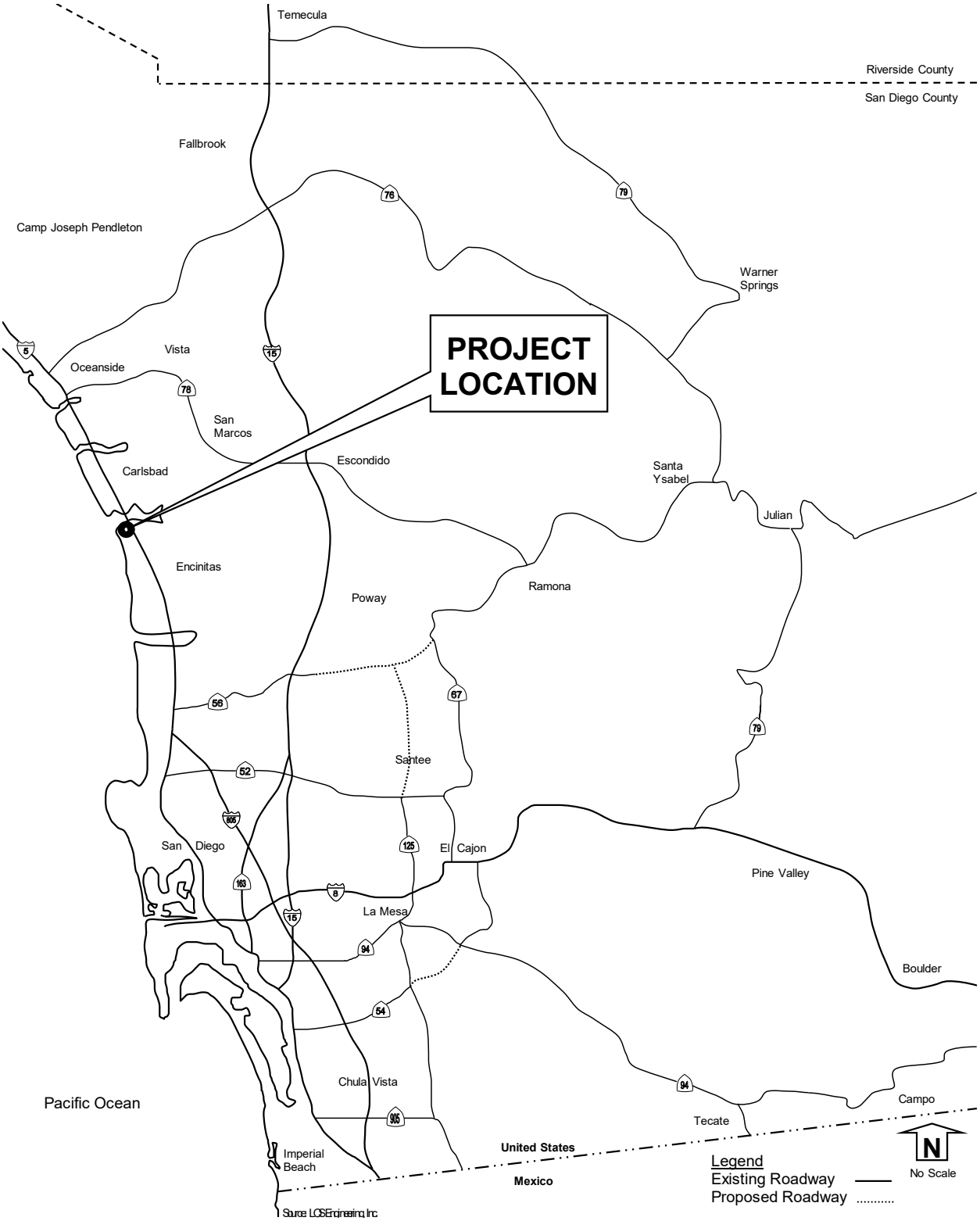
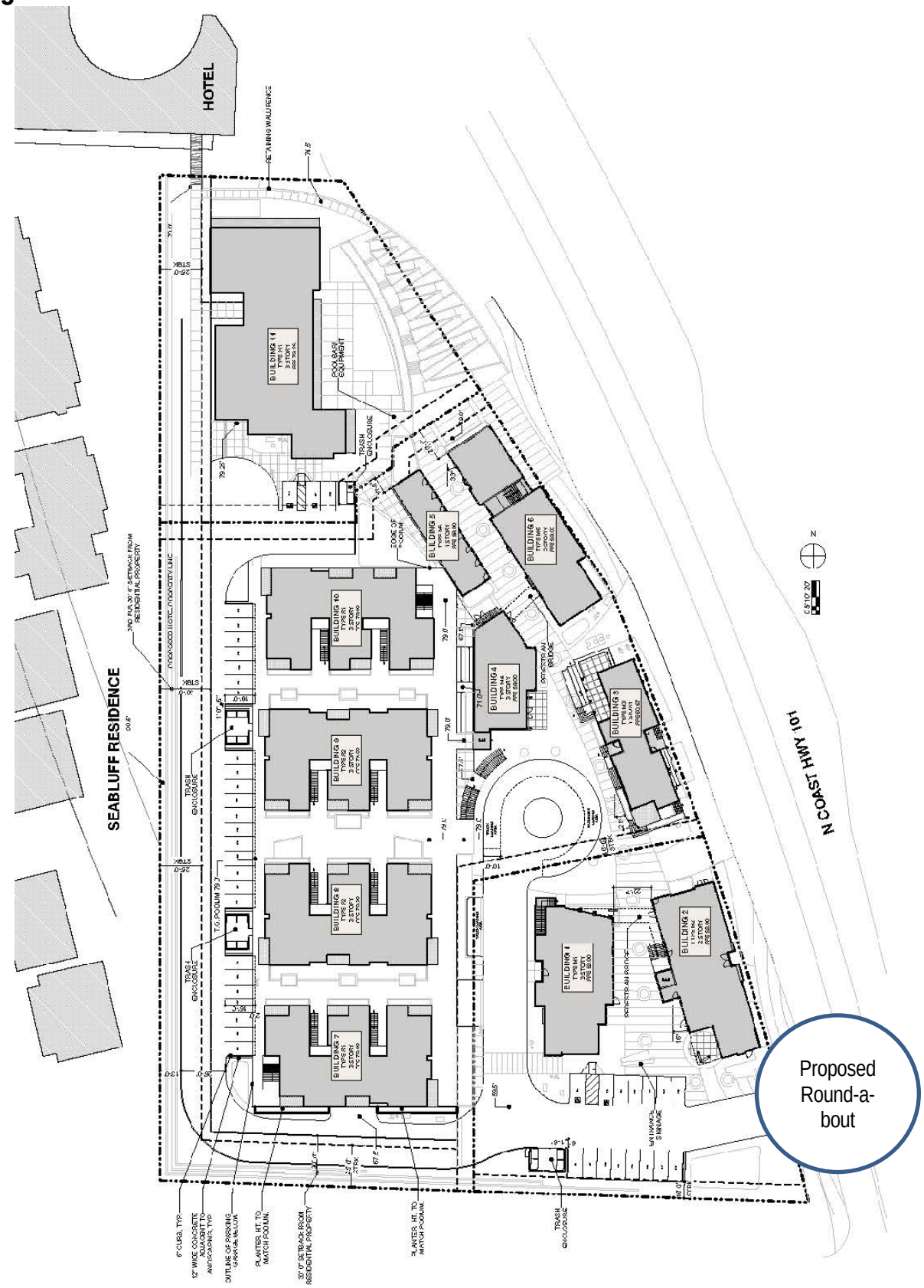


Figure 2: Site Plan



Source: Stephen Dalton Architects

2.0 Transportation Analysis Methodology

A Local Transportation Analysis (LTA) is provided to fulfill the Encinitas Municipal Code 23.08.060 requirement of a traffic analysis for projects with more than 2,000 square feet of building area and/or any residential project with five or more units.

This traffic study was prepared based on direction from City staff on the study intersections and roadway segments; the scenarios to be analyzed; and the methods required for analysis. The criteria for each of these parameters are included herein.

2.1 Study Area

The following intersections were included in this study:

1) Carlsbad Blvd SB/Avenida Encinas (signalized)
2) Carlsbad Blvd NB/Avenida Encinas (signalized)
3) North Coast Highway 101/La Costa Ave (signalized)
4) North Coast Highway 101/Project Access (future intersection)
5) North Coast Highway 101/Bishops Gate (un-signalized)
6) North Coast Highway 101/Grandview St (un-signalized)
7) North Coast Highway 101/Sands Mobile Home Park (un-signalized)
8) North Coast Highway 101/Jupiter St (un-signalized)
9) North Coast Highway 101/Leucadia Ave (signalized)
10) La Costa Avenue/N. Vulcan Avenue (un-signalized)
11) La Costa Avenue/Sheridan Rd (un-signalized)
12) La Costa Avenue/I-5 Southbound Ramps (signalized)
13) La Costa Avenue/I-5 Northbound Ramps (signalized)

The following street segments were included in this study:

1) Carlsbad Blvd from Avenida Encinas to La Costa Ave
2) North Coast Highway 101 from La Costa Ave to 600 ft S. of La Costa Ave
3) North Coast Highway 101 from 600 ft S. of La Costa Ave to Bishops Gate
4) North Coast Highway 101 from Bishops Gate to Grandview St
5) North Coast Highway 101 from Grandview St to Jupiter St
6) North Coast Highway 101 from Jupiter St to Leucadia Blvd
7) La Costa Avenue from N. Coast Highway 101 to N. Vulcan Ave
8) La Costa Avenue from N. Vulcan Ave to Sheridan Rd
9) La Costa Avenue from Sheridan Rd to I-5

2.2 Study Scenarios

The number of scenarios to be analyzed is typically based on the size of the project. For this project, the following scenarios were included based on direction from City staff:

1) Existing Conditions
2) Existing + Project Conditions
3) Existing + Cumulative Conditions (cumulative projects and planned roadway changes)
4) Existing + Cumulative + Project Conditions
5) Horizon Year 2035 Streetscape EIR Conditions
6) Horizon Year 2035 Streetscape EIR + Project Conditions

2.3 Traffic Analysis Methodology

The traffic analyses prepared for this study were based on the *Highway Capacity Manual* (HCM) operations analysis using Level of Service (LOS) evaluation criteria. The operating conditions of the study intersections and street segments were measured using the HCM LOS designations, which ranges from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. Within this report, acceptable LOS refers to LOS A, B, C, or D.

2.3.1 Intersections

Two of the study intersections are located within the City of Carlsbad while the remaining intersections are located within the City of Encinitas. The same LOS criteria were applied to all study intersections.

The study intersections were analyzed based on the **operational analysis** outlined in the 6th Edition HCM. This process defines LOS in terms of **average control delay** per vehicle, which is measured in seconds. LOS at the intersections were calculated using the computer software program Synchro 10 (Trafficware Corporation). The 6th Edition HCM LOS for the range of delay by seconds for intersections is shown in **Table 1**.

TABLE 1: INTERSECTION LEVEL OF SERVICE DEFINITIONS (6TH EDITION HCM)

Level of Service	Un-Signalized Control Delay for TWSC, AWSC, and Roundabout (sec/veh where v/c ≤ 1)	Signalized Control Delay (sec/veh where v/c ≤ 1)
A	0-10	≤ 10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

Source: 6th Edition HCM. TWSC: Two Way Stop Control. AWSC: All Way Stop Control. For unsignalized intersections, the control delay is the worst movement delay in seconds/vehicle.

Please note that the 6th Edition of HCM does not support intersection analyses for clustered intersections, such as Carlsbad Blvd SB & NB at Avenida Encinas. At these two locations, HCM 2000 was used for the analysis. The HCM 2000 LOS for the range of delay by seconds for intersections is shown in **Table 2**.

TABLE 2: INTERSECTION LEVEL OF SERVICE (HCM 2000)

Level of Service	Un-Signalized Control Delay (seconds/vehicle)	Signalized Control Delay (seconds/vehicle)
A	0-10	0-10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	>35-50	> 55-80
F	> 50	> 80

Source: Highway Capacity Manual 2000.

2.3.2 Street Segments

Street segment capacities were analyzed based on the underlying jurisdiction's criteria. N. Coast Hwy 101 north of La Costa Ave becomes Carlsbad Blvd. Carlsbad Blvd was analyzed using the City of Carlsbad criteria while the N. Coast Hwy 101 and La Costa Ave were analyzed using City of Encinitas criteria.

The City of Carlsbad uses a one-direction capacity of 1,820 vehicles per lane per hour for LOS capacity calculations for Carlsbad Blvd based on the physical characteristic of 2 travel lanes (per direction) on a divided roadway with a 50 MPH speed limit. The source of the Carlsbad segment capacity is included in **Appendix A**. The segment LOS based on the directional lane capacity is shown in **Table 3**.

TABLE 3: CARLSBAD BLVD STREET SEGMENT LOS BASED ON LANE CAPACITY

Level of Service	Lane Capacity (Vehicles)
C	850
D	1,690
E	1,850
F	Greater 1,850

Source: City of Carlsbad Growth Management Program Year 2018 Traffic Conditions Report.

The street segment daily volumes were analyzed based on the functional classification of the roadway using the City of Encinitas *Public Road Standards* General Plan Circulation Element Roadway Capacity Standards and the peak hour directional segment methodology as outlined in the *North Coast Highway 101 Leucadia Streetscape Improvement Project* Final EIR, dated February 2018 ("Streetscape EIR"). The daily segment volumes provide an initial capacity check to comply with the City's General Plan Circulation Element Policy 1.2 while the peak hour directional segment methodology provides a more detailed LOS reporting as used in the Streetscape EIR. The peak hour directional segment analysis was used for consistency with the Streetscape EIR.

The roadway segment daily capacity based on the General Plan are summarized in **Table 4**. The City of Encinitas General Plan segment capacities are included in **Appendix B**.

TABLE 4: STREET SEGMENT DAILY CAPACITY AND LOS (CITY OF ENCINITAS)

Facility Type	Number of Lanes	LOS C	LOS D	LOS E
Prime Arterial	6	<46,000	<51,200	<57,000
Prime Arterial – Augmented	6	<53,000	<60,000	<66,000
Major Roadway	4	<28,200	<31,600	<35,200
Major Roadway - Augmented	4+	<36,300	<41,000	<45,400
Collector Roadway	4	<26,000	<29,200	<32,400
Modified Major (1)	3	<21,150	<23,700	<26,400
Local Roadway - Augmented	2+	<16,000	<18,000	<20,000
Local Roadway	2	<11,200	<12,600	<14,000

Source: City of Encinitas *Public Road Standards* April 1991. (1) The 3 lane Major capacity taken at 75% of the 4-lane capacity as documented in the City of Encinitas Housing Element Traffic Impact Study, Jan 27, 2016.

Portions of North Coast Highway 101 are reduced to three lanes (two lanes in one direction and one lane in the remaining direction). The capacity for the three-lane section was based on 75% of a 4-lane roadway as documented in the *City of Encinitas Housing Element* Traffic Impact Study, January 27, 2016. Excerpts from the City of Encinitas Housing Element are included in **Appendix C**.

A detailed peak hour directional segment methodology was used for the segment analysis as documented in the *North Coast Highway 101 Leucadia Streetscape Improvement Project* Final EIR, dated February 2018 ("Streetscape EIR"). Excerpts from the Michael Baker International (MBI) traffic study prepared for the Streetscape EIR documenting the directional segment methodology are included in **Appendix D**. The segment LOS thresholds are summarized in **Table 5**.

TABLE 5: CITY OF ENCINITAS STREET SEGMENT LOS BASED ON V/C RATIOS (STREETSCAPE EIR)

LOS	Volume over Capacity Ratio
A	< 0.41
B	0.42 -0.62
C	0.63 – 0.79
D	0.80 – 0.92
E	0.93 – 1.00
F	> 1.00

Source: MBI *Highway 101 Streetscape Project Traffic Impact Analysis Report* November 2016.

2.4 General Plan Circulation Element Policy Criteria

The City of Encinitas General Plan Circulation Element defines traffic growth policies to promote an adequate roadway circulation system. This LTA determines if Policies 1.2 and 1.3 are affected by the proposed project traffic. The Highway Capacity Manual Level of Service is used to determine compliance with Policies 1.2 and 1.3. If a project's traffic causes a conflict with Policies 1.2 or 1.3 based on the criteria shown in **Table 6**, then an overriding public need should be demonstrated if there is no existing alternative (General Plan Circulation Element excerpts included in **Appendix E**).

TABLE 6: CITY OF ENCINITAS GENERAL PLAN CIRCUILATION ELEMENT POLICIES 1.2 AND 1.3

Circulation Element Policy	Application	Conflict Criteria
Policy 1.2: Endeavor to maintain Level of Service C as a basic design guideline for the local system of roadways understanding that the guideline may not be attainable in all cases	Segments	If project traffic causes the LOS to degrade to E/F, then there is a policy conflict. There is no policy conflict if the pre-project condition is at LOS E/F.
Policy 1.3: Prohibit development which results in Level of Service E or F at any intersection unless no alternatives exist and an overriding public need can be demonstrated.	Intersections	If project traffic causes the LOS to degrade to E/F, then there is a policy conflict. There is no policy conflict if the pre-project condition is at LOS E/F.

3.0 Existing Conditions

This section describes the study area streets, peak hour volumes, and existing LOS.

3.1 Existing Street System

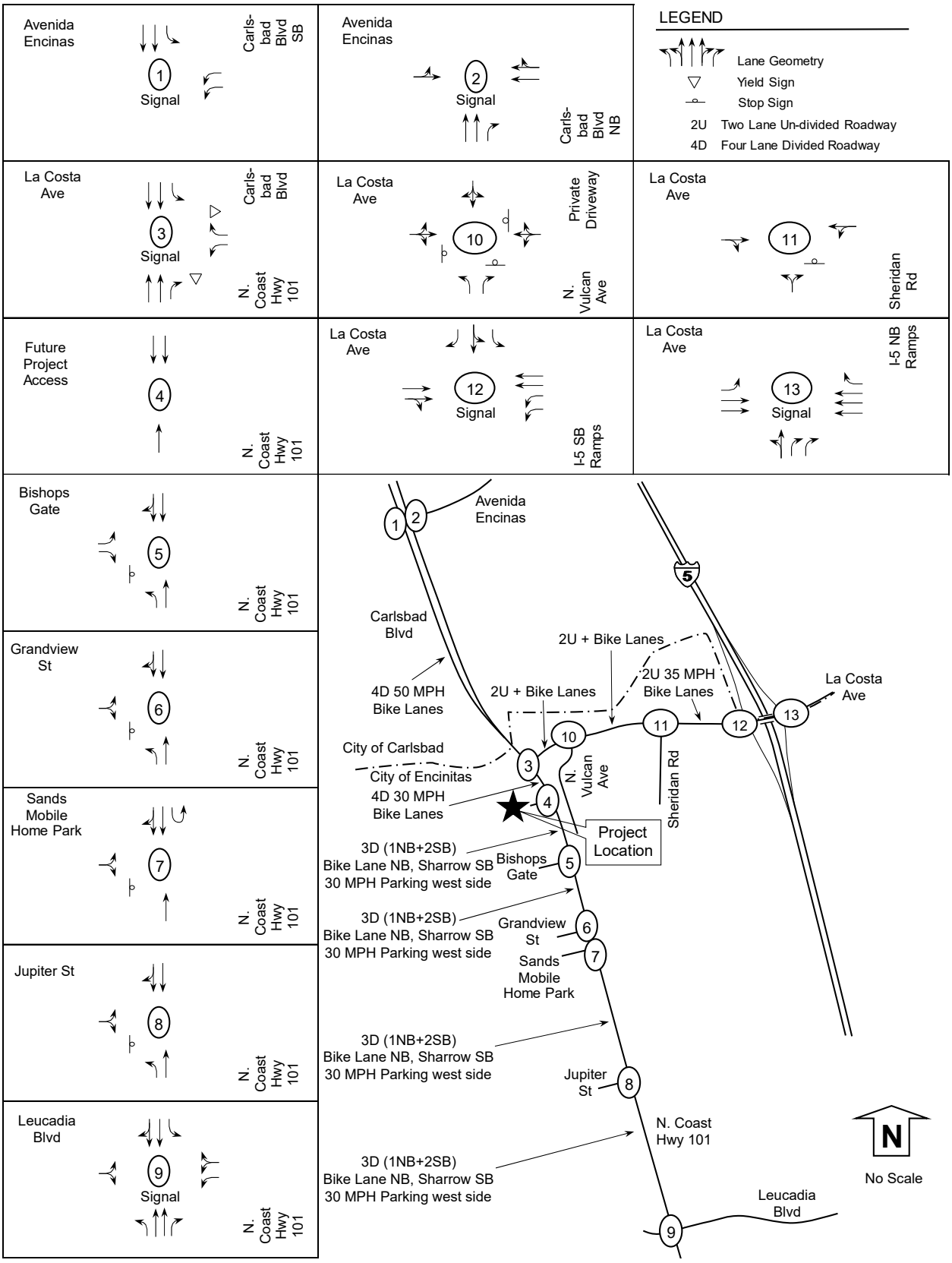
In the vicinity of the project, the following roadways were analyzed for this report and are described below. The General Plan street classifications are ultimate classifications. The existing roadway conditions are shown in **Figure 3**.

Carlsbad Boulevard from Avenida Encinas to La Costa Ave is mostly constructed as a four (4) lane divided roadway with two travel lanes in each direction. Bike lanes are provided on both sides of the roadway. There are no sidewalks on this segment. The posted speed limit is 50 Miles Per Hour (MPH). This segment of La Costa Avenue is classified as a *Coastal Street* in the *Carlsbad General Plan*, September 2015 (excerpt included in **Appendix F**).

La Costa Avenue from North Coast Highway 101 to I-5 is currently constructed as a two (2) lane roadway with one travel lane in each direction. Bike lanes are provided on both sides of the roadway. There are no sidewalks on this segment. The posted speed limit is 35 Miles Per Hour (MPH). This segment of La Costa Avenue is classified as a 4-lane *Collector Roadway* on the City of Encinitas Circulation Plan (**Appendix G**).

North Coast Highway 101 from the City of Carlsbad limits to La Costa Avenue is constructed as a four (4) lane divided roadway. North Coast Highway 101 from La Costa Avenue to approximately 600 feet south of La Costa Avenue is generally built as a four (4) lane divided roadway with bike lanes in each direction. North Coast Highway 101 from approximately 600 feet south of La Costa Avenue to Leucadia Blvd is generally built as a three (3) lane divided roadway with 1 northbound lane with adjacent Class II bike lane and 2 southbound lanes with the outside lane having intermittent bike "Sharrow" markings (Class III). Parking is generally permitted. The posted speed limit is 30 MPH. This segment is classified as a 4-lane *Major Roadway* on the City of Encinitas Circulation Plan (Appendix G).

Figure 3: Existing Roadway Conditions



3.2 Existing Traffic Volumes and LOS Analyses

Intersection counts were collected between 7:00 AM to 9:00 AM for the AM commuter period and from 4:00 PM to 6:00 PM for the PM commuter period. Traffic data was collected before the California Governor issued a COVID-19 stay at home order on March 19, 2020. The count dates are noted in parentheses for the study intersections below:

1) Carlsbad Blvd SB/Avenida Encinas (Thurs, November 7, 2019)
2) Carlsbad Blvd NB/Avenida Encinas (Thurs, November 7, 2019)
3) North Coast Highway 101/La Costa Ave (Thurs, November 7, 2019)
4) North Coast Highway 101/Project Access (through movement vol. from above intersection)
5) North Coast Highway 101/Bishops Gate (Wed, November 13, 2019)
6) North Coast Highway 101/Grandview St (Wed, November 13, 2019)
7) North Coast Highway 101/Sands Mobile Home Park (Thurs, November 7, 2019)
8) North Coast Highway 101/Jupiter St (Wed, November 13, 2019)
9) North Coast Highway 101/Leucadia Ave (Thurs, November 7, 2019)
10) La Costa Avenue/N. Vulcan Avenue (Tue, February 4, 2020)
11) La Costa Avenue/Sheridan Rd (Thurs, November 7, 2019)
12) La Costa Avenue/I-5 Southbound Ramps (Thurs, November 7, 2019)
13) La Costa Avenue/I-5 Northbound Ramps (Thurs, November 7, 2019)

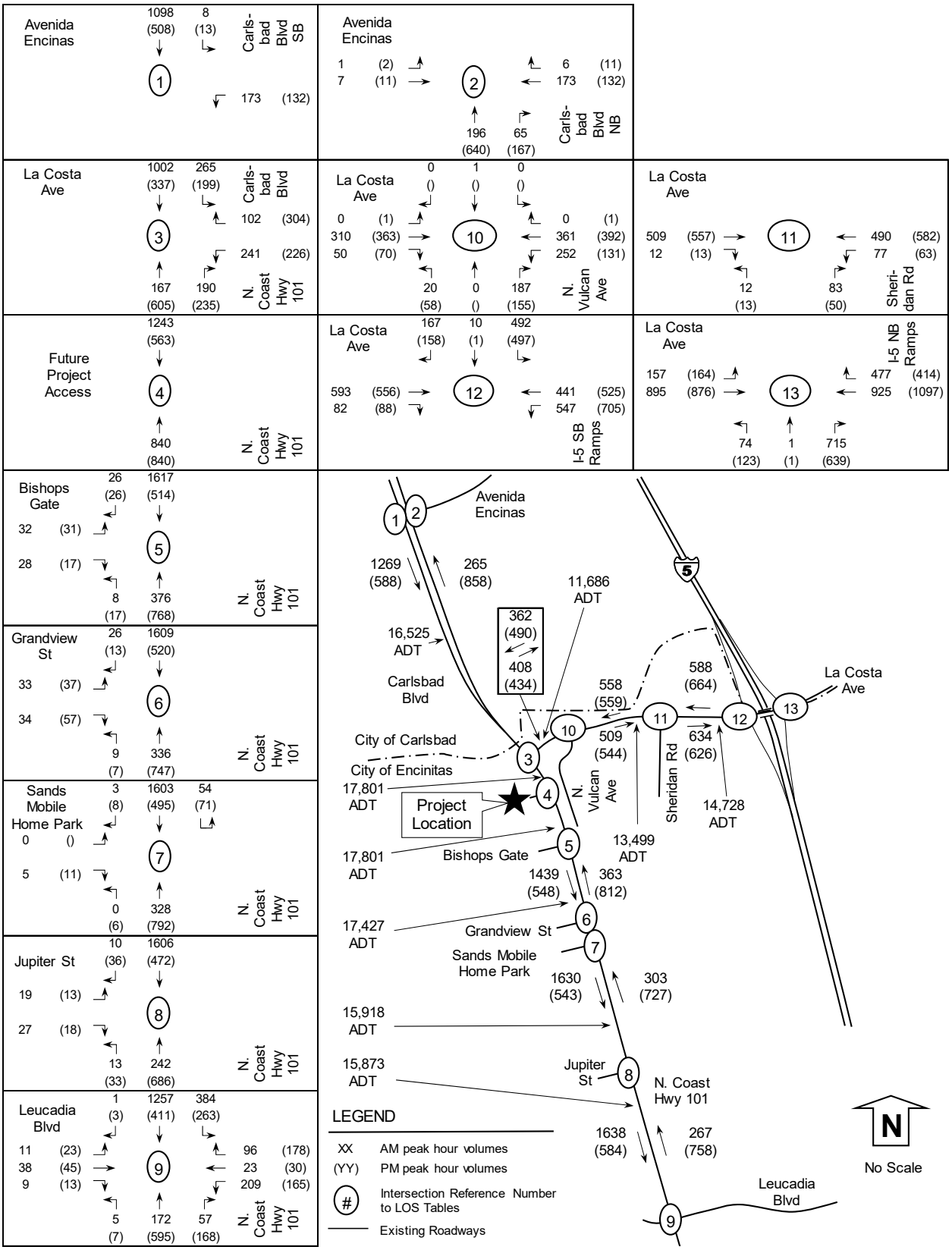
Daily counts (24 hour) were collected for the study segments with count dates noted in parentheses below:

1) Carlsbad Blvd from Avenida Encinas to La Costa Ave (Thurs, November 7, 2019)
2) North Coast Highway 101 from La Costa Ave to 600 ft S. of La Costa Ave (Wed, November 13, 2019)
3) North Coast Highway 101 from 600 ft S. of La Costa Ave to Bishops Gate (Wed, November 13, 2019)
4) North Coast Highway 101 from Bishops Gate to Grandview St (Wed, November 13, 2019)
5) North Coast Highway 101 from Grandview St to Jupiter St (Wed, November 13, 2019)
6) North Coast Highway 101 from Jupiter St to Leucadia Blvd (Wed, November 13, 2019)
7) La Costa Avenue from N. Coast Highway 101 to N. Vulcan Ave (Thurs, November 7, 2019)
8) La Costa Avenue from N. Vulcan Ave to Sheridan Rd (Thurs, November 7, 2019)
9) La Costa Avenue from Sheridan Rd to I-5 (Thurs, November 7, 2019)

The peak hours volumes used for the segment analysis were obtained from adjacent intersection volumes for near-term conditions and from the Streetscape EIR for horizon year conditions. The near-term peak hour segment volumes were averaged from the intersections bracketing the segment.

Existing volumes are shown on **Figure 4**, with count data included in **Appendix H**.

Figure 4: Existing Volumes



The LOS calculated for the intersection is shown in **Table 7.** The daily capacity for the street segments is shown in **Table 8** with the segments hourly LOS shown **Table 9**. Intersection LOS calculations are included in **Appendix I**.

TABLE 7: EXISTING INTERSECTION OPERATIONS

Intersection and (Analysis)[1]	Approach	Peak Hour	Existing Delay[2]	Existing LOS[3]
1) Carlsbad Blvd SB	All	AM	7.9	A
at Avenida Encinas (S)	All	PM	16.4	B
2) Carlsbad Blvd NB	All	AM	17.7	B
at Avenida Encinas (S)	All	PM	13.5	B
3) N. Coast Hwy at	All	AM	9.0	A
La Costa Ave (S)	All	PM	10.1	B
4 N. Coast Hwy at	NA	AM	DNE	NA
Project Access	NA	PM	DNE	NA
5) N. Coast Hwy at	Minor	AM	42.9	**E**
Bishops Gate (U)	Minor	PM	16.3	C
6) N. Coast Hwy at	Minor	AM	61.0	**F**
Grandview St (U)	Minor	PM	15.2	C
7) N. Coast Hwy at	Minor	AM	19.5	C
Sands MHP (U)	Minor	PM	10.2	B
8) N. Coast Hwy at	Minor	AM	37.9	**E**
Jupiter St (U)	Minor	PM	13.8	B
9) N. Coast Hwy at	All	AM	21.4	C
Leucadia Blvd (S)	All	PM	24.1	C
10) La Costa Ave at	All	AM	26.7	D
N Vulcan Ave (U)	All	PM	24.3	C
11) La Costa Ave at	Minor	AM	17.6	C
Sheridan Rd (U)	Minor	PM	18.6	C
12) La Costa Ave at	All	AM	23.6	C
I-5 SB Ramps (S)	All	PM	25.8	C
13) La Costa Ave at	All	AM	23.3	C
I-5 NB Ramps (S)	All	PM	20.4	C

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized, (R) Roundabout. Minor street approach (worst approach delay reported). 2) Delay - HCM Average Control Delay in sec. 3) LOS: Level of Service. DNE: Does Not Exist. NA: Not Applicable.

TABLE 8: EXISTING SEGMENT DAILY VOLUMES AND OPERATIONS

Segment	Functional Classification	LOS E Capacity	Existing Daily Volume	Existing LOS
Carlsbad Boulevard				
Avenida Encinas to La Costa Ave	4 Lane Major	42,200	16,525	C
North Coast Highway 101				
La Costa Ave to 600' S. of La Costa	4 Lane Major	35,200	17,801	C
600' S. of La Costa to Bishops Gate	3 Lane Major	26,400	17,801	C
Bishops Gate to Grandview St	3 Lane Major	26,400	17,427	C
Grandview St to Jupiter St	3 Lane Major	26,400	15,918	C
Jupiter St to Leucadia Blvd	3 Lane Major	26,400	15,873	C
La Costa Avenue				
N. Coast Hwy to N. Vulcan	2 Lane Coll.	14,000	11,686	D
N. Vulcan to Sheridan Rd	2 Lane Coll.	14,000	13,499	**E**
Sheridan Rd to I-5	2 Ln Aug. Coll.	20,000	14,728	C

Notes: 2 Ln Aug. Coll. = 2 Lane Augmented Collector. Daily volume is a 24 hour volume. LOS: Level of Service. Carlsbad Boulevard capacity and LOS from City of Carlsbad 2018 Growth Management Program.

TABLE 9: EXISTING SEGMENT PEAK HOUR VOLUMES AND OPERATIONS

	Segment	Dir	Lanes	Segment Capacity	Existing Pk Hr Vol.	V/C	LOS
Carlsbad Blvd	*AM Peak Hour*						
	Btw Avenida Encinas	NB	2 lanes	3,640	265	0.073	C
	and La Costa Ave	SB	2 lanes	3,640	1,269	0.349	D
	(PM) Peak Hour						
	Btw Avenida Encinas	NB	2 lanes	3,640	(858)	0.236	D
	and La Costa Ave	SB	2 lanes	3,640	(588)	0.162	C
North Coast Highway 101	*AM Peak Hour*						
	Btw La Costa Ave	NB	1 lane	2,000	363	0.182	A
	and Grandview St	SB	2 lanes	2,800	1,439	0.514	B
	Btw Grandview St	NB	1 lane	1,800	303	0.168	A
	and Jupiter St	SB	2 lanes	2,800	1,630	0.582	B
	Btw Jupiter St	NB	1 lane	1,800	267	0.148	A
	and Leucadia Blvd	SB	2 lanes	2,800	1,638	0.585	B
	(PM) Peak Hour						
	Btw La Costa Ave	NB	1 lane	2,000	(812)	0.406	A
	and Grandview St	SB	2 lanes	2,800	(548)	0.196	A
	Btw Grandview St	NB	1 lane	1,800	(727)	0.404	A
	and Jupiter St	SB	2 lanes	2,800	(543)	0.194	A
	Btw Jupiter St	NB	1 lane	1,800	(758)	0.421	B
	and Leucadia Blvd	SB	2 lanes	2,800	(584)	0.208	A
La Costa Avenue	*AM Peak Hour*						
	Btw Coast Hwy 101	EB	1 lane	1,800	408	0.226	A
	and Vulcan Ave	WB	1 lane	1,800	362	0.201	A
	Btw Vulcan Ave	EB	1 lane	1,800	509	0.283	A
	and Sheridan Rd	WB	1 lane	1,800	558	0.310	A
	Btw Sheridan Rd	EB	1 lane	1,800	634	0.352	A
	and I-5 SB Ramps	WB	1 lane	1,800	588	0.326	A
	(PM) Peak Hour						
	Btw Coast Hwy 101	EB	1 lane	1,800	(434)	0.241	A
	and Vulcan Ave	WB	1 lane	1,800	(490)	0.272	A
	Btw Vulcan Ave	EB	1 lane	1,800	(544)	0.302	A
	and Sheridan Rd	WB	1 lane	1,800	(559)	0.311	A
	Btw Sheridan Rd	EB	1 lane	1,800	(626)	0.348	A
	and I-5 SB Ramps	WB	1 lane	1,800	(664)	0.369	A

Carlsbad Blvd capacity from Carlsbad 2018 Growth Management Program. Remaining capacities from Streetscape Final EIR.

Under existing conditions, the study elements were calculated to operate at LOS D or better, except for:

1) Intersection of N. Coast Highway 101/Bishops Gate (LOS E AM),
2) Intersection of N. Coast Highway 101/Grandview St (LOS F AM),
3) Intersection of N. Coast Highway 101/Jupiter St (LOS E AM), and
4) Segment of La Costa Ave from N. Vulcan to Sheridan (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hours operations).

4.0 Project Description

The mixed-use project includes a resort hotel with 34 rooms, 96 multi-family units, and 18,261 square feet of commercial/retail space on the westside of North Coast Highway 101 approximately 500 feet south of La Costa Avenue located in the City of Encinitas, California. The project will replace active commercial/retail land uses that include Roberto's fast-food restaurant (1,202 SF of building and outdoor seating areas), and three retail businesses (2,249 SF of buildings).

4.1 Project Traffic Generation

Project traffic generation was calculated using the San Diego Association of Governments (SANDAG) trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project site has active uses creating traffic; therefore, a traffic credit was applied because the existing uses will be replaced by the project. Additionally, the existing and proposed project have pass-by trips already on the study roadways. The project is calculated to generate a net increase of 1,173 ADT, 85 AM peak hour trips (31 inbound and 54 outbound), and 124 PM peak hour trips (75 inbound and 49 outbound) as shown in **Table 10**.

TABLE 10: PROJECT TRAFFIC GENERATION

Proposed									AM					PM	
Land Use	Rate		Size & Units		ADT	%	Split		IN	OUT	%	Split		IN	OUT
Proposed project															
Resort Hotel	10	/Room	34	Rooms	340	5%	0.6	0.4	10	7	7%	0.4	0.6	10	14
Multi-Family (>20 du/acre)	6	/DU	94	DU	564	8%	0.2	0.8	9	36	9%	0.7	0.3	36	15
Specialty Retail/Strip Commercial	40	/KSF	8,584	SF	343	3%	0.6	0.4	6	4	9%	0.5	0.5	15	15
Restaurant (sit down high turnover)	160	/KSF	3,905	SF	625	8%	0.5	0.5	24	25	8%	0.6	0.4	30	20
Restaurant (quality)	100	/KSF	2,134	SF	213	1%	0.6	0.4	1	1	8%	0.7	0.3	12	5
Office	20	/KSF	3,638	SF	73	14%	0.9	0.1	9	1	13%	0.2	0.8	2	8
Project Driveway Trips:					**2,158**				**59**	**74**				**105**	**77**
Pass-By Trips per SANDAG rates (Existing trips already on Coast Hwy)															
Specialty Retail (Pass-By=15% ADT & AM; 10% PM):					-52				-1	-1				-2	-2
Restaurant High Turnover (Pass-By=12% ADT & AM; 20% PM):					-75				-3	-3				-6	-4
Restaurant Quality (Pass-By=12% ADT & AM; 10% PM):					-26				0	0				-1	-1
Office (Pass-By=4% ADT, AM & PM):					-3				0	0				0	0
Project Primary & Diverted Trips:					*2,003*				*55*	*70*				*96*	*70*
Existing use to be removed															
Restaurant (Roberto's fast food)	700	/KSF	1,202	SF	841	5%	0.6	0.4	25	17	7%	0.5	0.5	29	29
Specialty Retail/Strip Commercial	40	/KSF	2,249	SF	90	3%	0.6	0.4	2	1	9%	0.5	0.5	4	4
Credit For Existing Use Driveway Trips:					*931*				*27*	*18*				*33*	*33*
Pass-By Trips per SANDAG rates (Existing trips already on Coast Hwy)															
Restaurant Fast Food (Pass-By=12% ADT&AM, 40%PM):					-101				-3	-2				-12	-12
Credit For Existing Use Primary & Diverted Trips:					*830*				*24*	*16*				*21*	*21*
Net Change in Primary & Diverted Trips (project - credit):					***1,173***				***31***	***54***				***75***	***49***

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* April 2002. SF - Square Feet. ADT - Average Daily Traffic.
Split-percent inbound and outbound. Spreadsheet rounding may result in ±1 to the above numbers.

4.2 Construction Traffic Generation

Project construction traffic was based on client provided data forecasted for the project site based on experience at similarly sized construction sites. Construction traffic includes soil export, deliveries, and workers based on the different phases of construction activities.

Soil export accounts for the removal of soil and sand to which the sand export may be used for beach replenishment (if implemented). The destination of soil export and potential sand replenishment locations are currently unknown. Therefore, the applicant/operator will be instructed to use truck legal routes as identified in the City of Encinitas and Carlsbad Municipal codes. The truck legal routes include Carlsbad Blvd, Coast Highway, Encinitas Blvd, La Costa Ave, and Palomar Airport Rd. The trucks removing the export may use a variation of the noted truck legal routes to reach I-5 and beach restoration areas. The export is forecasted require up to 60 workdays (this incorporates weather and/or construction sequencing delays) with an anticipated maximum of 85 truck per day from approximately 7 AM to 7 PM. The export operations ADT is calculated by multiplying 85 trucks by 2 for a round trip of 170 ADT that is multiplied by a Passenger Car Equivalent (PCE) of 2.0 to equal 340 ADT. The export operations are anticipated to occur over a 10 to 12-hour day resulting in a range of 28 to 34 peak hour trips. The higher 34 peak hour trips equate to approximately 17 inbound and 17 outbound PCE trips (while the actual number of trucks would be approximately 8 or 9 inbound and 8 or 9 outbound due to the PCE). In addition to the truck trips, the export operations will have up to 35 employees (70 ADT) that typically arrive on site just before 7 AM and leave on or around 7 PM, which are outside the commuter peak periods. Therefore, the employee peak hour trips are forecasted at 5 AM inbound with 0 outbound and 0 PM inbound and 5 outbound. The combination of truck export and employees results in a forecasted daily trip total of 410 ADT, an AM peak hour of 23 trips (14 inbound and 9 outbound) and 23 PM trips (9 inbound and 14 outbound). Construction workers are forecasted to park on-site or along Coast Highway during the soil export phase.

Site construction covers the initial foundation to the final finish work. The highest concentration occurs during the interior and final site work phase (for about 5 months) with up to 200 construction workers (440 ADT). These workers start at 7 AM, thus they will arrive before 7AM and will not add traffic during the 7-9 AM peak hour period. These workers will typically leave around 3:30 PM with approximately 20% staying late on concrete pour days or other prolonged construction elements (but not all days). Thus, the PM peak hour may have up to 40 PM outbound construction worker trips on some days. Delivery of materials and concrete will vary significantly during the overall construction; however, the highest truck concentration is anticipated to be concrete trucks required for vertical pours resulting in approximately 10 trucks per day (20 ADT x 2 PCE = 40 ADT). The concrete deliveries typically are spread throughout the day and are anticipated to have 2 AM and 2 PM peak hour trips (1 inbound and 1 outbound). When converted to a PCE, the peak hour trips are calculated at 4 AM and 4 PM peak hour trips (2 inbound and 2 outbound). The highest parking requirements occurs for about 5 months during the peak of up to 200 construction workers. During this peak period, trade partners are requested to have their workers carpool, which is already observed to occur on the adjacent construction project. Therefore, the anticipated parking needs during this peak period is about 140 spaces. Construction parking is proposed on-site (about 30 spaces) and along east side of Coast Highway south of La Costa Ave (unassigned area that can accommodate the temporary 110 spaces) to accommodate the peak 5-month parking demand of about 140 spaces.

As shown in **Table 11**, the peak construction trip generation of 440 ADT, 23 AM peak hour trips, and 50 PM peak hour trips is less than what was analyzed for the project; therefore, the project trip generation analysis accounts for the analysis of construction traffic.

TABLE 11: PROJECT CONSTRUCTION TRIP GENERATION

Construction Trip Generation by Phase	Approximate Duration by Phase	Construction Workers by Phase	Deliveries/ Trucks by Phase	ADT	AM Pk Hr 1hr btw 7-9		PM Pk Hr 1hr btw 4-6	
					IN	OUT	IN	OUT
Soil Export	2-3 months	up to 35	85	410	14	9	9	14
Site Construction	about 15 months	up to 200	10	440	2	2	2	41
			Maximum:	**440**	**14**	**9**	**9**	**41**

4.3 Project Access

Project access is proposed from a roundabout at the project's sole entrance. This roundabout is consistent with the Streetscape EIR goal of having multiple roundabouts to control traffic speeds and provide pedestrian crossing locations along Coast Highway.

4.4 Project Distribution and Assignment

Project trips were distributed to the adjacent roadway network based on surrounding trip productions and attractions, access to I-5, and coordination with City staff.

The project traffic that will be added to the study area is based on the net change in primary and diverted trips that accounts for the trip credit of the existing commercial use being replaced by this project. The Project access was analyzed using driveway trips without applying the trip credit whereas the non-driveway intersections were analyzed with the application of the trip credit.

The project distribution Streetscape is shown in **Figure 5** with assignment of project volumes shown in **Figure 6.**

4.5 Project On-Site Parking

The project parking details are located on the Architectural site plan, which include a requirement of 256.5 spaces with 257 proposed spaces. Additionally, 6 bicycle spaces and 9 motorcycle spaces will be provided.

Figure 5: Project Distribution

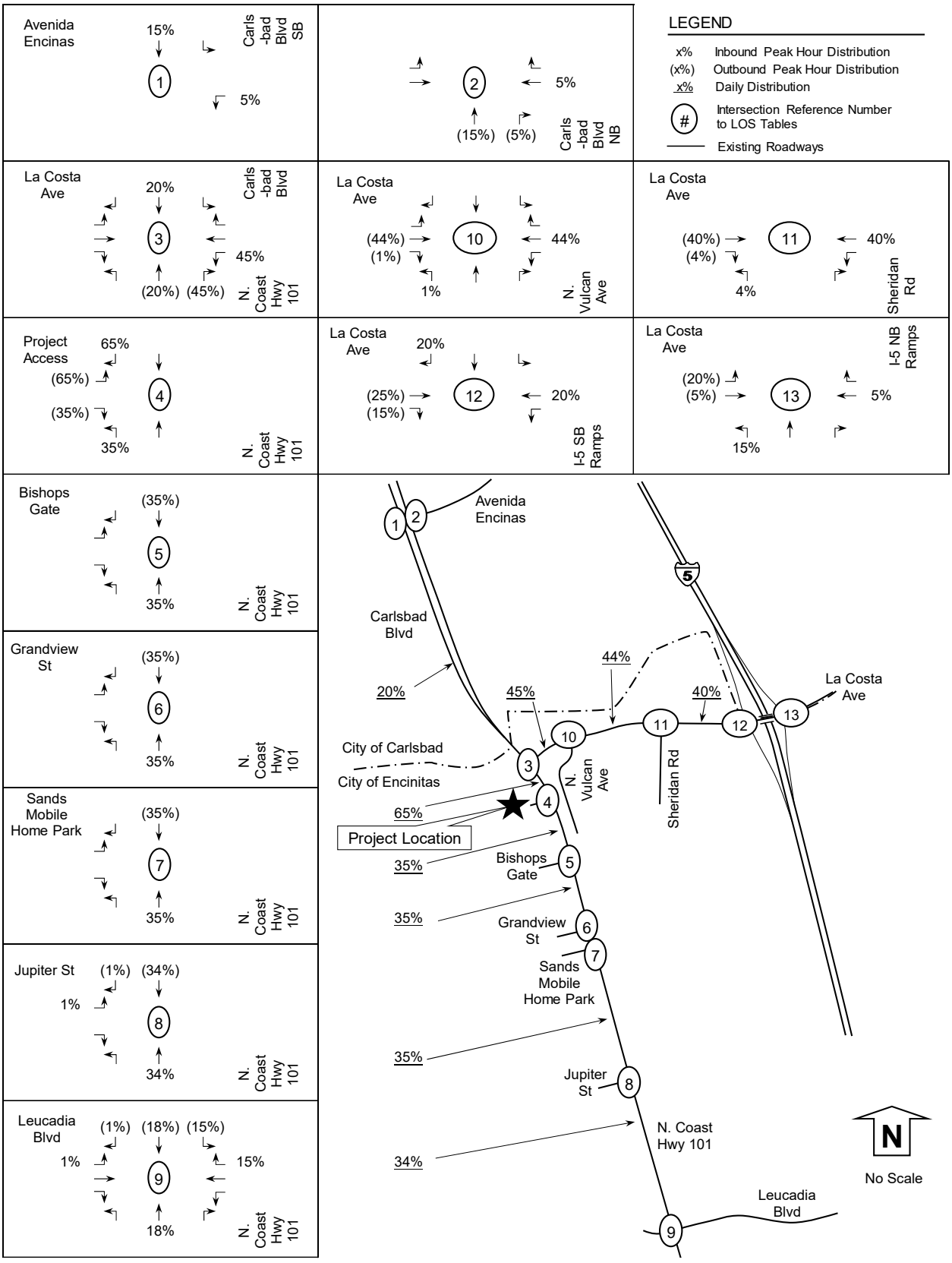
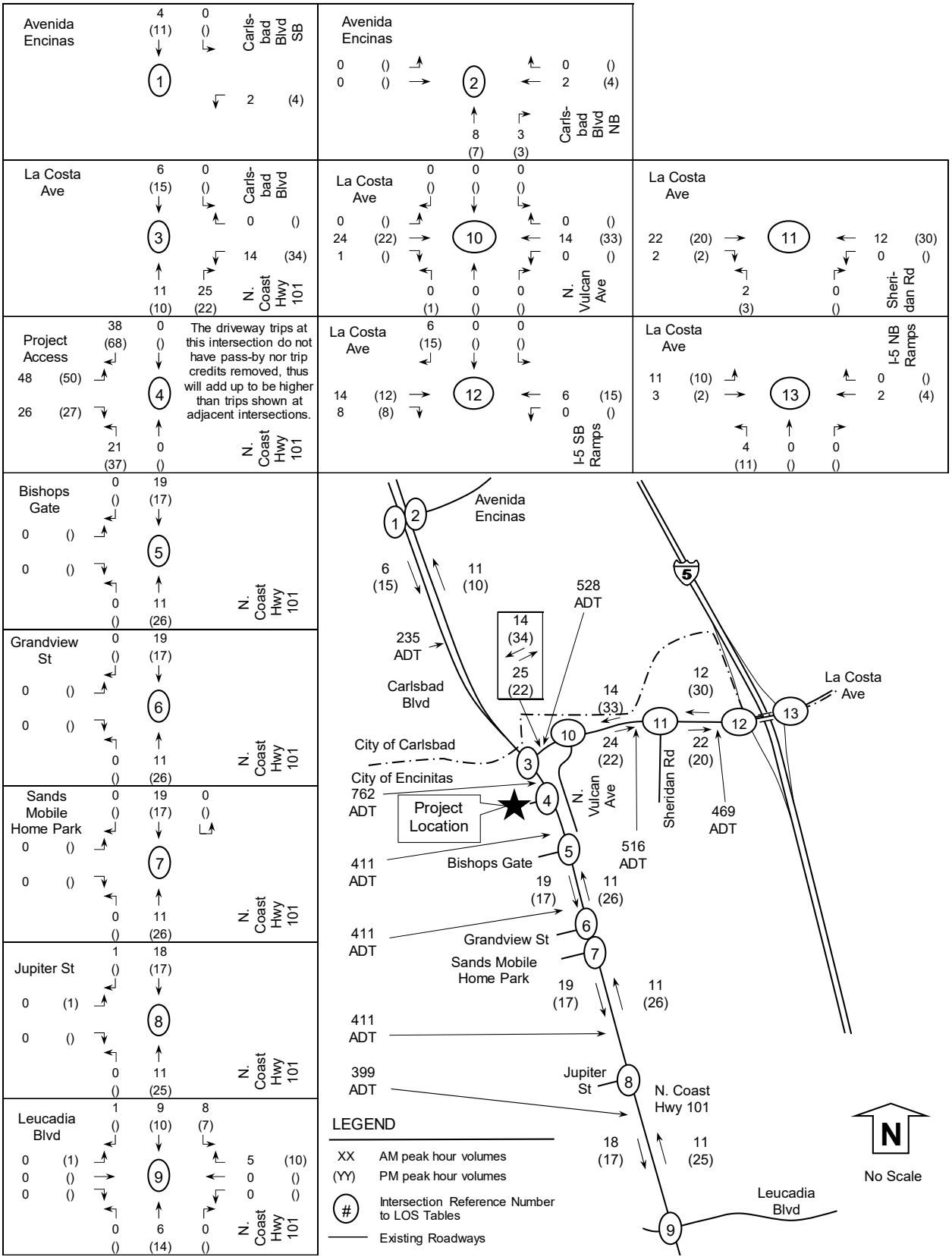


Figure 6: Project Volumes



5.0 Existing + Project Conditions

This scenario accounts for the addition of project traffic onto existing volumes. The peak hour intersection volumes and daily traffic volumes are shown in **Figure 7**. The intersection LOS are shown in **Table 11.** The daily street segment capacities are shown in **Table 13** with the segments hourly LOS shown **Tables 14**. Intersection LOS calculations are included in **Appendix J**.

TABLE 12: EXISTING + PROJECT INTERSECTION OPERATIONS

Intersection and (Analysis)[1]	Approach	Peak Hour	Existing Delay[2]	Existing LOS[3]	Existing + Project Delay[2]	Existing + Project LOS[3]	GP Conflict?[4]
1) Carlsbad Blvd SB	All	AM	7.9	A	8.4	A	No
at Avenida Encinas (S)	All	PM	16.4	B	16.6	B	No
2) Carlsbad Blvd NB	All	AM	17.7	B	17.8	B	No
at Avenida Encinas (S)	All	PM	13.5	B	13.7	B	No
3) N. Coast Hwy at	All	AM	9.0	A	9.4	A	No
La Costa Ave (S)	All	PM	10.1	B	12.0	B	No
4 N. Coast Hwy at	All	AM	DNE	NA	25.8	D	No
Project Access (R)	All	PM	DNE	NA	10.5	B	No
5) N. Coast Hwy at	Minor	AM	42.9	**E**	44.5	**E**	No
Bishops Gate (U)	Minor	PM	16.3	C	16.7	C	No
6) N. Coast Hwy at	Minor	AM	61.0	**F**	63.0	**F**	No
Grandview St (U)	Minor	PM	15.2	C	15.5	C	No
7) N. Coast Hwy at	Minor	AM	19.5	C	19.7	C	No
Sands MHP (U)	Minor	PM	10.2	B	10.3	B	No
8) N. Coast Hwy at	Minor	AM	37.9	**E**	39.1	**E**	No
Jupiter St (U)	Minor	PM	13.8	B	14.3	B	No
9) N. Coast Hwy at	All	AM	21.4	C	21.7	C	No
Leucadia Blvd (S)	All	PM	24.1	C	24.7	C	No
10) La Costa Ave at	All	AM	26.7	D	30.0	D	No
N Vulcan Ave (U)	All	PM	24.3	C	30.0	D	No
11) La Costa Ave at	Minor	AM	17.6	C	19.0	C	No
Sheridan Rd (U)	Minor	PM	18.6	C	20.8	C	No
12) La Costa Ave at	All	AM	23.6	C	23.6	C	No
I-5 SB Ramps (S)	All	PM	25.8	C	26.5	C	No
13) La Costa Ave at	All	AM	23.3	C	23.7	C	No
I-5 NB Ramps (S)	All	PM	20.4	C	20.7	C	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized, (R) Roundabout. Minor street approach (worst approach delay reported). 2) Delay - HCM Average Control Delay in sec. 3) LOS: Level of Service. 4) General Plan Circulation Element Policy 1.3 conflict if project traffic causes an LOS E/F. DNE: Does Not Exist. NA: Not Applicable.

TABLE 13: EXISTING + PROJECT SEGMENT DAILY VOLUMES AND OPERATIONS

Segment	Functional Classification	LOS E Capacity	Existing Daily Volume	Existing LOS	Proj. Daily Vol.	Existing + Project Daily Volume	Existing + Project LOS
Carlsbad Boulevard							
Avenida Encinas to La Costa Ave	4 Lane Major	42,200	16,525	C	235	16,760	C
North Coast Highway 101							
La Costa Ave to 600' S. of La Costa	4 Lane Major	35,200	17,801	C	762	18,563	C
600' S. of La Costa to Bishops Gate	3 Lane Major	26,400	17,801	C	411	18,212	C
Bishops Gate to Grandview St	3 Lane Major	26,400	17,427	C	411	17,838	C
Grandview St to Jupiter St	3 Lane Major	26,400	15,918	C	411	16,329	C
Jupiter St to Leucadia Blvd	3 Lane Major	26,400	15,873	C	399	16,272	C
La Costa Avenue							
N. Coast Hwy to N. Vulcan	2 Lane Coll.	14,000	11,686	D	528	12,214	D
N. Vulcan to Sheridan Rd	2 Lane Coll.	14,000	13,499	**E**	516	14,015	**F**
Sheridan Rd to I-5	2 Ln Aug. Coll.	20,000	14,728	C	469	15,197	C

Notes: 2 Ln Aug. Coll. = 2 Lane Augmented Collector. Daily volume is a 24 hour volume. LOS: Level of Service
Carlsbad Boulevard capacity and LOS from City of Carlsbad 2018 Growth Management Program.

Figure 7: Existing + Project Volumes

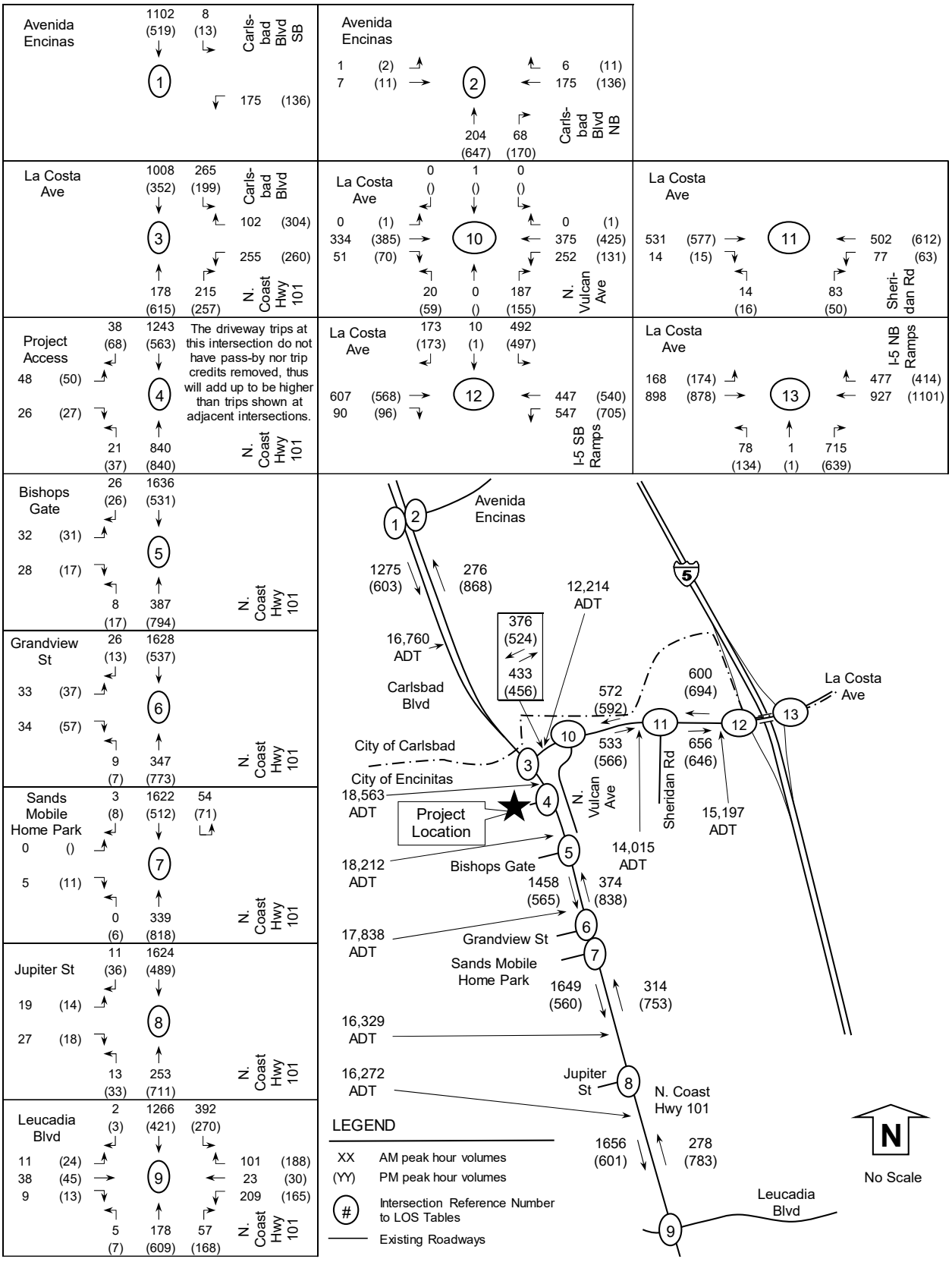


TABLE 14: EXISTING + PROJECT SEGMENT PEAK HOUR VOLUMES AND OPERATIONS

	Segment	Dir	Lanes	Segment Capacity	Existing Pk Hr Vol.	Existing V/C	Existing LOS	Project Pk Hr Vol.	Existing + Project Pk Hr Vol.	Existing + Project V/C	Existing + Project LOS	General Plan Conflict?
Carlsbad Blvd	*AM Peak Hour*											
	Btw Avenida Encinas	NB	2 lanes	3,640	265	0.073	C	11	276	0.076	C	No
	and La Costa Ave	SB	2 lanes	3,640	1,269	0.349	D	6	1,275	0.350	D	No
	(PM) Peak Hour											
	Btw Avenida Encinas	NB	2 lanes	3,640	(858)	0.236	D	(10)	(868)	0.238	D	No
	and La Costa Ave	SB	2 lanes	3,640	(588)	0.162	C	(15)	(603)	0.166	C	No
North Coast Highway 101	*AM Peak Hour*											
	Btw La Costa Ave	NB	1 lane	2,000	363	0.182	A	11	374	0.187	A	No
	and Grandview St	SB	2 lanes	2,800	1,439	0.514	B	19	1,458	0.521	B	No
	Btw Grandview St	NB	1 lane	1,800	303	0.168	A	11	314	0.174	A	No
	and Jupiter St	SB	2 lanes	2,800	1,630	0.582	B	19	1,649	0.589	B	No
	Btw Jupiter St	NB	1 lane	1,800	267	0.148	A	11	278	0.154	A	No
	and Leucadia Blvd	SB	2 lanes	2,800	1,638	0.585	B	19	1,657	0.592	B	No
	(PM) Peak Hour											
	Btw La Costa Ave	NB	1 lane	2,000	(812)	0.406	A	(26)	(838)	0.419	B	No
	and Grandview St	SB	2 lanes	2,800	(548)	0.196	A	(17)	(565)	0.202	A	No
	Btw Grandview St	NB	1 lane	1,800	(727)	0.404	A	(26)	(753)	0.418	B	No
	and Jupiter St	SB	2 lanes	2,800	(543)	0.194	A	(17)	(560)	0.200	A	No
	Btw Jupiter St	NB	1 lane	1,800	(758)	0.421	B	(25)	(783)	0.435	B	No
	and Leucadia Blvd	SB	2 lanes	2,800	(584)	0.208	A	(17)	(601)	0.214	A	No
La Costa Avenue	*AM Peak Hour*											
	Btw Coast Hwy 101	EB	1 lane	1,800	408	0.226	A	25	433	0.240	A	No
	and Vulcan Ave	WB	1 lane	1,800	362	0.201	A	14	376	0.209	A	No
	Btw Vulcan Ave	EB	1 lane	1,800	509	0.283	A	24	533	0.296	A	No
	and Sheridan Rd	WB	1 lane	1,800	558	0.310	A	14	572	0.318	A	No
	Btw Sheridan Rd	EB	1 lane	1,800	634	0.352	A	22	656	0.364	A	No
	and I-5 SB Ramps	WB	1 lane	1,800	588	0.326	A	12	600	0.333	A	No
	(PM) Peak Hour											
	Btw Coast Hwy 101	EB	1 lane	1,800	(434)	0.241	A	(22)	(456)	0.253	A	No
	and Vulcan Ave	WB	1 lane	1,800	(490)	0.272	A	(34)	(524)	0.291	A	No
	Btw Vulcan Ave	EB	1 lane	1,800	(544)	0.302	A	(22)	(566)	0.314	A	No
	and Sheridan Rd	WB	1 lane	1,800	(559)	0.311	A	(33)	(592)	0.329	A	No
	Btw Sheridan Rd	EB	1 lane	1,800	(626)	0.348	A	(20)	(646)	0.359	A	No
	and I-5 SB Ramps	WB	1 lane	1,800	(664)	0.369	A	(30)	(694)	0.386	A	No

Carlsbad Blvd capacity from Carlsbad 2018 Growth Management Program. Remaining capacities from Streetscape Final EIR.

Under existing plus project conditions, the study elements were calculated to operate at LOS D or better, except for:

1) Intersection of N. Coast Highway 101/Bishops Gate (LOS E AM),
2) Intersection of N. Coast Highway 101/Grandview St (LOS F AM),
3) Intersection of N. Coast Highway 101/Jupiter St (LOS E AM), and
4) Segment of La Costa Ave from N. Vulcan to Sheridan (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations).

The project's traffic does not conflict with General Plan Circulation Element Policies 1.2 or 1.3.

6.0 Cumulative Projects

Based on a review of City of Encinitas on-line cumulative projects and coordination with Encinitas staff the following cumulative projects were determined to add sufficient traffic to the study area for analysis. Many cumulative projects on the City of Encinitas webpage are either too far away from the study area or their traffic would travel away from the study area; however, the following cumulative projects are anticipated to add traffic to the study area as noted below.

1) Encinitas Project Number 04-268 (Encinitas Beach Hotel at 2100 N. Coast Highway 101). A 130-room hotel calculated to generate 1,300 ADT with 78 AM and 104 PM peak hour trips.

2) Encinitas Project Number 13-187 (378 Fulvia St). A residential project with 9 dwelling units calculated to generate 78 ADT with 6 AM and 8 PM peak hour trips.

3) Encinitas Project Number 15-222 (Weston at 510 La Costa Ave). A residential project with 48 lots calculated to generate (with a credit for two existing homes) 460 ADT with 38 AM and 46 PM peak hour trip.

4) Encinitas Project Number 17-152 (1569 Lorraine Dr). A residential project with 1 dwelling unit calculated to generate 10 ADT with 1 AM and 1 PM peak hour trip.

5) Encinitas Project Number 17-197 (740 N. Coast Hwy 101). A mixed-use project with a net increase in traffic generation of 116 ADT with 16 AM and 16 PM peak hour trip.

6) Encinitas Project Number 17-280 (1251 N. Vulcan). A residential project with 9 dwelling units calculated to generate 90 ADT with 7 AM and 9 PM peak hour trips.

7) Encinitas Project Number 18-135 (Skyloft Rd). A senior housing project with 108 beds located across 18 separate structures (homes) calculated to generate 270 ADT with 10 AM and 22 PM peak hour trips.

8) Encinitas Project Number 18-188 (Hotel at 516 La Costa Ave). A 17-room hotel and restaurant calculated to generate 170 ADT with 11 AM and 14 PM peak hour trips.

9) Encinitas Project Number 18-220 (555 N. Vulcan Ave). A redevelopment project from an existing commercial business to 12 multi-family units resulting in a net reduction of overall trip generation, thus no new trips added to the study area.

10) Encinitas Housing Element Candidate Site AD08 (1967 N. Vulcan Ave). A redevelopment project from an existing commercial business to 72 multi-family units resulting in a trip generation increase of 372 ADT with 32 AM and 34 PM peak hour trips.

11) Carlsbad Project Number 2016-0002-MS (Ponto Beachfront in the vicinity of Carlsbad Blvd/Avenida Encinas) A mixed use project that includes 136 townhomes and 18,000 sf for retail and restaurants is calculated to have trip generation of 2,912 ADT with 187 AM and 258 PM peak hour trips.

12) Carlsbad Project Number GPA 2019-0004 (Newage Luxury Resort on the southeast corner of Avenida Encinas and Carlsbad Blvd). A resort hotel with 322 rooms calculated to have trip generation of 3,220 ADT with 193 AM and 258 PM peak hour trips.

13) Unknown and/or distant cumulative projects. Background peak hour volumes (ranging from single digits up to 35 peak hour trips depending on intersection location) were added to the study area to account for unknown and/or distant cumulative projects.

A summary of cumulative traffic generation is included in **Table 15.**

TABLE 15: CUMULATIVE TRAFFIC GENERATION

Cumulative Project		Rate		Size & Units		ADT	AM %	AM Split		AM IN	AM OUT	PM %	PM Split		PM IN	PM OUT
1)	Encinitas 04-268	10	/Room	130	Rooms	1,300	6%	0.6	0.4	47	31	8%	0.6	0.4	62	42
2)	Encintas 13-187	10	/DU	9	DU	90	8%	0.3	0.7	2	5	10%	0.7	0.3	6	3
3)	Encintas 15-222	10	/DU	46	DU	460	8%	0.3	0.7	11	26	10%	0.7	0.3	32	14
4)	Encinitas 17-152	10	/DU	1	DU	10	8%	0.3	0.7	0	1	10%	0.7	0.3	1	0
5)	Encinitas 17-197	Mixed use (net increase):				16				8	8				8	8
6)	Encinitas 17-280	10	/DU	9	DU	90	8%	0.3	0.7	2	5	10%	0.7	0.3	6	3
7)	Encinitas 18-135	2.5	/Bed	108	Beds	270	4%	0.6	0.4	6	4	8%	0.5	0.5	11	11
8)	Encinitas 18-188	10	/Room	17	Rooms	170	6%	0.6	0.4	7	4	8%	0.6	0.4	9	5
9)	Encinitas 18-220	Redevelopment project resulting in no traffic increase														
10)	Encinitas Housing Element AD08	6	/DU	90	DU	540	8%	0.2	0.8	9	35	10%	0.7	0.3	38	16
11a)	Carlsbad Ponto Multi-Family	8	/DU	136	DU	1,088	8%	0.2	0.8	17	70	10%	0.7	0.3	76	33
11b)	Carlsbad Ponto Retail	40	/KSF	9,200	SF	368	3%	0.6	0.4	7	4	9%	0.5	0.5	17	17
11c)	Carlsbad Ponto Rest. High turnover	160	/KSF	6,600	SF	1,056	8%	0.5	0.5	42	42	8%	0.6	0.4	51	34
11d)	Carlsbad Ponto Rest. Quality	100	/KSF	4,000	SF	400	1%	0.6	0.4	2	2	8%	0.7	0.3	22	10
12)	Carlsbad Newage Resort Hotel	10	/Room	322	Rooms	3,220	6%	0.6	0.4	7	77	8%	0.6	0.4	9	103
13)	Unknown/distant					200				35	35				35	35
	Totals					**9,278**				**204**	**349**				**384**	**333**

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* April 2002. DU: Dwelling Unit.

ADT-Average Daily Traffic; Split-percent inbound and outbound. Spreadsheet rounding may result in ±1 to the above numbers.

There are several roadway changes as part of two cumulative projects. The intersection of N. Coast Highway 101 at La Costa Ave has been expanded to include a fourth (west leg) as part of cumulative project #04-268 (130-room hotel at 2100 N. Coast Highway 101). The City of Encinitas Streetscape Project includes roundabouts along N. Coast Highway 101 at Grandview St, and at Jupiter St. The proposed changes to existing conditions by the cumulative projects are shown in **Figure 8** with details included in **Appendix K**.

The cumulative project traffic volumes are shown in **Figure 9** and the cumulative project traffic assignments are included in **Appendix L**.

Figure 8: Cumulative Projects Planned Roadway Changes

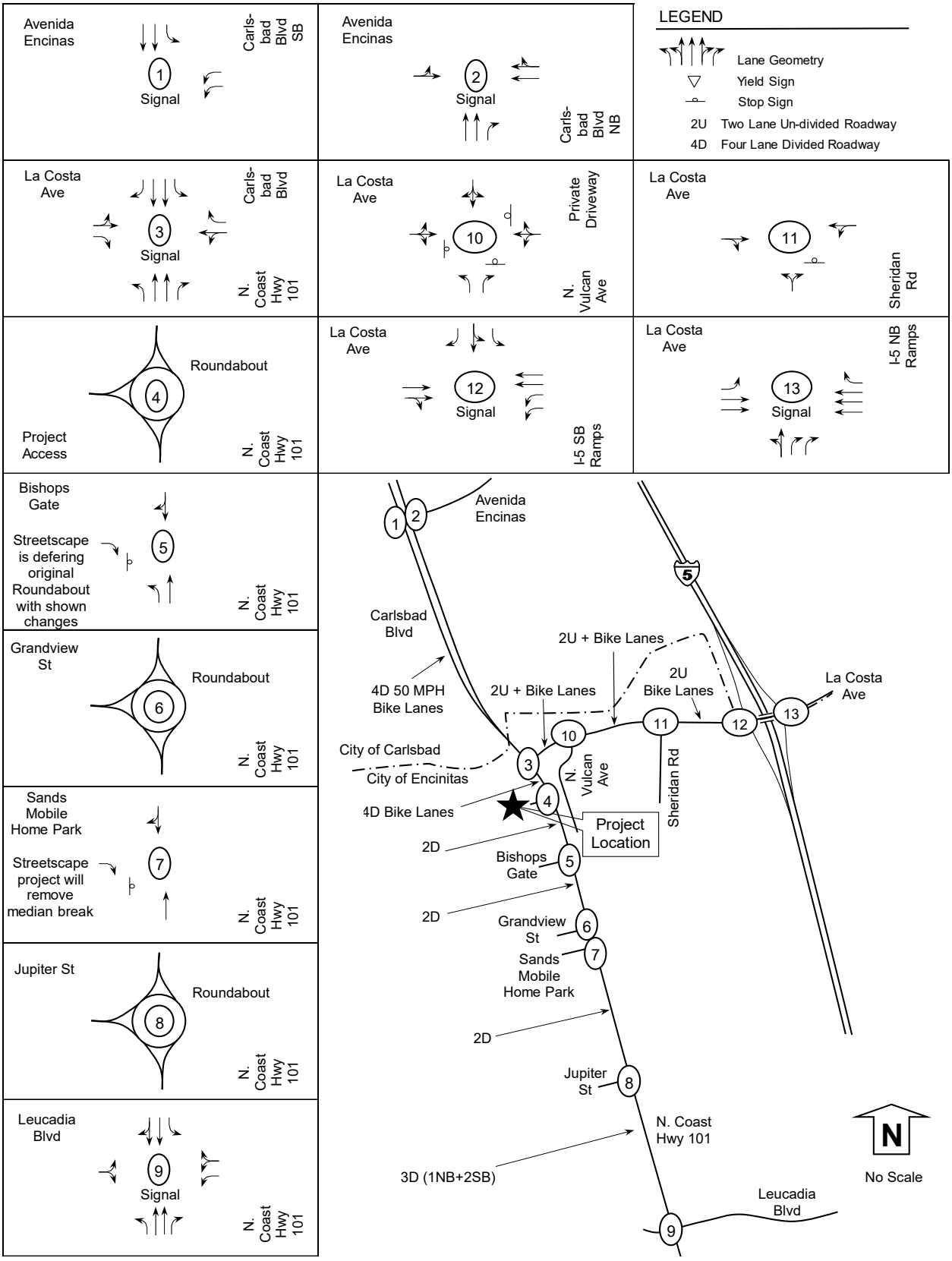
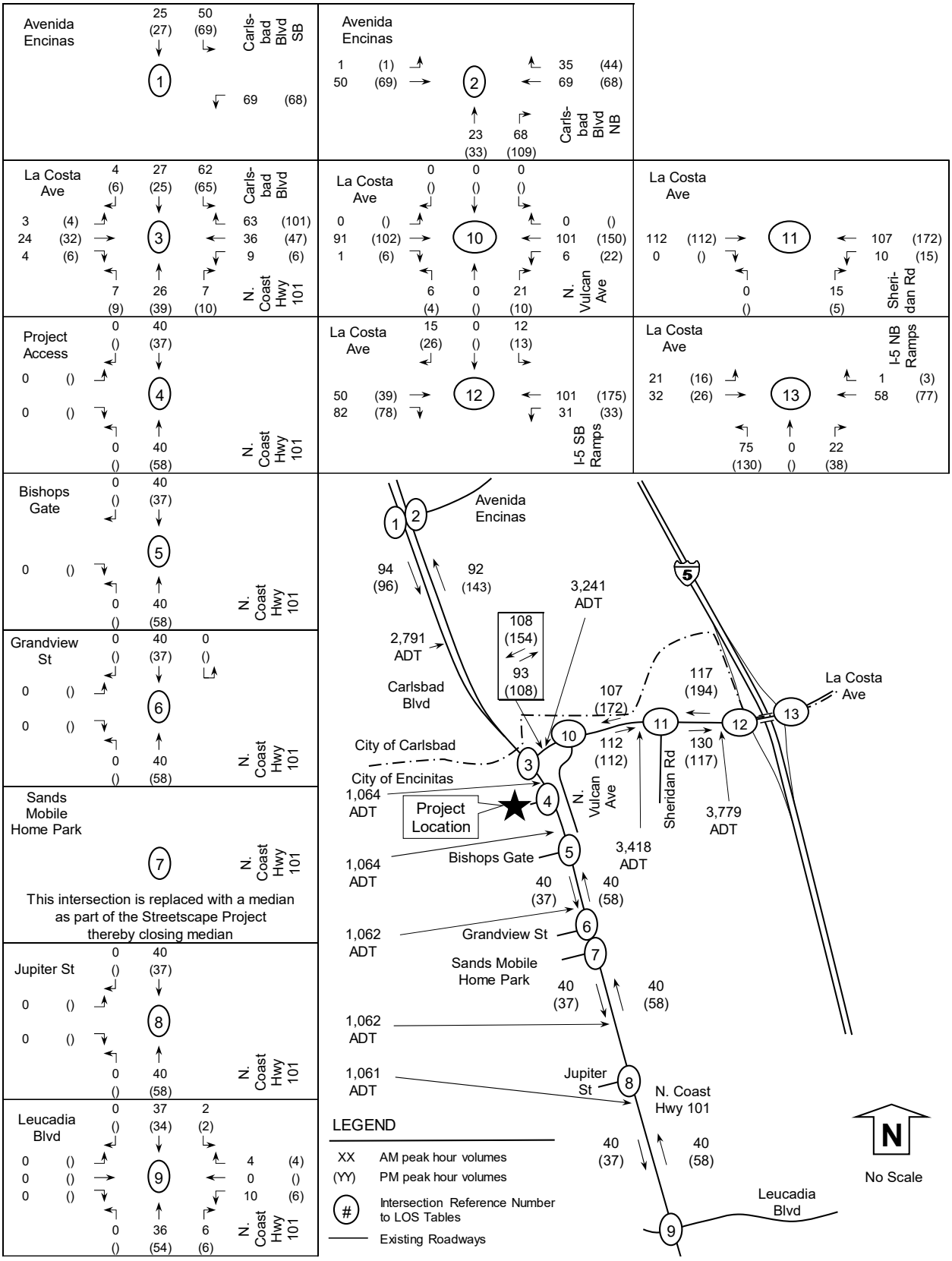


Figure 9: Cumulative Project Volumes



7.0 Existing + Cumulative Conditions

This scenario accounts for the addition of cumulative traffic onto the existing traffic. The peak hour intersection and daily traffic volumes are shown in **Figure 10**. The intersection LOS are shown in **Table 16.** The segment daily capacity is shown in **Table 17** with the segment hourly LOS shown **Table 18**. Intersection LOS calculations are included in **Appendix M**.

TABLE 16: EXISTING + CUMULATIVE INTERSECTION OPERATIONS

Intersection and (Analysis)[1]	Approach	Peak Hour	Existing + Cumulative Delay[2]	Existing + Cumulative LOS[3]
1) Carlsbad Blvd SB	All	AM	10.5	B
at Avenida Encinas (S)	All	PM	10.4	B
2) Carlsbad Blvd NB	All	AM	25.5	C
at Avenida Encinas (S)	All	PM	25.3	C
3) N. Coast Hwy at	All	AM	24.8	C
La Costa Ave (S)	All	PM	46.8	D
4 N. Coast Hwy at	All	AM	DNE	NA
Project Access (R)	All	PM	DNE	NA
5) N. Coast Hwy at	Minor	AM	96.0	**F**
Bishops Gate (U)	Minor	PM	13.3	B
6) N. Coast Hwy at	All	AM	40.4	**E**
Grandview St (R)	All	PM	7.4	A
7) N. Coast Hwy at	NA	AM	New	NA
Sand MPH (median)	NA	PM	Median	NA
8) N. Coast Hwy at	All	AM	26.5	D
Jupiter St (R)	All	PM	7.1	A
9) N. Coast Hwy at	All	AM	22.8	C
Leucadia Blvd (S)	All	PM	25.6	C
10) La Costa Ave at	All	AM	81.5	**F**
N Vulcan Ave (U)	All	PM	79.9	**F**
11) La Costa Ave at	Minor	AM	24.0	C
Sheridan Rd (U)	Minor	PM	31.2	D
12) La Costa Ave at	All	AM	24.4	C
I-5 SB Ramps (S)	All	PM	26.9	C
13) La Costa Ave at	All	AM	37.8	D
I-5 NB Ramps (S)	All	PM	22.2	C

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized, (R) Roundabout. Minor street approach (worst approach delay reported). 2) Delay - HCM Average Control Delay in sec. 3) LOS: Level of Service. DNE: Does Not Exist. NA: Not Applicable.

TABLE 17: EXISTING + PROJECT SEGMENT DAILY VOLUMES AND OPERATIONS

Segment	Functional Classification	LOS E Capacity	Existing + Cumulative Daily Volume	Existing + Cumulative LOS
Carlsbad Boulevard				
Avenida Encinas to La Costa Ave	4 Lane Major	42,200	19,316	C
North Coast Highway 101				
La Costa Ave to 600' S. of La Costa	2 Ln Aug. Coll.	20,000	18,865	**E**
600' S. of La Costa to Bishops Gate	2 Ln Aug. Coll.	20,000	18,865	**E**
Bishops Gate to Grandview St	2 Ln Aug. Coll.	20,000	18,489	**E**
Grandview St to Jupiter St	2 Ln Aug. Coll.	20,000	16,980	D
Jupiter St to Leucadia Blvd	3 Lane Major	26,400	16,934	C
La Costa Avenue				
N. Coast Hwy to N. Vulcan	2 Lane Coll.	14,000	14,927	**F**
N. Vulcan to Sheridan Rd	2 Lane Coll.	14,000	16,917	**F**
Sheridan Rd to I-5	2 Ln Aug. Coll.	20,000	18,507	**E**

Notes: 2 Ln Aug. Coll. = 2 Lane Augmented Collector. Daily volume is a 24 hour volume. LOS: Level of Service
Carlsbad Boulevard capacity and LOS from City of Carlsbad 2018 Growth Management Program.

Figure 10: Existing + Cumulative Volumes

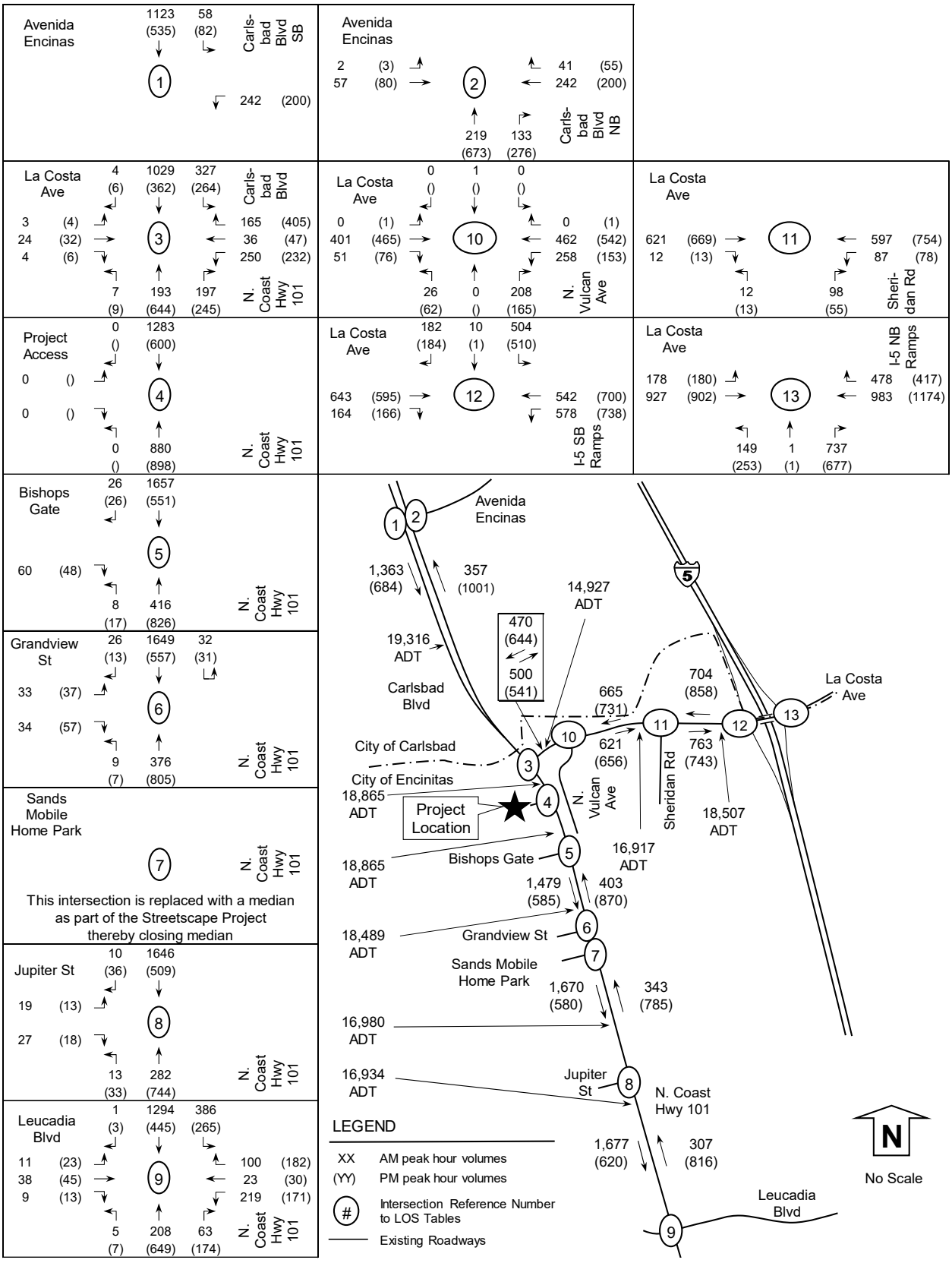


TABLE 18: EXISTING + CUMULATIVE SEGMENT PEAK HOUR VOLUMES AND OPERATIONS

	Segment	Dir	Lanes	Existing + Cumulative Segment Capacity	Existing + Cumulative Pk Hr Vol.	Existing + Cumulative V/C	Existing + Cumulative LOS
Carlsbad Blvd	*AM Peak Hour*						
	Btw Avenida Encinas	NB	2 lanes	3,640	357	0.098	C
	and La Costa Ave	SB	2 lanes	3,640	1,363	0.374	D
	(PM) Peak Hour						
	Btw Avenida Encinas	NB	2 lanes	3,640	(1001)	0.275	D
	and La Costa Ave	SB	2 lanes	3,640	(684)	0.188	C
North Coast Highway 101	*AM Peak Hour*						
	Btw La Costa Ave	NB	1 lane	1,900	403	0.212	A
	and Grandview St	SB	1 lane	1,800	1,479	0.822	D
	Btw Grandview St	NB	1 lane	1,800	343	0.191	A
	and Jupiter St	SB	1 lane	1,800	1,670	0.928	**E**
	Btw Jupiter St	NB	1 lane	1,800	307	0.171	A
	and Leucadia Blvd	SB	2 lanes	3,400	1,677	0.493	B
	(PM) Peak Hour						
	Btw La Costa Ave	NB	1 lane	1,900	(870)	0.458	B
	and Grandview St	SB	1 lane	1,800	(585)	0.325	A
	Btw Grandview St	NB	1 lane	1,800	(785)	0.436	B
	and Jupiter St	SB	1 lane	1,800	(580)	0.322	A
	Btw Jupiter St	NB	1 lane	1,800	(816)	0.453	B
	and Leucadia Blvd	SB	2 lanes	3,400	(620)	0.182	A
La Costa Avenue	*AM Peak Hour*						
	Btw Coast Hwy 101	EB	1 lane	1,800	500	0.278	A
	and Vulcan Ave	WB	1 lane	1,800	470	0.261	A
	Btw Vulcan Ave	EB	1 lane	1,800	621	0.345	A
	and Sheridan Rd	WB	1 lane	1,800	665	0.369	A
	Btw Sheridan Rd	EB	1 lane	1,800	763	0.424	B
	and I-5 SB Ramps	WB	1 lane	1,800	704	0.391	A
	(PM) Peak Hour						
	Btw Coast Hwy 101	EB	1 lane	1,800	(541)	0.301	A
	and Vulcan Ave	WB	1 lane	1,800	(644)	0.358	A
	Btw Vulcan Ave	EB	1 lane	1,800	(656)	0.364	A
	and Sheridan Rd	WB	1 lane	1,800	(731)	0.406	A
	Btw Sheridan Rd	EB	1 lane	1,800	(743)	0.413	B
	and I-5 SB Ramps	WB	1 lane	1,800	(858)	0.477	B

Carlsbad Blvd capacity from Carlsbad 2018 Growth Management Program. Remaining capacities from Streetscape Final EIR.

Under existing plus cumulative conditions, the study elements were calculated to operate at LOS D or better, except for the:

1) Intersection of N. Coast Hwy 101/Bishops Gate (LOS F AM),
2) Intersection of N. Coast Hwy 101/Grandview St (LOS E AM),
3) Intersection of La Costa Ave/N. Vulcan Ave (LOS F AM & PM),
4) Segment of N. Coast Hwy 101 from La Costa Ave to 600' S. of La Costa Ave (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
5) Segment of N. Coast Hwy 101 from 600' S. of La Costa Ave to Bishops Gate (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
6) Segment of N. Coast Hwy 101 from Bishops Gate to Grandview St (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
7) Segment of N. Coast Hwy 101 from Grandview St. to Jupiter St. (LOS E SB AM),
8) Segment of La Costa Ave from N. Coast Hwy to N. Vulcan Ave (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
9) Segment of La Costa Ave from N. Vulcan Ave to Sheridan Rd (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations), and
10) Segment of La Costa Ave from Sheridan Rd to I-5 (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations).

8.0 Existing + Cumulative + Project Conditions

This scenario accounts for the addition of project traffic onto existing plus cumulative traffic with volumes shown in **Figure 11**. The intersection LOS are shown in **Table 19.** The segment daily capacity is shown in **Table 20** with the segment hourly LOS shown **Table 21**. Intersection LOS calculations are included in **Appendix N**.

TABLE 19: EXISTING + CUMULATIVE + PROJECT INTERSECTION OPERATIONS

Intersection and (Analysis)[1]	Approach	Peak Hour	Existing + Cumulative Delay[2]	Existing + Cumulative LOS[3]	Existing + Cumulative + Project Delay[2]	Existing + Cumulative + Project LOS[3]	GP Conflict?[5]
1) Carlsbad Blvd SB	All	AM	10.5	B	10.7	B	No
at Avenida Encinas (S)	All	PM	10.4	B	10.4	B	No
2) Carlsbad Blvd NB	All	AM	25.5	C	26.6	C	No
at Avenida Encinas (S)	All	PM	25.3	C	25.6	C	No
3) N. Coast Hwy at	All	AM	24.8	C	25.7	C	No
La Costa Ave (S)	All	PM	46.8	D	48.5	D	No
4 N. Coast Hwy at	All	AM	DNE	NA	29.7	D	No
Project Access (R)	All	PM	DNE	NA	13.3	B	No
5) N. Coast Hwy at	Minor	AM	96.0	**F**	98.0	**F**	No
Bishops Gate (U)	Minor	PM	13.3	B	13.5	B	No
6) N. Coast Hwy at	All	AM	40.4	**E**	42.1	**E**	No
Grandview St (R)	All	PM	7.4	A	7.7	A	No
7) N. Coast Hwy at	NA	AM	New	NA	New	NA	No
Sand MPH (median)	NA	PM	Median	NA	Median	NA	No
8) N. Coast Hwy at	All	AM	26.5	D	28.0	D	No
Jupiter St (R)	All	PM	7.1	A	7.4	A	No
9) N. Coast Hwy at	All	AM	22.8	C	23.0	C	No
Leucadia Blvd (S)	All	PM	25.6	C	26.6	C	No
10) La Costa Ave at	All	AM	81.5	**F**	90.0	**F**	No
N Vulcan Ave (U)	All	PM	79.9	**F**	96.7	**F**	No
11) La Costa Ave at	Minor	AM	24.0	C	27.0	D	No
Sheridan Rd (U)	Minor	PM	31.2	D	38.6	**E**	**Yes**
12) La Costa Ave at	All	AM	24.4	C	24.5	C	No
I-5 SB Ramps (S)	All	PM	26.9	C	27.2	C	No
13) La Costa Ave at	All	AM	37.8	D	38.0	D	No
I-5 NB Ramps (S)	All	PM	22.2	C	22.7	C	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized, (R) Roundabout. Minor street approach (worst approach delay reported). 2) Delay - HCM Average Control Delay in sec. 3) LOS: Level of Service. 4) General Plan Circulation Element Policy 1.3 conflict if project traffic causes an LOS E/F. DNE: Does Not Exist. NA: Not Applicable.

TABLE 20: EXISTING + CUMULATIVE + PROJECT SEGMENT DAILY VOLUMES AND OPERATIONS

Segment	Functional Classification	LOS E Capacity	Existing + Cumulative Daily Volume	Existing + Cumulative LOS	Proj. Daily Vol.	E + C + Project Daily Volume	E + C + Project LOS
Carlsbad Boulevard							
Avenida Encinas to La Costa Ave	4 Lane Major	42,200	19,316	C	235	19,551	C
North Coast Highway 101							
La Costa Ave to 600' S. of La Costa	2 Ln Aug. Coll.	20,000	18,865	**E**	762	19,627	**E**
600' S. of La Costa to Bishops Gate	2 Ln Aug. Coll.	20,000	18,865	**E**	411	19,276	**E**
Bishops Gate to Grandview St	2 Ln Aug. Coll.	20,000	18,489	**E**	411	18,900	**E**
Grandview St to Jupiter St	2 Ln Aug. Coll.	20,000	16,980	D	411	17,391	D
Jupiter St to Leucadia Blvd	3 Lane Major	26,400	16,934	C	399	17,333	C
La Costa Avenue							
N. Coast Hwy to N. Vulcan	2 Lane Coll.	14,000	14,927	**F**	528	15,455	**F**
N. Vulcan to Sheridan Rd	2 Lane Coll.	14,000	16,917	**F**	516	17,433	**F**
Sheridan Rd to I-5	2 Ln Aug. Coll.	20,000	18,507	**E**	469	18,976	**E**

Notes: 2 Ln Aug. Coll. = 2 Lane Augmented Collector. Daily volume is a 24 hour volume. LOS: Level of Service
Carlsbad Boulevard capacity and LOS from City of Carlsbad 2018 Growth Management Program.

Figure 11: Existing + Cumulative + Project Volumes

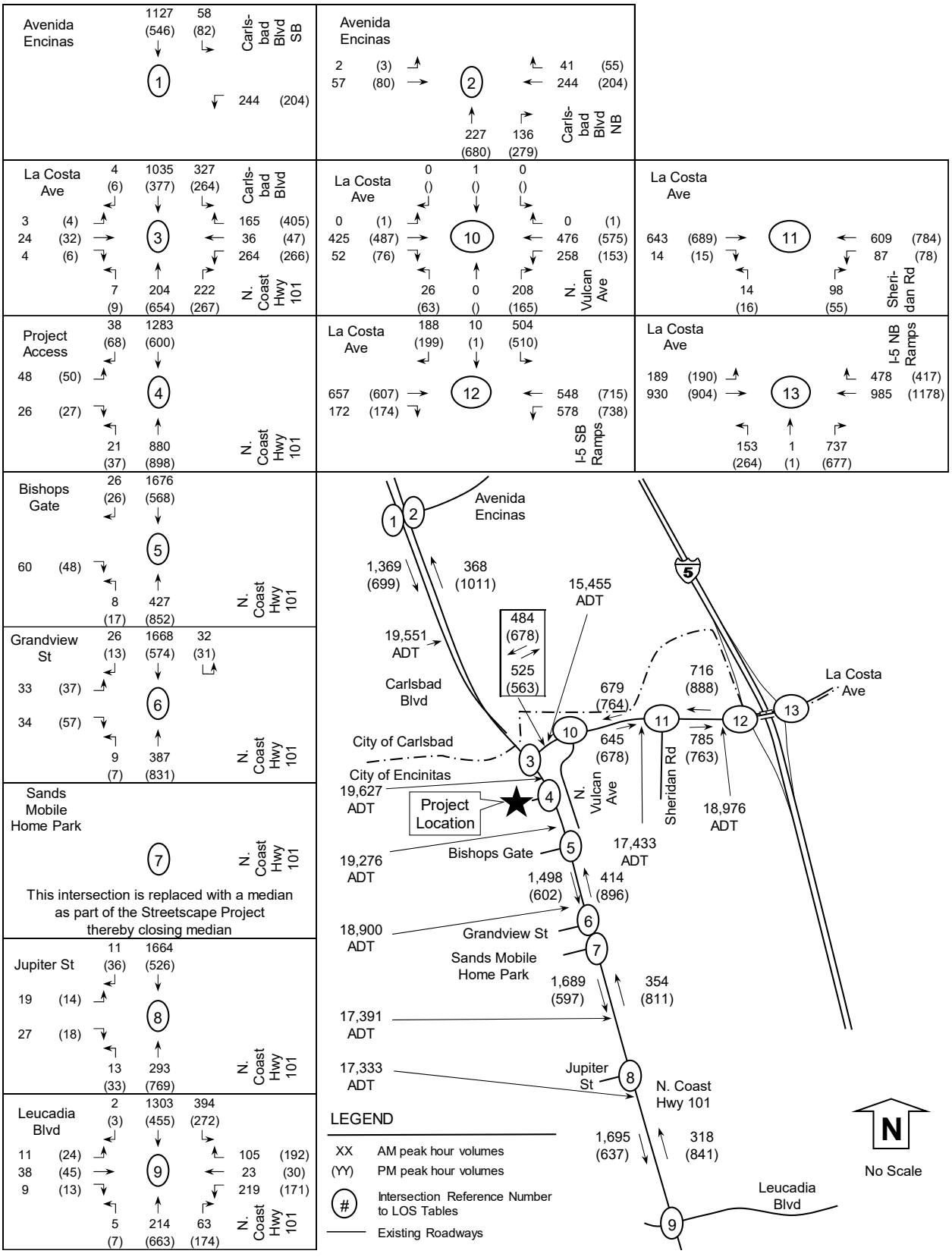


TABLE 21: EXISTING + CUMULATIVE + PROJECT SEGMENT PEAK HOUR VOLUMES AND OPERATIONS

	Segment	Dir	Lanes	Existing + Cumulative Segment Capacity	Existing + Cumulative Pk Hr Vol.	Existing + Cumulative V/C	Existing + Cumulative LOS	Project Pk Hr Vol.	Existing + Cumulative + Project Pk Hr Vol.	Existing + Cumulative + Project V/C	Existing + Cumulative + Project LOS	Existing + Cumulative + Project General Plan Conflict?
Carlsbad Blvd	*AM Peak Hour*											
	Btw Avenida Encinas	NB	2 lanes	3,640	357	0.098	C	11	368	0.101	C	No
	and La Costa Ave	SB	2 lanes	3,640	1,363	0.374	D	6	1,369	0.376	D	No
	(PM) Peak Hour											
	Btw Avenida Encinas	NB	2 lanes	3,640	(1001)	0.275	D	(10)	(1011)	0.278	D	No
	and La Costa Ave	SB	2 lanes	3,640	(684)	0.188	C	(15)	(699)	0.192	C	No
North Coast Highway 101	*AM Peak Hour*											
	Btw La Costa Ave	NB	1 lane	1,900	403	0.212	A	11	414	0.218	A	No
	and Grandview St	SB	1 lane	1,800	1,479	0.822	D	19	1,498	0.832	D	No
	Btw Grandview St	NB	1 lane	1,800	343	0.191	A	11	354	0.197	A	No
	and Jupiter St	SB	1 lane	1,800	1,670	0.928	**E**	19	1,689	0.938	**E**	No
	Btw Jupiter St	NB	1 lane	1,800	307	0.171	A	11	318	0.177	A	No
	and Leucadia Blvd	SB	2 lanes	3,400	1,677	0.493	B	19	1,696	0.499	B	No
	(PM) Peak Hour											
	Btw La Costa Ave	NB	1 lane	1,900	(870)	0.458	B	(26)	(896)	0.472	B	No
	and Grandview St	SB	1 lane	1,800	(585)	0.325	A	(17)	(602)	0.334	A	No
	Btw Grandview St	NB	1 lane	1,800	(785)	0.436	B	(26)	(811)	0.450	B	No
	and Jupiter St	SB	1 lane	1,800	(580)	0.322	A	(17)	(597)	0.331	A	No
	Btw Jupiter St	NB	1 lane	1,800	(816)	0.453	B	(25)	(841)	0.467	B	No
	and Leucadia Blvd	SB	2 lanes	3,400	(620)	0.182	A	(17)	(637)	0.187	A	No
La Costa Avenue	*AM Peak Hour*											
	Btw Coast Hwy 101	EB	1 lane	1,800	500	0.278	A	25	525	0.292	A	No
	and Vulcan Ave	WB	1 lane	1,800	470	0.261	A	14	484	0.269	A	No
	Btw Vulcan Ave	EB	1 lane	1,800	621	0.345	A	24	645	0.358	A	No
	and Sheridan Rd	WB	1 lane	1,800	665	0.369	A	14	679	0.377	A	No
	Btw Sheridan Rd	EB	1 lane	1,800	763	0.424	B	22	785	0.436	B	No
	and I-5 SB Ramps	WB	1 lane	1,800	704	0.391	A	12	716	0.398	A	No
	(PM) Peak Hour											
	Btw Coast Hwy 101	EB	1 lane	1,800	(541)	0.301	A	(22)	(563)	0.313	A	No
	and Vulcan Ave	WB	1 lane	1,800	(644)	0.358	A	(34)	(678)	0.377	A	No
	Btw Vulcan Ave	EB	1 lane	1,800	(656)	0.364	A	(22)	(678)	0.377	A	No
	and Sheridan Rd	WB	1 lane	1,800	(731)	0.406	A	(33)	(764)	0.424	B	No
	Btw Sheridan Rd	EB	1 lane	1,800	(743)	0.413	B	(20)	(763)	0.424	B	No
	and I-5 SB Ramps	WB	1 lane	1,800	(858)	0.477	B	(30)	(888)	0.493	B	No

Carlsbad Blvd capacity from Carlsbad 2018 Growth Management Program. Remaining capacities from Streetscape Final EIR.

Under existing plus cumulative plus project conditions, the study elements were calculated to operate at LOS D or better, except for (underline indicates conflict with GP Policy 1.2 or 1.3):

1) Intersection of N. Coast Hwy 101/Bishops Gate (LOS F AM),
2) Intersection of N. Coast Hwy 101/Grandview St (LOS E AM),
3) Intersection of La Costa Ave/N. Vulcan Ave (LOS F AM & PM),
4) Intersection of La Costa Ave/Sheridan Rd (LOS E PM),
5) Segment of N. Coast Hwy 101 from La Costa Ave to 600' S. of La Costa Ave (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
6) Segment of N. Coast Hwy 101 from 600' S. of La Costa Ave to Bishops Gate (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
7) Segment of N. Coast Hwy 101 from Bishops Gate to Grandview St (LOS E daily; however,

this segment operates at acceptable LOS under AM and PM peak hour operations),
8) Segment of N. Coast Hwy 101 from Grandview St. to Jupiter St. (LOS E SB AM),
9) Segment of La Costa Ave from N. Coast Hwy to N. Vulcan Ave (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
10) Segment of La Costa Ave from N. Vulcan Ave to Sheridan Rd (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations), and
11) Segment of La Costa Ave from Sheridan Rd to I-5 (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations).

9.0 Horizon Year 2035 Conditions

This scenario represents horizon year 2035 conditions. Year 2035 volumes were obtained from the *North Coast Highway 101 Leucadia Streetscape Improvement Project* Final EIR, dated February 2018 ("Streetscape EIR"). Excerpts from the Michael Baker International (MBI) traffic study prepared for the Streetscape EIR documenting the year 2035 volumes are included in Appendix D.

The City of Encinitas implemented the Streetscape Project to better balanced mobility between motorists, bicyclists, and pedestrians. To meet this balance, the Streetscape Project will result in a reduction of one southbound travel lane along Coast Highway from La Costa Ave to Jupiter St in the study area. The purpose of the lane reduction is to accommodate a dedicated bike lane, reduce travel speeds, and implement roundabouts. A lane reduction will increase some LOS delays and will cause a shift of some traffic away from Coast Highway. This traffic shift results in some Streetscape year 2035 volumes being lower than existing plus cumulative volumes, which results in better year 2035 operations than near-term conditions. This shift of traffic is described in the MBI Streetscape traffic study (excerpt included in **Appendix O**):

> "With the reduction in the number of travel lanes along Highway 101, both the model runs show a decrease in the forecast daily trips on Highway 101, south of La Costa Avenue, for future Year 2035 conditions when compared to the existing (Year 2015) daily trips. The models show an increase in forecast daily trips on La Costa Avenue and Vulcan Avenue when compared to the existing daily trips. Both the model runs show a resulting change in traffic pattern due to the proposed [Streetscape] project with a relatively small amount of traffic being diverted to La Costa Avenue, Vulcan Avenue and I-5."

The intersections of Carlsbad Blvd/Avenida Encinas SB and Carlsbad Blvd/Avenida Encinas NB are located in Carlsbad and were not included in the Streetscape EIR; therefore, year 2030 volumes were obtained from the Ponto EIR and factored up 1% per year to represent year 2035 volumes. Horizon year volumes from the Ponto and Streetscape EIRs are included in Appendix O. The year 2035 network was based on Streetscape EIR as shown previously in Figure 10. The volumes are shown in **Figure 12**.

The intersection LOS are shown in **Table 22.** The segment daily capacity is shown in **Table 23** with the segment hourly LOS shown **Table 24**. For unsignalized intersections, the minor approach delay is shown if the minor leg is a public street and overall delay is shown if the minor approach is a private driveway such as the project driveway. Intersection LOS calculations are included in **Appendix P.**

Figure 12: Horizon Year 2035 Volumes

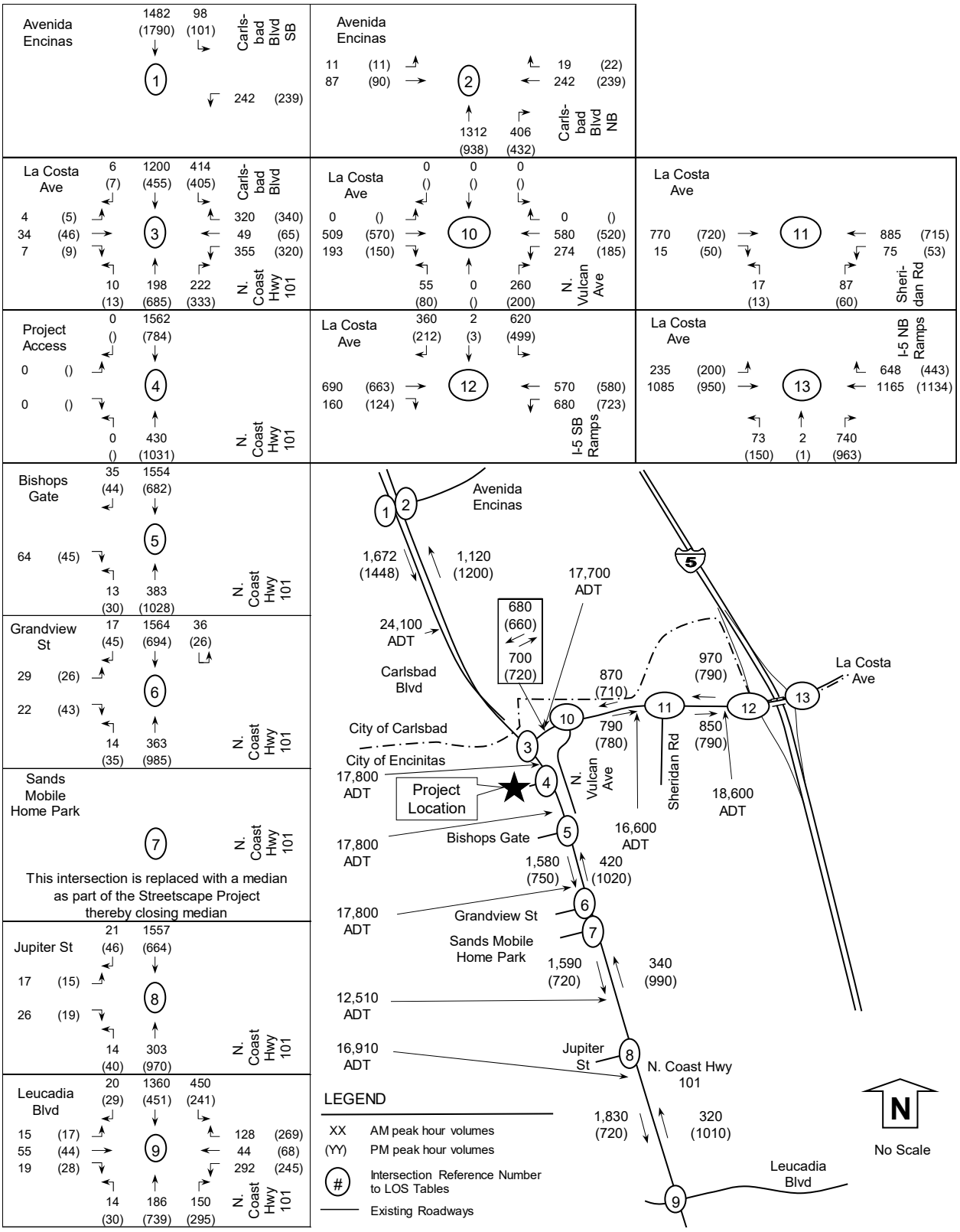


TABLE 22: HORIZON YEAR 2035 INTERSECTION OPERATIONS

Intersection and (Analysis)[1]	Approach	Peak Hour	Horizon Year 2035 Delay[2]	Horizon Year 2035 LOS[3]
1) Carlsbad Blvd SB	All	AM	17.1	B
at Avenida Encinas (S)	All	PM	19.3	B
2) Carlsbad Blvd NB	All	AM	33.5	C
at Avenida Encinas (S)	All	PM	29.3	C
3) N. Coast Hwy at	All	AM	51.4	D
La Costa Ave (S)	All	PM	69.1	**E**
4 N. Coast Hwy at	All	AM	DNE	NA
Project Access (R)	All	PM	DNE	NA
5) N. Coast Hwy at	Minor	AM	33.5	D
Bishops Gate (U)	Minor	PM	15.3	C
6) N. Coast Hwy at	All	AM	26.3	D
Grandview St (R)	All	PM	9.9	A
7) N. Coast Hwy at	All	AM	New	NA
Sand MPH (median)	All	PM	Median	NA
8) N. Coast Hwy at	All	AM	21.0	D
Jupiter St (R)	All	PM	9.7	A
9) N. Coast Hwy at	All	AM	31.7	C
Leucadia Blvd (S)	All	PM	34.0	C
10) La Costa Ave at	All	AM	187.7	**F**
N Vulcan Ave (U)	All	PM	133.7	**F**
11) La Costa Ave at	Minor	AM	61.2	**F**
Sheridan Rd (U)	Minor	PM	30.7	D
12) La Costa Ave at	All	AM	31.3	C
I-5 SB Ramps (S)	All	PM	28.0	C
13) La Costa Ave at	All	AM	45.6	D
I-5 NB Ramps (S)	All	PM	40.8	D

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized, (R) Roundabout. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. DNE: Does Not Exist. NA: Not Applicable.

TABLE 23: HORIZON YEAR 2035 SEGMENT DAILY VOLUMES AND OPERATIONS

Segment	Functional Classification	LOS E Capacity	Horizon Year (2035) Daily Volume	Horizon Year (2035) LOS
Carlsbad Boulevard				
Avenida Encinas to La Costa Ave	4 Lane Major	42,200	24,100	D
North Coast Highway 101				
La Costa Ave to 600' S. of La Costa	2 Ln Aug. Coll.	20,000	17,800	D
600' S. of La Costa to Bishops Gate	2 Ln Aug. Coll.	20,000	17,800	D
Bishops Gate to Grandview St	2 Ln Aug. Coll.	20,000	17,800	D
Grandview St to Jupiter St	2 Ln Aug. Coll.	20,000	12,510	C
Jupiter St to Leucadia Blvd	3 Lane Major	26,400	16,910	C
La Costa Avenue				
N. Coast Hwy to N. Vulcan	2 Lane Coll.	14,000	17,700	**F**
N. Vulcan to Sheridan Rd	2 Lane Coll.	14,000	16,600	**F**
Sheridan Rd to I-5	2 Ln Aug. Coll.	20,000	18,600	**E**

Notes: 2 Ln Aug. Coll. = 2 Lane Augmented Collector. Daily volume is a 24 hour volume. LOS: Level of Service
Carlsbad Boulevard capacity and LOS from City of Carlsbad 2018 Growth Management Program.

TABLE 24: HORIZON YEAR 2035 SEGMENT PEAK HOUR VOLUMES AND OPERATIONS

	Segment	Dir	Lanes	Year 2035 Streetscape Segment Capacity	Pk Hr Vol.	V/C	LOS
Carlsbad Blvd	*AM Peak Hour*						
	Btw Avenida Encinas	NB	2 lanes	3,640	1,120	0.308	D
	and La Costa Ave	SB	2 lanes	3,640	1,672	0.459	D
	(PM) Peak Hour						
	Btw Avenida Encinas	NB	2 lanes	3,640	(1200)	0.330	D
	and La Costa Ave	SB	2 lanes	3,640	(1448)	0.398	D
North Coast Highway 101	*AM Peak Hour*						
	Btw La Costa Ave	NB	1 lane	1,900	420	0.221	A
	and Grandview St	SB	1 lane	1,800	1,580	0.878	D
	Btw Grandview St	NB	1 lane	1,800	340	0.189	A
	and Jupiter St	SB	1 lane	1,800	1,590	0.883	D
	Btw Jupiter St	NB	1 lane	1,800	320	0.178	A
	and Leucadia Blvd	SB	2 lanes	3,400	1,830	0.538	B
	(PM) Peak Hour						
	Btw La Costa Ave	NB	1 lane	1,900	(1020)	0.537	B
	and Grandview St	SB	1 lane	1,800	(750)	0.417	B
	Btw Grandview St	NB	1 lane	1,800	(990)	0.550	B
	and Jupiter St	SB	1 lane	1,800	(720)	0.400	A
	Btw Jupiter St	NB	1 lane	1,800	(1010)	0.561	B
	and Leucadia Blvd	SB	2 lanes	3,400	(720)	0.212	A
La Costa Avenue	*AM Peak Hour*						
	Btw Coast Hwy 101	EB	1 lane	1,800	700	0.389	A
	and Vulcan Ave	WB	1 lane	1,800	680	0.378	A
	Btw Vulcan Ave	EB	1 lane	1,800	790	0.439	B
	and Sheridan Rd	WB	1 lane	1,800	870	0.483	B
	Btw Sheridan Rd	EB	1 lane	1,800	850	0.472	B
	and I-5 SB Ramps	WB	1 lane	1,800	970	0.539	B
	(PM) Peak Hour						
	Btw Coast Hwy 101	EB	1 lane	1,800	(720)	0.400	A
	and Vulcan Ave	WB	1 lane	1,800	(660)	0.367	A
	Btw Vulcan Ave	EB	1 lane	1,800	(780)	0.433	B
	and Sheridan Rd	WB	1 lane	1,800	(710)	0.394	A
	Btw Sheridan Rd	EB	1 lane	1,800	(790)	0.439	B
	and I-5 SB Ramps	WB	1 lane	1,800	(790)	0.439	B

Carlsbad Blvd capacity from Carlsbad 2018 Growth Management Program. Remaining capacities from Streetscape Final EIR.

Under horizon year 2035 conditions, the study elements were calculated to operate at LOS D or better, except for:

1) Intersection of N. Coast Hwy 101/La Costa Ave (LOS E PM),
2) Intersection of La Costa Ave/N. Vulcan Ave (LOS F AM & PM),
3) Intersection of La Costa Ave/Sheridan Rd (LOS F AM),
4) Segment of La Costa Ave from N. Coast Hwy to N. Vulcan Ave (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
5) Segment of La Costa Ave from N. Vulcan Ave to Sheridan Rd (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations), and
6) Segment of La Costa Ave from Sheridan Rd to I-5 (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations).

10.0 Horizon Year 2035 + Project Conditions

This scenario accounts for the addition of project traffic onto horizon year 2035 traffic. The peak hour intersection volumes and daily traffic volumes are shown in **Figure 13**. The intersection LOS are shown in **Table 25.** The segment daily capacity is shown in **Table 26** with the segment hourly LOS shown **Table 27**. Intersection LOS calculations are included in **Appendix Q**.

TABLE 25: HORIZON YEAR 2035 + PROJECT INTERSECTION OPERATIONS

Intersection and (Analysis)[1]	Approach	Peak Hour	Horizon Year 2035 Delay[2]	Horizon Year 2035 LOS[3]	Horizon Year 2035 + Project Delay[2]	Horizon Year 2035 + Project LOS[3]	GP Conflict?[5]
1) Carlsbad Blvd SB	All	AM	17.1	B	17.3	B	No
at Avenida Encinas (S)	All	PM	19.3	B	19.8	B	No
2) Carlsbad Blvd NB	All	AM	33.5	C	34.1	C	No
at Avenida Encinas (S)	All	PM	29.3	C	29.5	C	No
3) N. Coast Hwy at	All	AM	51.4	D	52.9	D	No
La Costa Ave (S)	All	PM	69.1	**E**	70.9	**E**	No
4 N. Coast Hwy at	All	AM	DNE	NA	33.2	D	No
Project Access (R)	All	PM	DNE	NA	20.2	C	No
5) N. Coast Hwy at	Minor	AM	33.5	D	34.5	D	No
Bishops Gate (U)	Minor	PM	15.3	C	15.5	C	No
6) N. Coast Hwy at	All	AM	26.3	D	28.0	D	No
Grandview St (R)	All	PM	9.9	A	10.3	B	No
7) N. Coast Hwy at	All	AM	New	NA	New	NA	No
Sand MPH (median)	All	PM	Median	NA	Median	NA	No
8) N. Coast Hwy at	All	AM	21.0	D	22.0	C	No
Jupiter St (R)	All	PM	9.7	A	10.0	B	No
9) N. Coast Hwy at	All	AM	31.7	C	32.3	C	No
Leucadia Blvd (S)	All	PM	34.0	C	35.8	D	No
10) La Costa Ave at	All	AM	187.7	**F**	200.6	**F**	No
N Vulcan Ave (U)	All	PM	133.7	**F**	144.3	**F**	No
11) La Costa Ave at	Minor	AM	61.2	**F**	78.1	**F**	No
Sheridan Rd (U)	Minor	PM	30.7	D	37.5	**E**	**Yes**
12) La Costa Ave at	All	AM	31.3	C	31.9	C	No
I-5 SB Ramps (S)	All	PM	28.0	C	28.2	C	No
13) La Costa Ave at	All	AM	45.6	D	46.7	D	No
I-5 NB Ramps (S)	All	PM	40.8	D	41.1	D	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized, (R) Roundabout. Minor street approach (worst approach delay reported). 2) Delay - HCM Average Control Delay in sec. 3) LOS: Level of Service. 4) General Plan Circulation Element Policy 1.3 conflict if project traffic causes an LOS E/F. DNE: Does Not Exist. NA: Not Applicable.

TABLE 26: HORIZON YEAR 2035 + PROJECT SEGMENT DAILY VOLUMES AND OPERATIONS

Segment	Functional Classification	LOS E Capacity	Horizon Year (2035) Daily Volume	Horizon Year (2035) LOS	Proj. Daily Vol.	Horizon Year + Project Daily Volume	Horizon Year + Project LOS
Carlsbad Boulevard							
Avenida Encinas to La Costa Ave	4 Lane Major	42,200	24,100	D	235	24,335	D
North Coast Highway 101							
La Costa Ave to 600' S. of La Costa	2 Ln Aug. Coll.	20,000	17,800	D	762	18,562	**E**
600' S. of La Costa to Bishops Gate	2 Ln Aug. Coll.	20,000	17,800	D	411	18,211	**E**
Bishops Gate to Grandview St	2 Ln Aug. Coll.	20,000	17,800	D	411	18,211	**E**
Grandview St to Jupiter St	2 Ln Aug. Coll.	20,000	12,510	C	411	12,921	C
Jupiter St to Leucadia Blvd	3 Lane Major	26,400	16,910	C	399	17,309	C
La Costa Avenue							
N. Coast Hwy to N. Vulcan	2 Lane Coll.	14,000	17,700	**F**	528	18,228	**F**
N. Vulcan to Sheridan Rd	2 Lane Coll.	14,000	16,600	**F**	516	17,116	**F**
Sheridan Rd to I-5	2 Ln Aug. Coll.	20,000	18,600	**E**	469	19,069	**E**

Notes: Aug. Coll. = Augmented Collector. Daily volume is a 24 hour volume. LOS: Level of Service
Carlsbad Boulevard capacity and LOS from City of Carlsbad 2018 Growth Management Program.

Figure 13: Horizon Year 2035 + Project Volumes

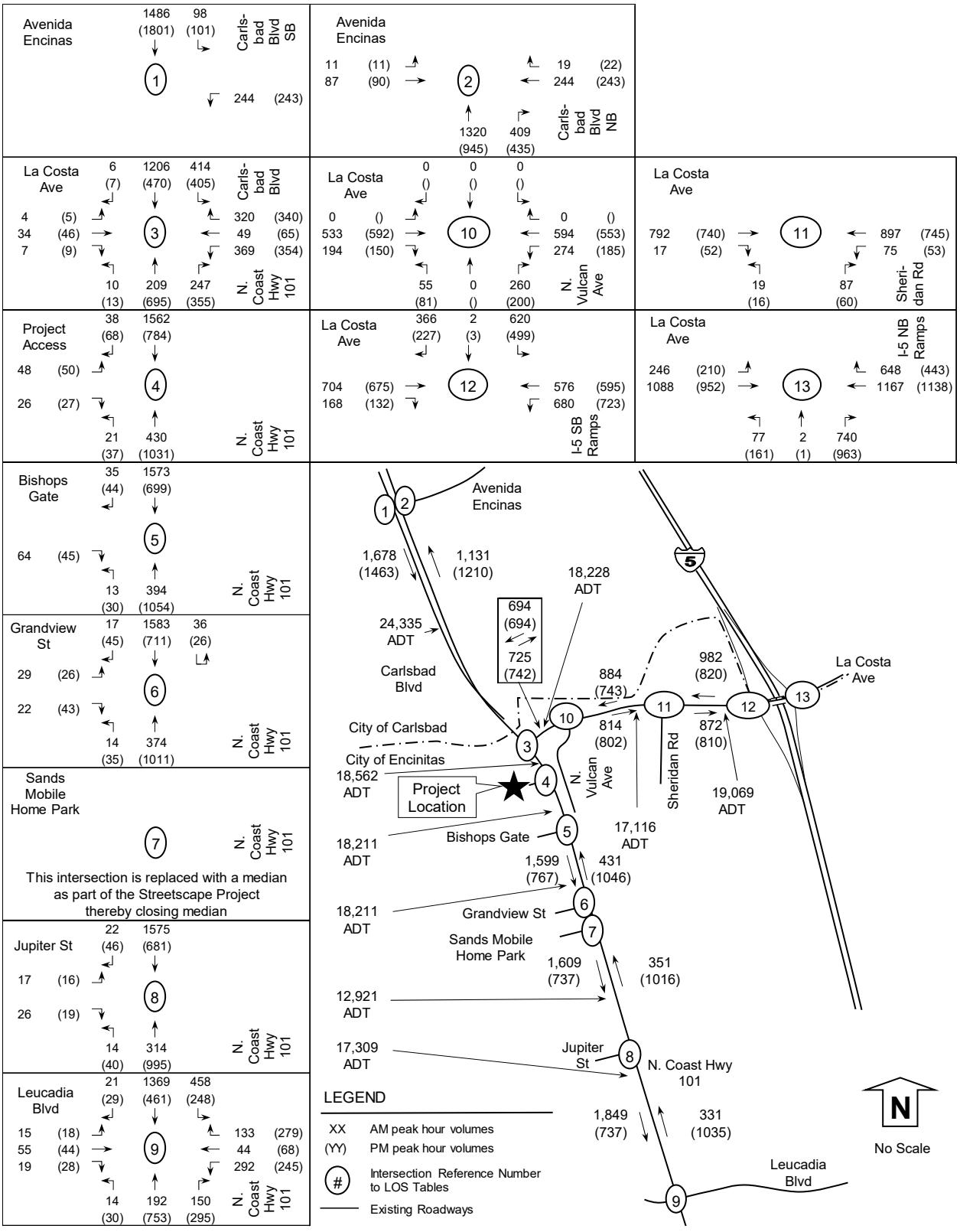


TABLE 27: HORIZON YEAR 2035 + PROJECT SEGMENT PEAK HOUR VOLUMES AND OPERATIONS

	Segment	Dir	Lanes	Year 2035 Streetscape Segment Capacity	Year 2035 Streetscape Pk Hr Vol.	Year 2035 Streetscape V/C	Year 2035 Streetscape LOS	Project Pk Hr Vol.	Year 2035 Streetscape + Project Pk Hr Vol.	Year 2035 Streetscape + Project V/C	Year 2035 Streetscape + Project LOS	General Plan Conflict?
Carlsbad Blvd	*AM Peak Hour*											
	Btw Avenida Encinas	NB	2 lanes	3,640	1,120	0.308	D	11	1,131	0.311	D	No
	and La Costa Ave	SB	2 lanes	3,640	1,672	0.459	D	6	1,678	0.461	D	No
	(PM) Peak Hour											
	Btw Avenida Encinas	NB	2 lanes	3,640	(1200)	0.330	D	(10)	(1210)	0.332	D	No
	and La Costa Ave	SB	2 lanes	3,640	(1448)	0.398	D	(15)	(1463)	0.402	D	No
North Coast Highway 101	*AM Peak Hour*											
	Btw La Costa Ave	NB	1 lane	1,900	420	0.221	A	11	431	0.227	A	No
	and Grandview St	SB	1 lane	1,800	1,580	0.878	D	19	1,599	0.888	D	No
	Btw Grandview St	NB	1 lane	1,800	340	0.189	A	11	351	0.195	A	No
	and Jupiter St	SB	1 lane	1,800	1,590	0.883	D	19	1,609	0.894	D	No
	Btw Jupiter St	NB	1 lane	1,800	320	0.178	A	11	331	0.184	A	No
	and Leucadia Blvd	SB	2 lanes	3,400	1,830	0.538	B	19	1,849	0.544	B	No
	(PM) Peak Hour											
	Btw La Costa Ave	NB	1 lane	1,900	(1020)	0.537	B	(26)	(1046)	0.551	B	No
	and Grandview St	SB	1 lane	1,800	(750)	0.417	B	(17)	(767)	0.426	B	No
	Btw Grandview St	NB	1 lane	1,800	(990)	0.550	B	(26)	(1016)	0.564	B	No
	and Jupiter St	SB	1 lane	1,800	(720)	0.400	A	(17)	(737)	0.409	A	No
	Btw Jupiter St	NB	1 lane	1,800	(1010)	0.561	B	(25)	(1035)	0.575	B	No
	and Leucadia Blvd	SB	2 lanes	3,400	(720)	0.212	A	(17)	(737)	0.217	A	No
La Costa Avenue	*AM Peak Hour*											
	Btw Coast Hwy 101	EB	1 lane	1,800	700	0.389	A	25	725	0.403	A	No
	and Vulcan Ave	WB	1 lane	1,800	680	0.378	A	14	694	0.386	A	No
	Btw Vulcan Ave	EB	1 lane	1,800	790	0.439	B	24	814	0.452	B	No
	and Sheridan Rd	WB	1 lane	1,800	870	0.483	B	14	884	0.491	B	No
	Btw Sheridan Rd	EB	1 lane	1,800	850	0.472	B	22	872	0.484	B	No
	and I-5 SB Ramps	WB	1 lane	1,800	970	0.539	B	12	982	0.546	B	No
	(PM) Peak Hour											
	Btw Coast Hwy 101	EB	1 lane	1,800	(720)	0.400	A	(22)	(742)	0.412	B	No
	and Vulcan Ave	WB	1 lane	1,800	(660)	0.367	A	(34)	(694)	0.386	A	No
	Btw Vulcan Ave	EB	1 lane	1,800	(780)	0.433	B	(22)	(802)	0.446	B	No
	and Sheridan Rd	WB	1 lane	1,800	(710)	0.394	A	(33)	(743)	0.413	B	No
	Btw Sheridan Rd	EB	1 lane	1,800	(790)	0.439	B	(20)	(810)	0.450	B	No
	and I-5 SB Ramps	WB	1 lane	1,800	(790)	0.439	B	(30)	(820)	0.456	B	No

Carlsbad Blvd capacity from Carlsbad 2018 Growth Management Program. Remaining capacities from Streetscape Final EIR.

Under horizon year 2035 plus project conditions, the study elements were calculated to operate at LOS D or better, except for (underline indicates conflict with GP Policy 1.2 or 1.3):

1) Intersection of N. Coast Hwy 101/La Costa Ave (LOS E PM),
2) Intersection of La Costa Ave/N. Vulcan Ave (LOS F AM & PM),
3) Intersection of La Costa Ave/Sheridan Rd (LOS F AM & LOS E PM),
4) Segment of N. Coast Hwy 101 from La Costa Ave to 600' S. of La Costa Ave (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
5) Segment of N. Coast Hwy 101 from 600' S. of La Costa Ave to Bishops Gate (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
6) Segment of N. Coast Hwy 101 from Bishops Gate to Grandview St (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour

operations),

7) Segment of La Costa Ave from N. Coast Hwy to N. Vulcan Ave (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations),
8) Segment of La Costa Ave from N. Vulcan Ave to Sheridan Rd (LOS F daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations), and
9) Segment of La Costa Ave from Sheridan Rd to I-5 (LOS E daily; however, this segment operates at acceptable LOS under AM and PM peak hour operations).

11.0 General Plan Policy Analysis

The project's traffic is forecasted to conflict with the General Plan Circulation Element Policy 1.3 at the intersection of La Costa Ave/Sheridan Rd under cumulative and horizon year conditions, which includes traffic from other known developments and forecasted horizon year developments. These forecasted volumes may not materialize.

City staff are currently evaluating improvement scenarios along La Costa Ave from Coast Highway to I-5 including cross section and intersection control alternatives. However, currently there are no planned improvements to the intersection of La Costa Ave/Sheridan Rd. Therefore, an overriding public need is required and supported through the following project features and public benefits:

1) Providing 8 affordable hotel rooms.
2) Providing 19 affordable housing units (contributes to the Housing Element Update needs).
3) Providing 75 market rate housing units (contributes to the Housing Element Update needs).
4) Providing a roundabout at the project's entrance on Coast Highway, which aligns with and supports the City's Streetscape EIR project.
5) Providing mixed land uses that facilitate walking between housing, lodging, food, and retail uses without having to rely on an automobile.

12.0 Conclusion

This Local Transportation Analysis (LTA) determines if the proposed project conflicts with the City of Encinitas General Plan Circulation Element Policies 1.2 and 1.3. The project includes a resort hotel with 34 rooms, 94 multi-family dwelling units, and 18,261 square feet of commercial/retail space on the westside of North Coast Highway 101 approximately 500 feet south of La Costa Avenue located in the City of Encinitas, California. The project will replace existing commercial/retail land uses with active businesses.

The goals of Marea Village align with the *North Coast Highway 101 Leucadia Streetscape Improvement Project* Final EIR, February 2018 ("Streetscape EIR") project by allowing people the opportunity to use different modes of travel other than vehicles. The proposed Marea Village mixed-use project has been designed to encourage using multi-modal modes of transportation such as walking and biking in lieu of driving. This is achieved by having mixed land uses, pedestrian connections to the public sidewalk, a dedicated bike lane as part of the Streetscape EIR project, bike parking, located adjacent to Bus Route 101 along Coast Highway, and being close to residential homes that provide surrounding residents an opportunity to walk and/or bike to the retail elements of this project.

The project traffic generation was calculated using the SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project site has active uses creating traffic; therefore, a traffic credit was applied because the existing uses will be replaced by the project. Additionally, the existing and proposed project have pass-by trips already on the study roadways. The project is calculated to generate a net increase of 1,173 ADT, 85 AM peak hour trips, and 124 PM peak hour trips.

This report includes the analysis of existing, existing + cumulative, and horizon year scenarios (with and without project traffic). The existing scenario is based on traffic counts collected before the State's COVID lockdown order. The existing + cumulative and horizon year scenarios have roadway conditions that match the Streetscape EIR.

The City's General Plan Circulation Element Policies 1.2 and 1.3 were evaluated with the addition of project traffic. The project's traffic is forecasted to conflict with Policy 1.3 at the intersection of La Costa Ave/Sheridan Rd under cumulative and horizon year conditions, which includes traffic from other known developments and forecasted horizon year developments. These forecasted volumes may not materialize. City staff are currently evaluating improvement scenarios along La Costa Ave from Coast Highway to I-5 including cross section and intersection control alternatives. However, currently there are no planned improvements to the intersection of La Costa Ave/Sheridan Rd. Therefore, an overriding public need is required and supported through the following project features and public benefits:

1) Providing 8 affordable hotel rooms.
2) Providing 19 affordable housing units (contributes to the Housing Element Update needs).
3) Providing 75 market rate housing units (contributes to the Housing Element Update needs).
4) Providing a roundabout at the project's entrance on Coast Highway, which aligns with and supports the City's Streetscape EIR project.
5) Providing mixed land uses that facilitate walking between housing, lodging, food, and retail uses without having to rely on an automobile.

13.0 References

Caltrans *California Manual on Uniform Traffic Control Devices 2014 Edition Revision 6* March 30, 2021

City of Carlsbad *General Plan* September 2015.

City of Encinitas *Circulation Element* May 11, 1995.

City of Encinitas *2014-2021 Housing Element Update* Traffic Impact Study May, 2018.

Highway Capacity Manual (2000 and 6th Edition).

San Diego Institute of Transportation Engineers (ITE). May 2019. *Guidelines for Transportation Impact Studies in the San Diego Region*.

San Diego Association of Governments (SANDAG). April 2002. *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*.

Trafficware Corporation. Synchro 10.0 computer software.

Appendix A

Excerpts from City of Carlsbad Growth Management Plan

Growth Management Program

Year 2018 Traffic Conditions Report

Prepared for:

City of Carlsbad
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Prepared by:

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June 19, 2019

Roadway Service Volume Table - Generalized Data

Segment Capacity Threshold for Arterial Streets

Hourly Volume in Peak Direction

Lanes	Speed Limit	Median	B	C	D	E
1	35	Undivided	**	180	590	740
	35	Divided	**	190	630	780
2	35	Divided	**	520	1390	1540
	45	Divided	**	600	1560	1760
	50	Divided	**	850	1690	1820
	55	Divided	**	1050	1800	1890
3	35	Divided	**	680	2230	2540
	45	Divided	**	2040	2660	2700
	50	Divided	**	2360	2760	2800
	55	Divided	390	2600	2870	2900
4	45	Divided	**	2780	3560	3620

Hourly Volume in Both Direction

Lanes	Speed Limit	Median	B	C	D	E
2	35	Undivided	**	340	1100	1380
	35	Divided	**	360	1170	1450
4	35	Divided	**	970	2580	2860
	45	Divided	**	1120	2890	3260
	50	Divided	**	1580	3130	3380
	55	Divided	**	1950	3340	3500
5	55	Divided	**	3395	4343	4455
6	35	Divided	**	1260	4130	4720
	50	Divided	**	4380	5120	5180
	55	Divided	730	4820	5320	5360
7	45	Divided	**	4483	5785	5878

Annual Average Daily Traffic

Lanes	Speed Limit	Median	B	C	D	E
2	35	Undivided	**	4200	13700	17200
	35	Divided	**	4400	14600	18100
4	35	Divided	**	12100	32200	35800
	45	Divided	**	13900	36200	40800
	50	Divided	**	19700	39200	42200
	55	Divided	**	24400	41700	43800
6	35	Divided	**	15800	51700	59000
	50	Divided	**	54700	63900	64800
	55	Divided	9100	60200	66500	67000

Segment Capacity Threshold for Industrial Streets

Hourly Volume in Peak Direction

Lanes	Speed Limit	Median	B	C	D	E
1	25	Undivided	**	110	450	560
	25	Divided	**	140	610	720
	35	Undivided	**	180	590	740
	35	Divided	**	190	630	780
	40	Undivided	**	216	708	888
	40	Divided	**	228	756	936

Hourly Volume in Both Direction

Lanes	Speed Limit	Median	B	C	D	E
2	25	Undivided	**	200	800	990
	25	Divided	**	250	1080	1270
	35	Undivided	**	340	1100	1380
	35	Divided	**	360	1170	1450
	40	Undivided	**	408	1320	1656
	40	Divided	**	432	1404	1740

Annual Average Daily Traffic

Lanes	Speed Limit	Median	B	C	D	E
2	25	Undivided	**	2200	8900	11000
	25	Divided	**	2800	12000	14100
	35	Undivided	**	4200	13700	17200
	35	Divided	**	4400	14600	18100
	40	Undivided	**	5040	16440	20640
	40	Divided	**	5280	17520	21720

Roadway Service Volume Table - Specific Corridors

N/S Streets	Limits	Roadway Classification	Peak Direction				
			A	B	C	D	E
El Camino Real	City Limits to Marron Road	6/35/D	**	**	**	**	1400
	Marron Road to Carlsbad Village Drive	6/35/D	**	140	2070	2520	##
	Carlsbad Village Drive to Tamarack Avenue	6/55/D	1930	2850	2900	##	##
	Tamarack Avenue to Cannon Road	6/55/D	**	**	2400	2800	##
	Cannon Road to College Boulevard	2/55/D - NB	**	1060	1860	##	##
		3/55/D - SB	**	2150	2900	##	##
	College Boulevard to Palomar Airport Road	6/55/D	270	2750	2940	##	##
	Palomar Airport Road to Camino Vida Roble	6/55/D	**	**	1330	2510	2580
	Camino Vida Roble to Poinsettia Lane	2/55/D - NB	**	970	2020	2100	##
		3/55/D - SB	**	1470	2820	2900	##
	Poinsettia Lane to Aviara Parkway-Alga Road	6/55/D	**	**	2100	2820	2900
	Aviara Parkway-Alga Road to La Costa Avenue	3/55/D - NB	**	1390	2580	##	##
		2/55/D - SB	**	800	1920	##	##
	La Costa Avenue to Leucadia Boulevard	6/55/D	**	**	1880	2820	2880
College Boulevard	City Limits to Carlsbad Village Drive	4/45/D	**	**	930	1680	1770
	Carlsbad Village Drive to Cannon Road	4/45/D	**	**	1040	1760	1800
	El Camino Real to Aston Avenue	4/50/D	**	**	390	1440	1810
	Aston Avenue to Palomar Airport Road	2/50/D - NB	880	1680	##	##	##
		2/50/D - SB	80	970	1040	##	##
Aviara Parkway	Palomar Aiport Road to Poinsettia Lane	4/45/D	**	**	**	1130	1630
Melrose Drive	City Limits to Palomar Airport Road	4/55/D - NB	**	**	1710	2740	2830
		3/55/D - SB	**	**	**	930	1630
	Palomar Airport Road to Poinsettia Lane	6/55/D	**	490	2720	2880	##
	Poinsettia Lane to Rancho Santa Fe Road	6/55/D	**	**	1400	2100	##
Rancho Santa Fe Road	City Limits to Camino Junipero	6/55/D	**	2520	3160	##	##
	Camino Junipero to La Costa Avenue	6/55/D	**	1400	2660	2700	##
	La Costa Avenue to Calle Barcelona	6/50/D	**	460	2410	2480	##
	Calle Barcelona to Olivenhain Road	6/50/D	**	540	2810	3040	##
E/W Streets	**Limits**	**Roadway Classification**	**Peak Direction**				
			A	**B**	**C**	**D**	**E**
Cannon Road	Avenida Encinas to Paseo del Norte	4/35/D	**	**	**	730	1320
	Paseo del Norte to Car Country	4/50/D	**	390	1630	1770	1800
	Car Country to Legoland Drive	4/50/D	**	1170	1660	1700	##
	Legoland Drive to Faraday Avenue	4/50/D	**	270	1280	1320	##
	Faraday Avenue to El Camino Real	4/50/D	**	**	1280	1620	##
	El Camino Real to College Boulevard	4/50/D	**	**	280	1310	1690
Faraday Avenue	Van Allen Way to El Camino Real	4/40/D	**	**	220	1400	1680
	El Camino Real to Melrose Drive	4/50/D	**	**	1370	1640	##
Palomar Airport Road	Carlsbad Boulevard to Avenida Encinas	2/35/U	**	520	760	##	##
	Avenida Encinas to Paseo del Norte	3/35/D - EB	**	**	**	**	250
		2/35/D - WB	**	**	**	**	650
	Paseo del Norte to Armada	3/45/D - EB	**	**	1640	2660	2740
		4/45/D - WB	**	**	2250	3570	3680
	Armada to Aviara Parkway	6/55/D	**	650	2760	2940	##
	Aviara Parkway to Camino Vida Roble	6/55/D	440	2720	2900	##	##
	Camino Vida Roble to El Camino Real	6/55/D	**	790	2140	##	##
	El Camino Real to El Fuerte	6/55/D	**	1290	2830	2900	##
	El Fuerte to Melrose Drive	6/55/D	**	1230	2860	2940	##
	Melrose Drive to City Limits	6/55/D	**	340	2590	2900	##
Poinsettia Lane	Avenida Encinas to Paseo del Norte	4/35/D	**	**	**	180	1190
	Paseo del Norte to Aviara Parkway	4/50/D	**	**	1330	1770	1840
La Costa Avenue	Piraeus Street to El Camino Real	4/55/D	**	1450	1700	##	##

** Indicates LOS cannot be achieved during peak hour.(e.g., signal spacing is too close to achieve smooth traffic flows even at low volumes).

Indicates the capacity jumps to LOS F because intersection capacities have been reached. (i.e., travel speeds quickly degrade to LOS F).

Appendix B

Excerpts from City of Encinitas General Plan

THE CITY OF ENCINITAS
CALIFORNIA

PUBLIC ROAD STANDARDS

April, 1991

TABLE 2
GENERAL PLAN CIRCULATION ELEMENT
ROADWAY CAPACITY STANDARDS *

Facility Type	# of Lanes	ADT Capacity LOS C	LOS D	LOS E
FREEWAY	6	108,00	120,000	135,000
	8	145,000	160,000	175,000
	10	175,000	195,000	215,000
Prime Arterial	6	46,000	51,200	57,000
Prime Arterial-Augmented	6	53,000	60,000	66,000
Major Roadway	4	28,200	31,600	35,200
Major Roadway-Augmented	4+	36,300	41,000	45,400
Collector Roadway	4	26,000	29,200	32,400
Local Roadway-Augmented	2+	16,000	18,000	20,000
Local Roadway	2	11,200	12,600	14,000

NOTE:
1. Capacity means the maximum volume for the stated level of service.
2. The above Standards are not applicable to non-circulation element roadways.

* From City of Encinitas General Plan Circulation Element.

Appendix C

Excerpts from City of Encinitas Housing Element

City of Encinitas Housing Element Traffic Impact Study

Draft Report | January 27, 2016

Prepared For:

City of Encinitas
505 S. Vulcan Avenue
Encinitas, CA 92024

Prepared By:

CHEN RYAN
CHEN RYAN ASSOCIATES, INC.
239 Laurel Street, Suite 203
San Diego, CA 92101

Table 3.2
Existing Roadway Segment Level of Service

Roadway	Segment	Count Date	Count Source	Functional Classification[1]	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Carlsbad Blvd	Between Poinsettia Lane and Avenida Encinas	June 2015	AVC	4-Lane Major Arterial	12,160	40,000	0.304	A	City of Carlsbad
	Between Avenida Encinas and La Costa Avenue	June 2015	AVC	4-Lane Major Arterial	16,194	40,000	0.405	B	City of Carlsbad
North Coast Highway 101	Between La Costa Avenue and 600 feet south of La Costa Avenue	June 2015	PTD	4-Lane Major Roadway	18,070	35,200	0.513	C or better	City of Encinitas
	Between 600 feet south of La Costa Avenue and Leucadia Blvd	June 2015	PTD	3-Lane Major Roadway[2]	17,378	26,400	0.658	C or better	City of Encinitas
	Between Leucadia Blvd and Cadmus Street	June 2015	PTD	4-Lane Major Roadway	19,145	35,200	0.544	C or better	City of Encinitas
	Between Cadmus Street and Marcheta Street	June 2015	PTD	4-Lane Major Roadway	19,145	35,200	0.544	C or better	City of Encinitas
	Between Marcheta Street and 660 feet south of Marcheta Street	June 2015	PTD	4-Lane Major Roadway	19,145	35,200	0.544	C or better	City of Encinitas
	Between 660 feet south of Marcheta Street and Encinitas Blvd	June 2015	PTD	4-Lane Major Roadway	19,145	35,200	0.544	C or better	City of Encinitas
South Coast Highway 101	Between Encinitas Blvd and D Street	June 2015	PTD	4-Lane Major Roadway	18,746	35,200	0.533	C or better	City of Encinitas
	Between D Street and E Street	June 2015	PTD	4-Lane Major Roadway	18,746	35,200	0.533	C or better	City of Encinitas
	Between E Street and F Street	June 2015	PTD	4-Lane Major Roadway	18,746	35,200	0.533	C or better	City of Encinitas
	Between F Street and H Street	June 2015	PTD	4-Lane Major Roadway	18,746	35,200	0.533	C or better	City of Encinitas
	Between H Street and J Street	June 2015	PTD	4-Lane Major Roadway	20,337	35,200	0.578	C or better	City of Encinitas

Table 3.2
Existing Roadway Segment Level of Service

Roadway	Segment	Count Date	Count Source	Functional Classification[1]	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Birmingham Drive	Between San Elijo Avenue and MacKinnon Avenue	June 2015	PTD	2-Lane Local Roadway - Augmented	14,588	20,000	0.729	C or better	City of Encinitas
	Between MacKinnon Avenue and Carol View Drive	June 2015	PTD	2-Lane Local Roadway - Augmented	14,588	20,000	0.729	C or better	City of Encinitas
	Between Carol View Drive and I-5 SB Ramps	June 2015	PTD	2-Lane Local Roadway - Augmented	14,588	20,000	0.729	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	June 2015	PTD	2-Lane Local Roadway	16,342	14,000	1.167	**F**	City of Encinitas
	Between I-5 NB Ramps and Villa Cardiff Drive	June 2015	PTD	2-Lane Local Roadway	8,248	14,000	0.589	C or better	City of Encinitas
	Between Villa Cardiff Drive and Playa Riviera	June 2015	PTD	2-Lane Local Roadway	8,248	14,000	0.589	C or better	City of Encinitas
	Between Playa Riviera and Freda Lane	June 2015	PTD	2-Lane Local Roadway	8,248	14,000	0.589	C or better	City of Encinitas
	Between Freda Lane and Lake Drive	June 2015	PTD	2-Lane Local Roadway	8,248	14,000	0.589	C or better	City of Encinitas

Source: Chen Ryan Associates; January 2016

Notes:
Bold letter indicates substandard LOS E or F.
[1] Functional Classification is representative of existing segment functionality and does not take into consideration the ultimate or final classification.
[2] 3-Lane Major Roadway is 75% capacity of a 4-Lane Major Roadway.
[3] 3-Lane Collector is 75% capacity of a 4-Lane Collector.
[4] 5-Lane Prime is 84% capacity of 6-Lane Prime Arterial (SANTEC).
[5] 5-Lane Major is 84% capacity of 6-Lane Major Arterial (SANTEC).
[6] 3-Lane Collector is 75% capacity of 4-Lane Collector (SANTEC).

Appendix D

Excerpts from Streetscape Traffic Study

VOLUME 1
FINAL ENVIRONMENTAL IMPACT REPORT

North Coast Highway 101 Streetscape Improvement Project

Case No.: 10-035 DR/CDP/EIR and 10-036 GPA/SPA/LCPA
State Clearinghouse (SCH) No. 2015091084

Lead Agency/Project Applicant:

City of Encinitas
Development Services Department
Contact: Stephanie Kellar, Project Manager
505 South Vulcan Avenue
Encinitas, California 92024

Preparer:

Michael Baker International
9755 Clairemont Mesa Boulevard, Suite 100
San Diego, California 92124

February 2018

Highway 101 Streetscape Project

TRAFFIC IMPACT ANALYSIS REPORT

Prepared for

City of Encinitas

505 S. Vulcan Avenue,
Encinitas, CA 92024

Prepared by

Michael Baker
INTERNATIONAL

5050 Avenida Encinas, Suite 260, Carlsbad, CA 92008
CONTACT: Robert Davis 760.603.6244 ROBERTDAVIS@mbakerintl.com

November 29, 2016

JN 137350

Table 1
Signalized, Un-signalized and Roundabout Intersections
Level of Service & Delay Ranges

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Un-signalized and Roundabout Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: 2000 Highway Capacity Manual and 2010 Highway Capacity Manual.

Roadway Segment Analysis Methodology

To better evaluate the segment operations, peak hour directional segment analysis was conducted which evaluates the worst case condition. The capacity of the segment was determined by factoring the base saturation flow rate of 2,000 vehicles per hour per lane (VPHPL) to account for friction due to on-street parking and due to turning vehicles at minor side street intersections. For the existing roadway geometry conditions along Highway 101, a composite total of 30% flow rate reduction was assumed, in the southbound direction, with a reduction of 20% due to parking friction and 10% due to turning vehicle friction. In the northbound direction, a reduction of 10% was assumed due to turning vehicle friction at stop-controlled side streets. Along Highway 101, it was assumed that the reduction in roadway capacity for project alternatives will not be the same as that of the existing geometry. With the bike lanes proposed in the project design, a buffer is created between the travelling vehicles and vehicles either parking or turning. Therefore, for the project alternative scenarios in the southbound direction, the reduction in base saturation flow rate was adjusted by 10% for parking friction and 5% due to turning vehicles at stop-controlled side streets, for a combined total of 15%. In the northbound direction, a reduction of 5% was assumed due to turning vehicle friction. For La Costa Avenue a reduction of 10% was assumed due to turning vehicle friction in both directions and for all scenarios.

The peak hour directional volume of the segment was then divided by the adjusted capacity to determine the volume to capacity (v/c) ratio of the segment. This ratio was then compared to the LOS thresholds for segments defined in the SANTEC/ITE traffic study guideline to determine the LOS of the segment. The SANTEC/ITE LOS thresholds for segments is shown in Table 2 below:

Table 2
Segment Level of Service Thresholds Based on V/C Ratios

LOS	V/C Ratio
A	< 0.41
B	0.42 – 0.62
C	0.63 – 0.79
D	0.80 – 0.92
E	0.93 – 1.00
F	> 1.00

Appendix E

Excerpts from City of Encinitas General Plan Circulation Element

CIRCULATION ELEMENT

CITY OF ENCINITAS GENERAL PLAN

As Amended 8/25/93, 1/12/94 9/21/94 and 5/11/95

CIRCULATION ELEMENT GOALS AND POLICIES

The following goals and policies included in this Element address a wide range of issues concerning circulation in and through the City. More efficient movement of traffic on existing roadways, the establishment of standards for future roads, provision of other forms of transit, preservation of scenic highways, and improved coastal access are the major areas of concern of the following goals and policies.

Safe, Convenient, and Efficient Transportation System

The following goal and supporting policies emphasize the need to maintain a transportation system that is capable of handling the existing and projected traffic loads in the City. To achieve this end, a number of policies have been adopted that call for more efficient use of existing roadways by employing measures that improve the movement of traffic.

GOAL 1: Encinitas should have a transportation system that is safe, convenient and efficient, and sensitive to and compatible with surrounding community character. (Coastal Act/30252)

POLICY 1.1: Ensure that the arterial circulation system provides adequate connections across the freeway for convenient circulation and rapid emergency access.

POLICY 1.2: Endeavor to maintain Level of Service C as a basic design guideline for the local system of roadways understanding that the guideline may not be attainable in all cases.

POLICY 1.3: Prohibit development which results in Level of Service E or F at any intersection unless no alternatives exist and an overriding public need can be demonstrated.

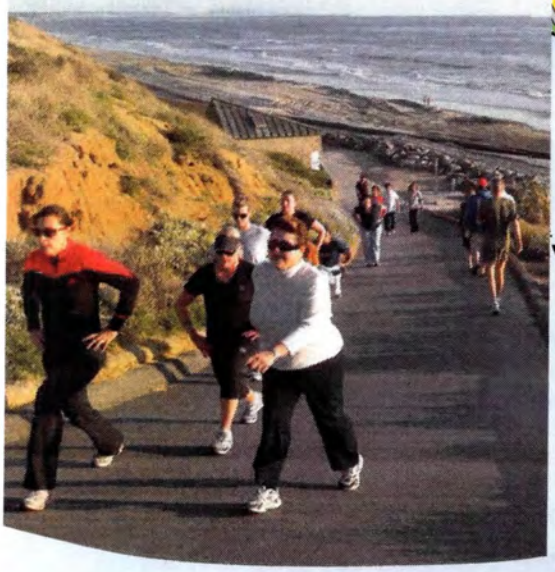
POLICY 1.4: Require, where feasible, interconnecting offstreet pedestrian and vehicular circulation between adjacent commercial and office land uses. This policy should be required along major transportation corridors to minimize traffic conflicts associated with pedestrian and vehicular movement to and from these properties. (Coastal Act/30252)

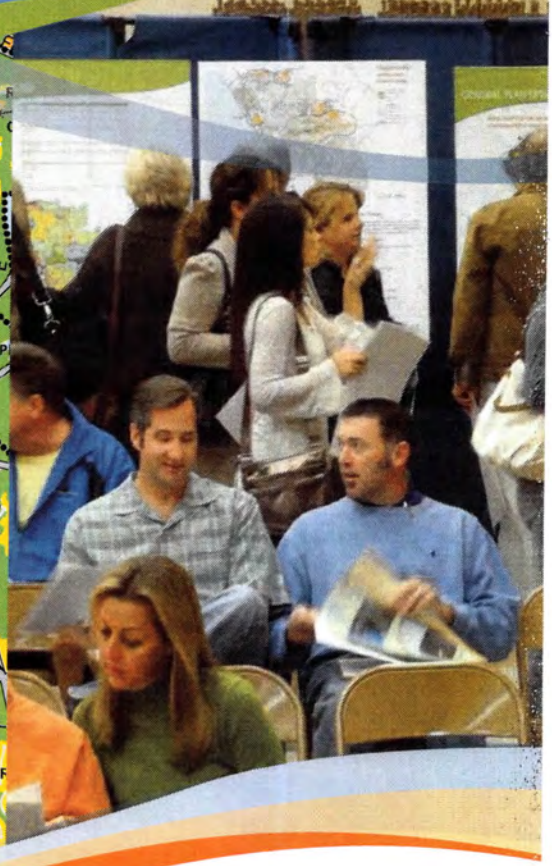
POLICY 1.5: Promote maximum utilization or expansion of existing freeways and prime arterials as an alternative to new freeway or highway construction. Encourage new and/or proposed freeway construction to be outside the Encinitas sphere of influence boundaries.

Appendix F

Excerpts from City of Carlsbad General Plan

City of Carlsbad
California





Carlsbad General Plan

September 2015

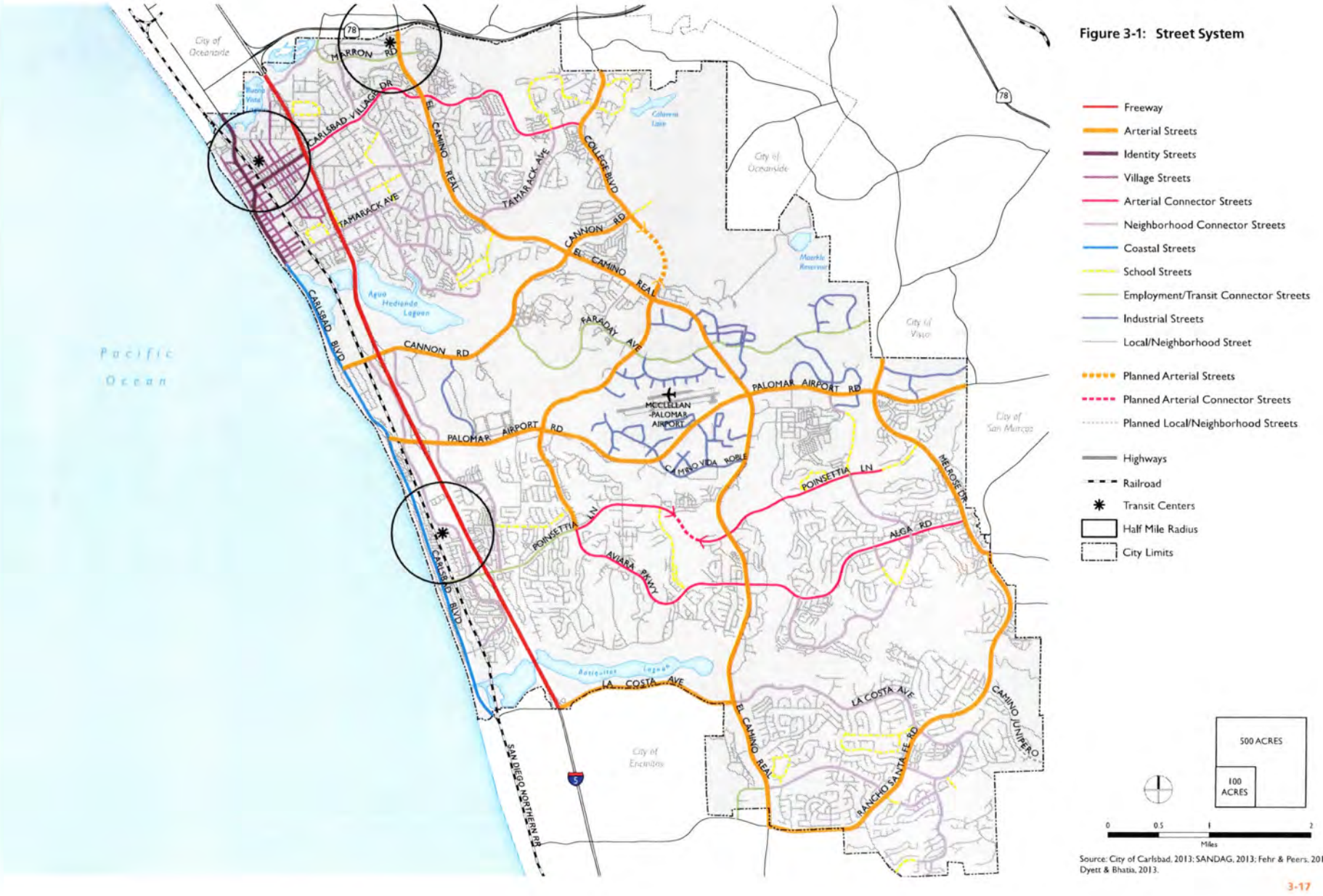
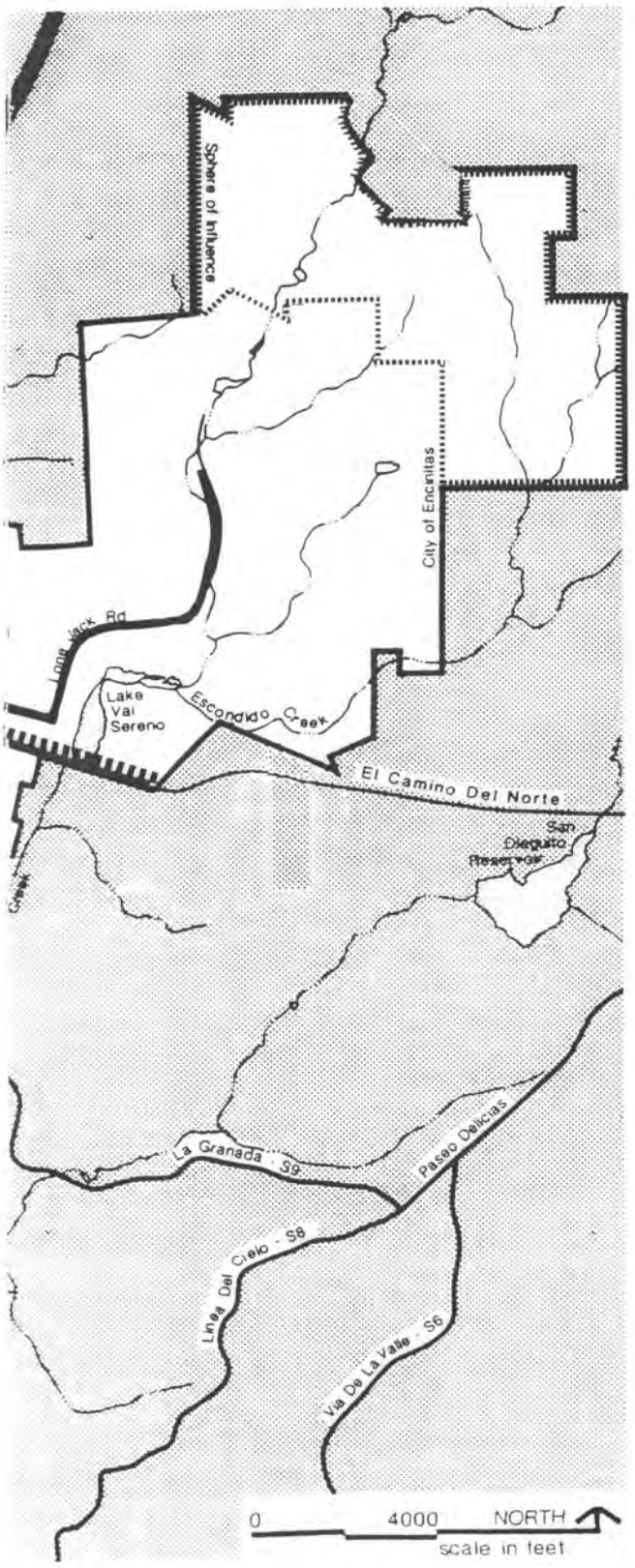


Figure 3-1: Street System
Freeway
Arterial Streets
Identity Streets
Village Streets
Arterial Connector Streets
Neighborhood Connector Streets
Coastal Streets
School Streets
Employment/Transit Connector Streets
Industrial Streets
Local/Neighborhood Street
Planned Arterial Streets
Planned Arterial Connector Streets
Planned Local/Neighborhood Streets
Highways
Railroad
Transit Centers
Half Mile Radius
City Limits
500 ACRES
100 ACRES
0 0.5 1 2
Miles
Source: City of Carlsbad, 2013; SANDAG, 2013; Fehr & Peers, 2013; Dyett & Bhatia, 2013.
3-17
Pacific Ocean
City of Oceanside
City of Vista
City of San Marcos
City of Encinitas
MARRON RD
CARLSBAD VILLAGE DR
EL CAMINO REAL
TAMARACK AVE
COLLEGE BLVD
CANNON RD
FARADAY AVE
PALOMAR AIRPORT RD
MCCLELLAN-PALOMAR AIRPORT
CAMINO VIDA ROBLE
POINSETTIA LN
MELROSE DR
ALGA RD
AVIARA PKWY
CARLSBAD BLVD
LA COSTA AVE
CAMINO JUNIPERO
RANCHO SANTA FE RD
SAN DIEGO NORTHERN RR
Agua Hedionda Lagoon
Buena Vista Lagoon
Batiquitos Lagoon
Maerkle Reservoir
Calavera Lake
78
5

Appendix G

Excerpts from City of Encinitas Circulation Plan

SOURCE: Austin-Foust Associates, Inc.



Freeway

Prime Arterial (6 Lanes)

Major (4 Lanes)

Collector (4 Lanes)

Local Street (2 Lanes)

Augmented Facility

Limited Facility

Interchange Reconstruction

NOTE: Leucadia Blvd. between Interstate 5 and El Camino Real designated as "Scenic Roadway" with 85 foot right-of-way (ROW)

Figure 2
Circulation Plan

Encinitas
General Plan
3/29/89

Appendix H

Count Data

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Avenida Encinas

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Avenida Encinas Eastbound			Avenida Encinas Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	36	11	5	224	0	0	0	0	41	0	3	320
7:15 AM	0	27	10	3	321	0	0	0	0	46	0	1	408
7:30 AM	0	53	12	2	247	0	0	0	0	35	0	1	350
7:45 AM	0	59	14	2	293	0	0	0	0	47	0	3	418
8:00 AM	0	57	29	1	237	0	0	0	0	45	0	1	370
8:15 AM	0	62	24	3	201	0	0	0	0	29	0	4	323
8:30 AM	0	42	15	8	167	0	0	0	0	25	0	2	259
8:45 AM	1	61	22	4	127	0	0	0	0	30	0	5	250
TOTAL VOLUMES:	1	397	137	28	1817	0	0	0	0	298	0	20	2698

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	196	65	8	1098	0	0	0	0	173	0	6	1546

PEAK HR FACTOR:	0.759	0.853	0.000	0.895	0.925

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Avenida Encinas Eastbound			Avenida Encinas Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	6	0	0	0	0	0	0	0	0	1	0	7
7:15 AM	0	2	0	0	0	0	0	2	0	0	1	0	5
7:30 AM	0	16	0	0	0	0	0	0	0	0	0	1	17
7:45 AM	0	4	1	0	0	0	0	0	0	0	0	0	5
8:00 AM	0	5	1	0	0	0	1	0	0	0	0	0	7
8:15 AM	0	5	0	0	0	0	0	1	0	0	0	0	6
8:30 AM	0	6	0	0	0	0	0	0	0	0	2	0	8
8:45 AM	0	10	1	0	0	0	0	0	0	0	0	0	11
TOTAL VOLUMES:	0	54	3	0	0	0	1	3	0	0	4	1	66

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	27	2	0	0	0	1	2	0	0	1	1	34

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Avenida Encinas East Leg	Avenida Encinas West Leg	TOTAL
7:00 AM	3	1	0	0	4
7:15 AM	1	6	0	0	7
7:30 AM	0	2	0	0	2
7:45 AM	1	2	0	0	3
8:00 AM	7	1	0	0	8
8:15 AM	2	2	0	0	4
8:30 AM	6	3	0	0	9
8:45 AM	1	0	0	0	1
TOTAL VOLUMES:	21	17	0	0	38

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	9	11	0	0	20

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Avenida Encinas

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:00 PM to 5:00 PM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Avenida Encinas Eastbound			Avenida Encinas Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	1	150	29	3	189	0	0	0	0	40	0	2	414
4:15 PM	0	155	43	0	111	0	0	0	0	33	0	3	345
4:30 PM	0	181	49	6	115	0	0	0	0	34	0	3	388
4:45 PM	1	154	46	4	93	0	0	0	0	25	0	3	326
5:00 PM	0	197	36	5	100	0	0	0	0	18	0	3	359
5:15 PM	0	179	34	5	96	0	0	0	0	27	0	5	346
5:30 PM	0	149	33	1	84	0	0	0	0	13	0	2	282
5:45 PM	0	202	31	3	98	0	0	0	0	27	0	2	363
TOTAL VOLUMES:	2	1367	301	27	886	0	0	0	0	217	0	23	2823

PM Peak Hr Begins at: 400 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	2	640	167	13	508	0	0	0	0	132	0	11	1473

PEAK HR FACTOR:	0.879	0.678	0.000	0.851	0.889

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Avenida Encinas Eastbound			Avenida Encinas Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	4	1	0	0	0	0	0	0	0	0	0	5
4:45 PM	0	6	0	0	0	0	0	0	0	0	0	0	6
5:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
5:15 PM	0	4	0	0	0	1	0	0	0	0	0	0	5
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	16	3	0	0	1	0	1	0	0	0	0	21

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	10	3	0	0	0	0	0	0	0	0	0	13

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Avenida Encinas East Leg	Avenida Encinas West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	3	0	0	0	3
4:30 PM	3	0	0	1	4
4:45 PM	8	0	0	0	8
5:00 PM	2	4	0	0	6
5:15 PM	1	0	0	0	1
5:30 PM	2	4	0	0	6
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	19	8	0	1	28

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	14	0	0	1	15

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: La Costa Avenue

Date: 11/7/2019
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	26	39	51	201	0	0	0	0	69	0	20	406
7:15 AM	0	28	38	85	286	0	0	0	0	45	0	23	505
7:30 AM	0	41	38	52	262	0	0	0	0	67	0	18	478
7:45 AM	0	56	58	73	257	0	0	0	0	66	0	26	536
8:00 AM	0	42	56	55	197	0	0	0	0	63	0	35	448
8:15 AM	0	58	54	52	192	0	0	0	0	73	0	32	461
8:30 AM	0	38	45	51	165	0	0	0	0	74	0	19	392
8:45 AM	0	55	34	39	113	0	0	0	0	74	0	36	351
TOTAL VOLUMES:	0	344	362	458	1673	0	0	0	0	531	0	209	3577

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	167	190	265	1002	0	0	0	0	241	0	102	1967

PEAK HR FACTOR:	0.783	0.854	0.000	0.875	0.917

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	4	6
7:15 AM	0	1	0	0	1	0	0	0	0	1	0	0	3
7:30 AM	0	3	1	1	0	0	0	0	0	0	0	19	24
7:45 AM	0	3	0	0	1	0	0	0	0	0	0	1	5
8:00 AM	0	3	0	0	0	0	0	0	0	0	0	2	5
8:15 AM	0	8	0	1	1	0	0	0	0	0	0	0	10
8:30 AM	0	10	0	1	5	0	0	0	0	0	0	1	17
8:45 AM	0	7	2	1	2	0	0	0	0	1	0	0	13
TOTAL VOLUMES:	0	35	3	4	10	0	0	0	0	4	0	27	83

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	10	1	1	2	0	0	0	0	1	0	22	37

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	6	0	0	6
7:30 AM	0	1	1	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	7	0	0	7
8:30 AM	0	3	0	0	3
8:45 AM	0	2	0	0	2
TOTAL VOLUMES:	0	19	1	0	20

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	7	1	0	8

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: La Costa Avenue

Date: 11/7/2019
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **5:00 PM to 6:00 PM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	147	43	99	157	0	0	0	0	42	0	56	544
4:15 PM	0	132	55	60	93	0	0	0	0	70	0	71	481
4:30 PM	0	170	49	47	80	0	0	0	0	43	0	64	453
4:45 PM	0	138	50	48	58	0	0	0	0	54	0	72	420
5:00 PM	0	171	67	67	99	0	0	0	0	48	0	81	533
5:15 PM	0	146	58	65	77	0	0	0	0	49	0	59	454
5:30 PM	0	132	56	32	79	0	0	0	0	80	0	83	462
5:45 PM	0	156	54	35	82	0	0	0	0	49	0	81	457
TOTAL VOLUMES:	0	1192	432	453	725	0	0	0	0	435	0	567	3804

PM Peak Hr Begins at: 500 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	605	235	199	337	0	0	0	0	226	0	304	1906

PEAK HR FACTOR:	0.882	0.807	0.000	0.813	0.894

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	2	0	0	0	0	0	0	0	0	0	1	3
4:45 PM	0	4	2	1	0	0	0	0	0	0	0	0	7
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	9	4	2	0	0	0	0	0	0	0	1	16

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	2	1	1	0	0	0	0	0	0	0	0	4

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
4:00 PM	0	2	0	0	2
4:15 PM	0	0	0	0	0
4:30 PM	0	2	0	0	2
4:45 PM	0	3	1	0	4
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	8	1	0	9

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	1	0	0	1

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Bishops Gate

Date: 11/13/19
Day: WEDNESDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Bishops Gate Eastbound			Bishops Gate Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	2	57	0	4	277	2	11	0	4	0	0	0	357
7:15 AM	2	60	0	1	403	4	5	0	7	0	0	0	482
7:30 AM	2	93	0	8	436	3	8	0	9	0	0	0	559
7:45 AM	0	104	0	3	446	9	10	0	5	0	0	0	577
8:00 AM	4	119	0	0	332	10	9	0	7	0	0	0	481
8:15 AM	3	85	0	1	333	9	6	0	6	0	0	0	443
8:30 AM	1	101	0	1	365	14	8	0	9	0	0	0	499
8:45 AM	3	89	0	0	416	5	5	0	5	0	0	0	523
TOTAL VOLUMES:	17	708	0	18	3008	56	62	0	52	0	0	0	3921

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	8	376	0	12	1617	26	32	0	28	0	0	0	2099

PEAK HR FACTOR:	0.780	0.903	0.882	0.000	0.909

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Bishops Gate Eastbound			Bishops Gate Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	3	0	0	4	0	0	0	0	0	0	0	7
7:15 AM	0	2	0	0	4	1	0	0	0	0	0	0	7
7:30 AM	0	2	0	0	8	0	0	0	0	0	0	0	10
7:45 AM	0	2	0	0	6	0	0	0	0	0	0	0	8
8:00 AM	0	2	0	0	6	0	0	0	0	0	0	0	8
8:15 AM	0	6	0	0	4	0	0	0	0	0	0	0	10
8:30 AM	0	5	0	0	4	0	0	0	0	0	0	0	9
8:45 AM	0	11	0	0	1	0	0	0	1	0	0	0	13
TOTAL VOLUMES:	0	33	0	0	37	1	0	0	1	0	0	0	72

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	8	0	0	24	1	0	0	0	0	0	0	33

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Bishops Gate East Leg	Bishops Gate West Leg	TOTAL
7:00 AM	0	0	0	2	2
7:15 AM	0	0	0	2	2
7:30 AM	0	0	0	1	1
7:45 AM	0	0	0	1	1
8:00 AM	0	0	0	5	5
8:15 AM	0	0	0	1	1
8:30 AM	0	0	0	4	4
8:45 AM	0	0	0	1	1
TOTAL VOLUMES:	0	0	0	17	17

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	0	9	9

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Bishops Gate

Date: 11/13/19
Day: WEDNESDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:00 PM to 5:00 PM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Bishops Gate Eastbound			Bishops Gate Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	4	200	0	3	130	5	5	0	5	0	0	0	352
4:15 PM	4	179	0	1	126	12	12	0	4	0	0	0	338
4:30 PM	4	197	0	1	130	1	6	0	4	0	0	0	343
4:45 PM	5	192	0	0	128	8	8	0	4	0	0	0	345
5:00 PM	6	189	0	2	133	11	4	0	2	0	0	0	347
5:15 PM	2	180	0	1	135	13	2	0	1	0	0	0	334
5:30 PM	4	210	0	0	114	6	1	0	2	0	0	0	337
5:45 PM	3	148	0	3	113	8	3	0	5	0	0	0	283
TOTAL VOLUMES:	32	1495	0	11	1009	64	41	0	27	0	0	0	2679

PM Peak Hr Begins at: 400 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	17	768	0	5	514	26	31	0	17	0	0	0	1378

PEAK HR FACTOR:	0.962	0.980	0.750	0.000	0.979

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Bishops Gate Eastbound			Bishops Gate Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	9	0	0	6	0	0	0	0	0	0	0	15
4:15 PM	0	7	0	0	9	1	0	0	0	0	0	0	17
4:30 PM	0	0	0	0	7	0	0	0	0	0	0	0	7
4:45 PM	0	3	0	0	3	1	0	0	0	0	0	0	7
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	20	0	0	27	2	0	0	0	0	0	0	49

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	19	0	0	25	2	0	0	0	0	0	0	46

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Bishops Gate East Leg	Bishops Gate West Leg	TOTAL
4:00 PM	0	1	0	2	3
4:15 PM	0	0	0	1	1
4:30 PM	0	3	0	1	4
4:45 PM	0	3	0	0	3
5:00 PM	0	0	0	4	4
5:15 PM	0	2	0	2	4
5:30 PM	0	2	0	0	2
5:45 PM	0	3	0	1	4
TOTAL VOLUMES:	0	14	0	11	25

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	7	0	4	11

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Grandview Street

Date: 11/13/19
Day: WEDNESDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Grandview Street Eastbound			Grandview Street Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	3	56	0	1	277	12	3	0	7	0	0	0	359
7:15 AM	3	54	0	1	394	9	5	0	7	0	0	0	473
7:30 AM	2	84	0	1	414	2	10	0	12	0	0	0	525
7:45 AM	2	92	0	1	466	5	6	0	7	0	0	0	579
8:00 AM	2	106	0	4	335	10	12	0	8	0	0	0	477
8:15 AM	2	79	0	1	335	4	13	0	11	0	0	0	445
8:30 AM	0	90	0	0	350	8	7	0	6	0	0	0	461
8:45 AM	3	84	0	2	416	6	7	0	19	0	0	0	537
TOTAL VOLUMES:	17	645	0	11	2987	56	63	0	77	0	0	0	3856

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	9	336	0	7	1609	26	33	0	34	0	0	0	2054

PEAK HR FACTOR:	0.799	0.870	0.761	0.000	0.887

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Grandview Street Eastbound			Grandview Street Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	2	0	0	6	0	0	0	0	0	0	0	8
7:15 AM	0	2	0	0	6	0	1	0	0	0	0	0	9
7:30 AM	0	1	0	0	6	1	0	0	0	0	0	0	8
7:45 AM	0	1	0	0	5	0	0	0	0	0	0	0	6
8:00 AM	0	3	0	0	4	0	0	0	0	0	0	0	7
8:15 AM	0	2	0	0	4	0	0	0	0	0	0	0	6
8:30 AM	0	3	0	0	5	0	0	0	0	0	0	0	8
8:45 AM	0	6	0	0	0	1	2	0	0	0	0	0	9
TOTAL VOLUMES:	0	20	0	0	36	2	3	0	0	0	0	0	61

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	7	0	0	21	1	1	0	0	0	0	0	30

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Grandview Street East Leg	Grandview Street West Leg	TOTAL
7:00 AM	3	0	0	1	4
7:15 AM	3	0	0	0	3
7:30 AM	7	0	0	8	15
7:45 AM	4	0	0	3	7
8:00 AM	0	0	0	0	0
8:15 AM	2	0	0	0	2
8:30 AM	0	0	0	1	1
8:45 AM	1	0	0	0	1
TOTAL VOLUMES:	20	0	0	13	33

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	14	0	0	11	25

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Grandview Street

Date: 11/13/19
Day: WEDNESDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:30 PM to 5:30 PM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Grandview Street Eastbound			Grandview Street Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	1	203	0	0	125	9	3	0	18	0	0	0	359
4:15 PM	6	176	0	0	125	4	4	0	7	0	0	0	322
4:30 PM	3	204	0	0	127	3	4	0	9	0	0	0	350
4:45 PM	3	193	0	1	129	2	7	0	17	0	0	0	352
5:00 PM	0	181	0	0	128	4	11	0	11	0	0	0	335
5:15 PM	1	169	0	1	136	4	15	0	20	0	0	0	346
5:30 PM	3	200	0	2	118	2	2	0	9	0	0	0	336
5:45 PM	1	147	0	0	110	6	4	0	11	0	0	0	279
TOTAL VOLUMES:	18	1473	0	4	998	34	50	0	102	0	0	0	2679

PM Peak Hr Begins at: 430 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	7	747	0	2	520	13	37	0	57	0	0	0	1383

PEAK HR FACTOR:	0.911	0.949	0.671	0.000	0.982

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Grandview Street Eastbound			Grandview Street Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	8	0	0	5	1	0	0	0	0	0	0	14
4:15 PM	0	3	0	0	4	0	0	0	0	0	0	0	7
4:30 PM	0	1	0	0	15	0	0	0	0	0	0	0	16
4:45 PM	0	2	0	0	2	0	0	0	1	0	0	0	5
5:00 PM	0	5	0	0	3	0	0	0	0	0	0	0	8
5:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
5:30 PM	0	1	0	0	5	0	0	0	0	0	0	0	6
5:45 PM	0	3	0	0	7	0	0	0	0	0	0	0	10
TOTAL VOLUMES:	0	24	0	0	43	1	0	0	1	0	0	0	69

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	9	0	0	22	0	0	0	1	0	0	0	32

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Grandview Street East Leg	Grandview Street West Leg	TOTAL
4:00 PM	1	0	0	3	4
4:15 PM	4	0	0	4	8
4:30 PM	2	0	0	6	8
4:45 PM	1	0	0	2	3
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	8	0	0	17	25

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	3	0	0	9	12

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Sand Mobile Home Park

Date: 11/7/19
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Sand Mobile Home Park Eastbound			Sand Mobile Home Park Westbound			
	NL	NT	NR	S Uturn	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	86	0	4	279	0	0	0	2	0	0	0	371
7:15 AM	0	74	0	14	381	2	0	0	2	0	0	0	473
7:30 AM	0	74	0	13	417	1	0	0	2	0	0	0	507
7:45 AM	0	87	0	14	468	0	0	0	1	0	0	0	570
8:00 AM	0	93	0	13	337	0	0	0	0	0	0	0	443
8:15 AM	0	101	0	12	347	1	0	0	1	0	0	0	462
8:30 AM	0	98	0	14	344	0	0	0	1	0	0	0	457
8:45 AM	0	120	0	24	420	1	0	0	2	0	0	0	567
TOTAL VOLUMES:	0	733	0	108	2993	5	0	0	19	0	0	0	3858

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	S Uturn	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	328	0	54	1603	3	0	0	5	0	0	0	1993

PEAK HR FACTOR:	0.882	0.861	0.625	0.000	0.874

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Sand Mobile Home Park Eastbound			Sand Mobile Home Park Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	10
7:15 AM	0	11	0	0	5	0	0	0	0	0	0	0	16
7:30 AM	0	5	0	0	11	0	0	0	0	0	0	0	16
7:45 AM	0	2	0	0	8	0	0	0	0	0	0	0	10
8:00 AM	0	27	0	0	10	0	0	0	0	0	0	0	37
8:15 AM	0	10	0	0	8	0	0	0	0	0	0	0	18
8:30 AM	0	8	0	0	3	0	0	0	0	0	0	0	11
8:45 AM	0	9	0	0	8	0	0	0	0	0	0	0	17
TOTAL VOLUMES:	0	77	0	0	58	0	0	0	0	0	0	0	135

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	45	0	0	34	0	0	0	0	0	0	0	79

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Sand Mobile Home Park East Leg	Sand Mobile Home Park West Leg	TOTAL
7:00 AM	8	0	0	0	8
7:15 AM	2	0	0	0	2
7:30 AM	4	0	0	0	4
7:45 AM	0	0	0	0	0
8:00 AM	6	0	0	0	6
8:15 AM	5	0	0	0	5
8:30 AM	3	0	0	0	3
8:45 AM	8	0	0	0	8
TOTAL VOLUMES:	36	0	0	0	36

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	12	0	0	0	12

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Sand Mobile Home Park

Date: 11/7/19
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:30 PM to 5:30 PM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Sand Mobile Home Park Eastbound			Sand Mobile Home Park Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	191	0	17	131	2	0	0	5	0	0	0	346
4:15 PM	1	183	0	15	124	3	0	0	1	0	0	0	327
4:30 PM	3	206	0	19	119	2	0	0	4	0	0	0	353
4:45 PM	1	194	0	22	135	1	0	0	3	0	0	0	356
5:00 PM	0	187	0	13	117	4	0	0	3	0	0	0	324
5:15 PM	2	205	0	17	124	1	0	0	1	0	0	0	350
5:30 PM	1	193	0	10	109	1	0	0	2	0	0	0	316
5:45 PM	1	167	0	15	113	1	0	0	1	0	0	0	298
TOTAL VOLUMES:	9	1526	0	128	972	15	0	0	20	0	0	0	2670

PM Peak Hr Begins at: 430 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	6	792	0	71	495	8	0	0	11	0	0	0	1383

PEAK HR FACTOR:	0.955	0.908	0.688	0.000	0.971

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Sand Mobile Home Park Eastbound			Sand Mobile Home Park Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	3	0	0	5	0	0	0	0	0	0	0	8
4:15 PM	0	4	0	0	3	0	0	0	0	0	0	0	7
4:30 PM	0	2	0	0	8	0	0	0	0	0	0	0	10
4:45 PM	0	2	0	0	4	0	0	0	0	0	0	0	6
5:00 PM	0	7	0	0	4	0	0	0	0	0	0	0	11
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:30 PM	0	5	0	0	5	0	0	0	0	0	0	0	10
5:45 PM	0	4	0	0	2	0	0	0	0	0	0	0	6
TOTAL VOLUMES:	0	28	0	0	32	0	0	0	0	0	0	0	60

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	12	0	0	17	0	0	0	0	0	0	0	29

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Sand Mobile Home Park East Leg	Sand Mobile Home Park West Leg	TOTAL
4:00 PM	3	0	0	0	3
4:15 PM	1	0	0	0	1
4:30 PM	5	0	0	0	5
4:45 PM	2	0	0	0	2
5:00 PM	1	0	0	0	1
5:15 PM	1	0	0	0	1
5:30 PM	4	0	0	0	4
5:45 PM	2	0	0	0	2
TOTAL VOLUMES:	19	0	0	0	19

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	9	0	0	0	9

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Jupiter Street

Date: 11/13/19
Day: WEDNESDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Jupiter Street Eastbound			Jupiter Street Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	1	32	0	1	283	1	5	0	6	0	0	0	329
7:15 AM	2	41	0	2	385	0	2	0	2	0	0	0	434
7:30 AM	4	62	0	1	417	2	3	0	8	0	0	0	497
7:45 AM	3	73	0	4	430	2	9	0	10	0	0	0	531
8:00 AM	4	66	0	12	374	6	5	0	7	0	0	0	474
8:15 AM	8	58	0	4	344	4	6	0	2	0	0	0	426
8:30 AM	1	73	0	3	331	7	4	0	5	0	0	0	424
8:45 AM	7	48	0	1	370	7	4	0	9	0	0	0	446
TOTAL VOLUMES:	30	453	0	28	2934	29	38	0	49	0	0	0	3561

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	13	242	0	19	1606	10	19	0	27	0	0	0	1936

PEAK HR FACTOR:	0.839	0.938	0.605	0.000	0.911

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Jupiter Street Eastbound			Jupiter Street Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	3	0	0	7	0	0	0	0	0	0	0	10
7:15 AM	0	2	0	0	3	0	0	0	0	0	0	0	5
7:30 AM	0	1	0	0	6	0	0	0	0	0	0	0	7
7:45 AM	0	2	0	0	10	0	0	0	0	0	0	0	12
8:00 AM	0	2	0	0	6	1	0	0	0	0	0	0	9
8:15 AM	0	2	0	0	4	0	0	0	0	0	0	0	6
8:30 AM	1	4	0	0	5	0	0	0	0	0	0	0	10
8:45 AM	1	7	0	0	1	0	0	0	0	0	0	0	9
TOTAL VOLUMES:	2	23	0	0	42	1	0	0	0	0	0	0	68

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	7	0	0	25	1	0	0	0	0	0	0	33

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Jupiter Street East Leg	Jupiter Street West Leg	TOTAL
7:00 AM	1	0	0	6	7
7:15 AM	1	0	0	1	2
7:30 AM	1	0	0	3	4
7:45 AM	0	0	0	1	1
8:00 AM	2	0	0	4	6
8:15 AM	0	0	0	4	4
8:30 AM	1	0	0	0	1
8:45 AM	1	0	0	8	9
TOTAL VOLUMES:	7	0	0	27	34

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	4	0	0	9	13

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Jupiter Street

Date: 11/13/19
Day: WEDNESDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:45 PM to 5:45 PM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Jupiter Street Eastbound			Jupiter Street Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	8	174	0	6	126	5	3	0	2	0	0	0	324
4:15 PM	5	155	0	6	116	7	3	0	2	0	0	0	294
4:30 PM	1	174	0	3	107	5	7	0	6	0	0	0	303
4:45 PM	5	175	0	1	124	8	4	0	4	0	0	0	321
5:00 PM	6	168	0	2	116	8	2	0	6	0	0	0	308
5:15 PM	10	173	0	3	125	11	4	0	2	0	0	0	328
5:30 PM	12	170	0	0	107	9	3	0	6	0	0	0	307
5:45 PM	7	143	0	5	111	8	1	0	1	0	0	0	276
TOTAL VOLUMES:	54	1332	0	26	932	61	27	0	29	0	0	0	2461

PM Peak Hr Begins at: 445 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	33	686	0	6	472	36	13	0	18	0	0	0	1264

PEAK HR FACTOR:	0.982	0.924	0.861	0.000	0.963

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Jupiter Street Eastbound			Jupiter Street Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	9	0	0	5	0	0	0	0	0	0	0	14
4:15 PM	0	6	0	0	7	0	0	0	0	0	0	0	13
4:30 PM	0	2	0	0	14	1	0	0	0	0	0	0	17
4:45 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	17	0	0	31	1	0	0	0	0	0	0	49

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	5	0	0	0	0	0	0	0	5

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Jupiter Street East Leg	Jupiter Street West Leg	TOTAL
4:00 PM	0	0	0	3	3
4:15 PM	0	0	0	3	3
4:30 PM	0	0	0	8	8
4:45 PM	0	0	0	5	5
5:00 PM	0	0	0	3	3
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	2	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	24	24

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	0	10	10

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Leucadia Boulevard

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:30 AM to 8:30 AM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Leucadia Boulevard Eastbound			Leucadia Boulevard Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	1	23	20	44	236	0	1	7	4	32	1	16	385
7:15 AM	0	28	14	59	324	0	4	19	6	39	4	16	513
7:30 AM	0	38	10	96	317	0	7	13	0	34	4	21	540
7:45 AM	1	48	22	110	284	0	3	15	3	51	7	25	569
8:00 AM	2	51	10	88	330	0	1	4	3	72	11	24	596
8:15 AM	2	35	15	90	326	1	0	6	3	52	1	26	557
8:30 AM	1	52	19	87	215	0	5	9	2	45	9	30	474
8:45 AM	0	45	17	127	257	0	1	11	2	37	7	21	525
TOTAL VOLUMES:	7	320	127	701	2289	1	22	84	23	362	44	179	4159

AM Peak Hr Begins at: 730 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	5	172	57	384	1257	1	11	38	9	209	23	96	2262

PEAK HR FACTOR:	0.824	0.982	0.690	0.766	0.949

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Leucadia Boulevard Eastbound			Leucadia Boulevard Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	2	0	0	6	0	0	2	2	0	0	0	12
7:15 AM	0	2	0	0	1	0	0	1	0	1	0	0	5
7:30 AM	0	0	0	0	1	0	2	0	0	0	0	1	4
7:45 AM	0	0	0	1	5	0	0	4	3	2	1	0	16
8:00 AM	0	1	0	0	3	0	0	0	0	0	0	1	5
8:15 AM	0	4	0	0	5	0	0	0	0	1	0	0	10
8:30 AM	0	3	0	0	2	0	0	0	0	0	0	1	6
8:45 AM	0	14	0	0	2	0	0	0	0	0	0	0	16
TOTAL VOLUMES:	0	26	0	1	25	0	2	7	5	4	1	3	74

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	5	0	1	14	0	2	4	3	3	1	2	35

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Leucadia Boulevard East Leg	Leucadia Boulevard West Leg	TOTAL
7:00 AM	3	0	0	1	4
7:15 AM	3	0	0	2	5
7:30 AM	9	0	0	1	10
7:45 AM	6	0	0	6	12
8:00 AM	3	0	0	0	3
8:15 AM	6	0	0	3	9
8:30 AM	9	0	0	1	10
8:45 AM	9	0	0	5	14
TOTAL VOLUMES:	48	0	0	19	67

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	24	0	0	10	34

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Coast Highway
E/W: Leucadia Boulevard

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:00 PM to 5:00 PM**

Vehicle Counts

	Coast Highway Northbound			Coast Highway Southbound			Leucadia Boulevard Eastbound			Leucadia Boulevard Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	2	142	44	70	127	0	9	15	4	46	7	43	509
4:15 PM	2	159	45	73	112	0	2	7	2	37	6	47	492
4:30 PM	0	146	43	53	96	1	6	10	3	38	8	40	444
4:45 PM	3	148	36	67	76	2	6	13	4	44	9	48	456
5:00 PM	2	139	46	63	82	0	6	9	3	45	5	45	445
5:15 PM	0	175	47	70	91	0	7	15	6	44	5	41	501
5:30 PM	3	164	49	52	90	0	5	8	4	42	5	64	486
5:45 PM	4	139	35	50	99	0	8	13	3	44	2	30	427
TOTAL VOLUMES:	16	1212	345	498	773	3	49	90	29	340	47	358	3760

PM Peak Hr Begins at: 400 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	7	595	168	263	411	3	23	45	13	165	30	178	1901

PEAK HR FACTOR:	0.934	0.859	0.723	0.923	0.934

Bicycle Counts

	Coast Highway Northbound			Coast Highway Southbound			Leucadia Boulevard Eastbound			Leucadia Boulevard Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	3	0	0	0	0	0	2	0	5
4:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	2
4:30 PM	0	5	0	0	6	0	0	1	0	0	1	0	13
4:45 PM	0	2	1	0	3	0	0	0	0	0	1	0	7
5:00 PM	1	2	0	0	0	0	0	1	0	1	0	0	5
5:15 PM	0	0	3	0	0	0	0	0	0	0	1	0	4
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	1	9	5	0	12	0	0	4	0	2	5	0	38

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	7	2	0	12	0	0	1	0	1	4	0	27

Pedestrian Counts

	Coast Highway North Leg	Coast Highway South Leg	Leucadia Boulevard East Leg	Leucadia Boulevard West Leg	TOTAL
4:00 PM	7	0	0	0	7
4:15 PM	4	0	0	2	6
4:30 PM	10	0	0	4	14
4:45 PM	6	0	0	3	9
5:00 PM	13	0	0	6	19
5:15 PM	4	0	0	5	9
5:30 PM	1	0	0	8	9
5:45 PM	15	0	0	12	27
TOTAL VOLUMES:	60	0	0	40	100

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	27	0	0	9	36

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: N Vulcan Avenue
E/W: La Costa Avenue

Date: 11/7/2019
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:45 AM to 8:45 AM**

Vehicle Counts

	N Vulcan Avenue Northbound			N Vulcan Avenue Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	7	0	38	0	0	0	0	74	13	35	77	0	244
7:15 AM	7	0	33	0	0	0	0	95	26	39	63	0	263
7:30 AM	6	0	42	0	0	0	0	68	21	41	77	0	255
7:45 AM	9	0	44	0	1	0	0	112	24	35	82	0	307
8:00 AM	9	0	34	0	0	0	0	97	15	34	98	0	287
8:15 AM	8	0	33	0	0	0	0	82	22	45	92	0	282
8:30 AM	8	0	32	0	0	0	0	78	16	35	88	0	257
8:45 AM	8	0	33	0	0	0	0	58	20	44	104	0	267
TOTAL VOLUMES:	62	0	289	0	1	0	0	664	157	308	681	0	2162

AM Peak Hr Begins at: 745 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	34	0	143	0	1	0	0	369	77	149	360	0	1133

PEAK HR FACTOR:	0.835	0.250	0.820	0.929	0.923

Bicycle Counts

	N Vulcan Avenue Northbound			N Vulcan Avenue Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	5
7:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:30 AM	0	0	1	0	0	0	0	2	0	0	19	0	22
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:45 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
TOTAL VOLUMES:	0	0	1	0	0	0	0	8	0	0	29	0	38

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	2	0	0	4	0	6

Pedestrian Counts

	N Vulcan Avenue North Leg	N Vulcan Avenue South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	2	1	0	1	4
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	3	0	0	3
8:30 AM	1	0	0	0	1
8:45 AM	0	2	0	0	2
TOTAL VOLUMES:	3	6	0	1	10

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	1	3	0	0	4

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: N Vulcan Avenue
E/W: La Costa Avenue

Date: 11/7/2019
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:45 PM to 5:45 PM**

Vehicle Counts

	N Vulcan Avenue Northbound			N Vulcan Avenue Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	21	0	44	0	0	0	0	130	17	37	93	0	342
4:15 PM	19	0	51	0	0	0	0	98	17	33	109	0	327
4:30 PM	20	0	47	0	0	0	0	87	12	28	86	0	280
4:45 PM	26	0	55	0	0	0	0	82	15	41	109	0	328
5:00 PM	16	0	39	0	0	0	0	112	20	31	121	0	339
5:15 PM	17	0	53	0	0	0	0	105	15	36	96	0	322
5:30 PM	23	0	42	0	0	0	0	78	14	30	125	0	312
5:45 PM	20	0	29	0	0	0	0	79	15	35	107	1	286
TOTAL VOLUMES:	162	0	360	0	0	0	0	771	125	271	846	1	2536

PM Peak Hr Begins at: 445 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	82	0	189	0	0	0	0	377	64	138	451	0	1301

PEAK HR FACTOR:	0.836	0.000	0.835	0.950	0.959

Bicycle Counts

	N Vulcan Avenue Northbound			N Vulcan Avenue Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	2	1	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	1	0	1	3	0	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
4:45 PM	0	0	0	0	0	0	0	4	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
5:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	10	2	1	6	0	19

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	7	1	0	1	0	9

Pedestrian Counts

	N Vulcan Avenue North Leg	N Vulcan Avenue South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
4:00 PM	0	2	0	0	2
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1
5:00 PM	0	1	0	0	1
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	4	1	0	5

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	2	1	0	3

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Sheridan Road
E/W: La Costa Avenue

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:30 AM to 8:30 AM**

Vehicle Counts

	Sheridan Road Northbound			Sheridan Road Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	2	0	11	0	0	0	0	109	0	14	106	0	242
7:15 AM	1	0	22	0	0	0	1	129	0	10	106	1	270
7:30 AM	3	0	28	0	0	0	0	117	2	22	112	0	284
7:45 AM	1	0	22	0	0	0	0	151	5	13	119	1	312
8:00 AM	4	0	15	0	0	0	0	128	3	20	139	1	310
8:15 AM	4	0	18	0	0	0	0	113	2	22	120	1	280
8:30 AM	0	0	17	0	0	0	0	101	6	9	127	1	261
8:45 AM	7	0	11	0	0	0	1	94	4	18	141	2	278
TOTAL VOLUMES:	22	0	144	0	0	0	2	942	22	128	970	7	2237

AM Peak Hr Begins at: 730 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	12	0	83	0	0	0	0	509	12	77	490	3	1186

PEAK HR FACTOR:	0.766	0.000	0.835	0.891	0.950

Bicycle Counts

	Sheridan Road Northbound			Sheridan Road Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	1	0	0	1	0	1	0	0	0	0	6	0	9
7:15 AM	1	0	0	1	0	0	0	1	0	0	0	0	3
7:30 AM	0	0	0	4	1	0	0	3	0	0	20	0	28
7:45 AM	0	0	0	0	0	1	0	0	0	0	1	0	2
8:00 AM	1	0	0	1	0	0	0	0	0	0	1	0	3
8:15 AM	0	0	0	1	0	1	0	0	1	0	0	0	3
8:30 AM	0	0	0	2	0	0	0	1	0	0	0	0	3
8:45 AM	0	0	1	2	0	1	0	3	0	0	0	0	7
TOTAL VOLUMES:	3	0	1	12	1	4	0	8	1	0	28	0	58

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	1	0	0	6	1	2	0	3	1	0	22	0	36

Pedestrian Counts

	Sheridan Road North Leg	Sheridan Road South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	2	0	2	4
8:30 AM	1	0	0	0	1
8:45 AM	0	0	0	2	2
TOTAL VOLUMES:	2	2	0	4	8

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	2	0	2	4

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Sheridan Road
E/W: La Costa Avenue

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:45 PM to 5:45 PM**

Vehicle Counts

	Sheridan Road Northbound			Sheridan Road Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	9	0	18	0	0	0	1	165	6	15	123	1	338
4:15 PM	9	1	22	0	0	0	0	148	5	21	127	2	335
4:30 PM	6	0	21	0	0	0	1	122	3	12	101	0	266
4:45 PM	2	0	6	0	0	0	0	142	1	16	152	0	319
5:00 PM	4	1	13	0	0	0	1	148	3	20	144	1	335
5:15 PM	5	0	18	0	0	0	2	150	4	10	142	2	333
5:30 PM	2	0	13	0	0	0	0	117	5	17	144	1	299
5:45 PM	4	0	13	0	0	0	1	104	0	19	142	1	284
TOTAL VOLUMES:	41	2	124	0	0	0	6	1096	27	130	1075	8	2509

PM Peak Hr Begins at: 445 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	13	1	50	0	0	0	3	557	13	63	582	4	1286

PEAK HR FACTOR:	0.696	0.000	0.918	0.966	0.960

Bicycle Counts

	Sheridan Road Northbound			Sheridan Road Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	1	1	0	1	0	2	0	0	0	0	5
4:15 PM	0	0	0	0	0	1	0	2	0	0	4	0	7
4:30 PM	0	0	0	0	0	0	0	1	0	1	2	0	4
4:45 PM	0	0	0	1	0	0	0	2	2	0	0	0	5
5:00 PM	0	0	0	0	0	3	0	1	0	0	1	0	5
5:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	1	4	0	6	0	8	2	1	7	0	29

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	3	0	3	0	3	2	0	1	0	12

Pedestrian Counts

	Sheridan Road North Leg	Sheridan Road South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	3	3
4:45 PM	0	0	0	2	2
5:00 PM	0	0	0	3	3
5:15 PM	1	0	0	0	1
5:30 PM	0	0	1	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	1	8	10

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	1	0	1	5	7

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: I-5 SB Ramps
E/W: La Costa Avenue

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:30 AM to 8:30 AM**

Vehicle Counts

	I-5 SB Ramps Northbound			I-5 SB Ramps Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	65	0	33	0	106	31	183	99	0	517
7:15 AM	0	0	0	98	0	36	0	124	28	175	89	0	550
7:30 AM	0	0	0	115	3	50	0	152	20	150	98	0	588
7:45 AM	0	0	0	141	1	36	0	168	23	112	109	0	590
8:00 AM	0	0	0	122	2	38	0	148	14	147	127	0	598
8:15 AM	0	0	0	114	4	43	0	125	25	138	107	0	556
8:30 AM	0	0	0	154	3	61	0	123	14	129	86	0	570
8:45 AM	0	0	0	115	1	71	0	100	19	137	97	0	540
TOTAL VOLUMES:	0	0	0	924	14	368	0	1046	174	1171	812	0	4509

AM Peak Hr Begins at: 730 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	492	10	167	0	593	82	547	441	0	2332

PEAK HR FACTOR:	0.000	0.940	0.884	0.901	0.975

Bicycle Counts

	I-5 SB Ramps Northbound			I-5 SB Ramps Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	4	0	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	16	0	16
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	4	0	0	0	0	4
TOTAL VOLUMES:	0	0	0	0	0	0	0	5	0	1	21	0	27

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	1	17	0	18

Pedestrian Counts

	I-5 SB Ramps North Leg	I-5 SB Ramps South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	1	0	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	1	1	0	0	2

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	1	0	0	0	1

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: I-5 SB Ramps
E/W: La Costa Avenue

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:45 PM to 5:45 PM**

Vehicle Counts

	I-5 SB Ramps Northbound			I-5 SB Ramps Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	125	0	42	0	119	71	166	97	0	620
4:15 PM	0	0	0	129	2	48	0	150	45	153	111	0	638
4:30 PM	0	0	0	119	1	31	0	127	25	186	97	0	586
4:45 PM	0	0	0	124	0	36	0	132	24	161	144	0	621
5:00 PM	0	0	0	133	1	40	0	140	20	162	123	0	619
5:15 PM	0	0	0	126	0	43	0	161	24	198	125	0	677
5:30 PM	0	0	0	114	0	39	0	123	20	184	133	0	613
5:45 PM	0	0	0	124	0	48	0	112	28	166	131	0	609
TOTAL VOLUMES:	0	0	0	994	4	327	0	1064	257	1376	961	0	4983

PM Peak Hr Begins at: 445 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	497	1	158	0	556	88	705	525	0	2530

PEAK HR FACTOR:	0.000	0.943	0.870	0.952	0.934

Bicycle Counts

	I-5 SB Ramps Northbound			I-5 SB Ramps Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	2	0	0	3	0	5
4:30 PM	0	0	0	0	1	0	0	1	0	0	2	0	4
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	9	0	0	5	0	15

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	3	0	0	0	0	3

Pedestrian Counts

	I-5 SB Ramps North Leg	I-5 SB Ramps South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	0	0	0

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: I-5 NB Ramps
E/W: La Costa Avenue

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	I-5 NB Ramps Northbound			I-5 NB Ramps Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	15	0	121	0	0	0	29	142	0	0	264	86	657
7:15 AM	17	0	187	0	0	0	32	192	0	0	238	101	767
7:30 AM	20	1	180	0	0	0	38	215	0	0	226	123	803
7:45 AM	16	0	178	0	0	0	45	257	0	0	204	127	827
8:00 AM	21	0	170	0	0	0	42	231	0	0	257	126	847
8:15 AM	17	1	135	0	0	0	51	183	0	0	226	126	739
8:30 AM	19	0	128	0	0	0	51	227	0	0	190	98	713
8:45 AM	14	0	145	0	0	0	46	171	0	0	214	120	710
TOTAL VOLUMES:	139	2	1244	0	0	0	334	1618	0	0	1819	907	6063

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	74	1	715	0	0	0	157	895	0	0	925	477	3244

PEAK HR FACTOR:	0.968	0.000	0.871	0.915	0.957

Bicycle Counts

	I-5 NB Ramps Northbound			I-5 NB Ramps Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	4	0	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	16	0	17
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	4	0	0	0	0	4
TOTAL VOLUMES:	0	0	0	0	0	0	0	6	0	0	23	0	29

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	1	0	0	19	0	20

Pedestrian Counts

	I-5 NB Ramps North Leg	I-5 NB Ramps South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	1	0	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	2	0	0	0	2

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	1	0	0	0	1

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: I-5 NB Ramps
E/W: La Costa Avenue

Date: 11/7
Day: THURSDAY
Project # 143-19780

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:45 PM to 5:45 PM**

Vehicle Counts

	I-5 NB Ramps Northbound			I-5 NB Ramps Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	23	1	163	0	0	0	35	213	0	0	240	118	793
4:15 PM	23	0	155	0	0	0	45	230	0	0	238	102	793
4:30 PM	14	2	166	0	0	0	31	213	0	0	263	112	801
4:45 PM	32	0	155	0	0	0	40	217	0	0	274	99	817
5:00 PM	33	0	156	0	0	0	39	231	0	0	259	110	828
5:15 PM	23	0	164	0	0	0	47	228	0	0	287	118	867
5:30 PM	35	1	164	0	0	0	38	200	0	0	277	87	802
5:45 PM	40	1	196	0	0	0	30	202	0	0	261	79	809
TOTAL VOLUMES:	223	5	1319	0	0	0	305	1734	0	0	2099	825	6510

PM Peak Hr Begins at: 445 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	123	1	639	0	0	0	164	876	0	0	1097	414	3314

PEAK HR FACTOR:	0.954	0.000	0.945	0.933	0.956

Bicycle Counts

	I-5 NB Ramps Northbound			I-5 NB Ramps Southbound			La Costa Avenue Eastbound			La Costa Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	3	0	0	1	0	4
4:15 PM	0	0	0	0	0	0	0	2	0	0	3	0	5
4:30 PM	0	0	0	0	0	0	0	1	0	0	3	0	4
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	10	0	0	8	0	18

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	4	0	0	1	0	5

Pedestrian Counts

	I-5 NB Ramps North Leg	I-5 NB Ramps South Leg	La Costa Avenue East Leg	La Costa Avenue West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	0	0	0

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

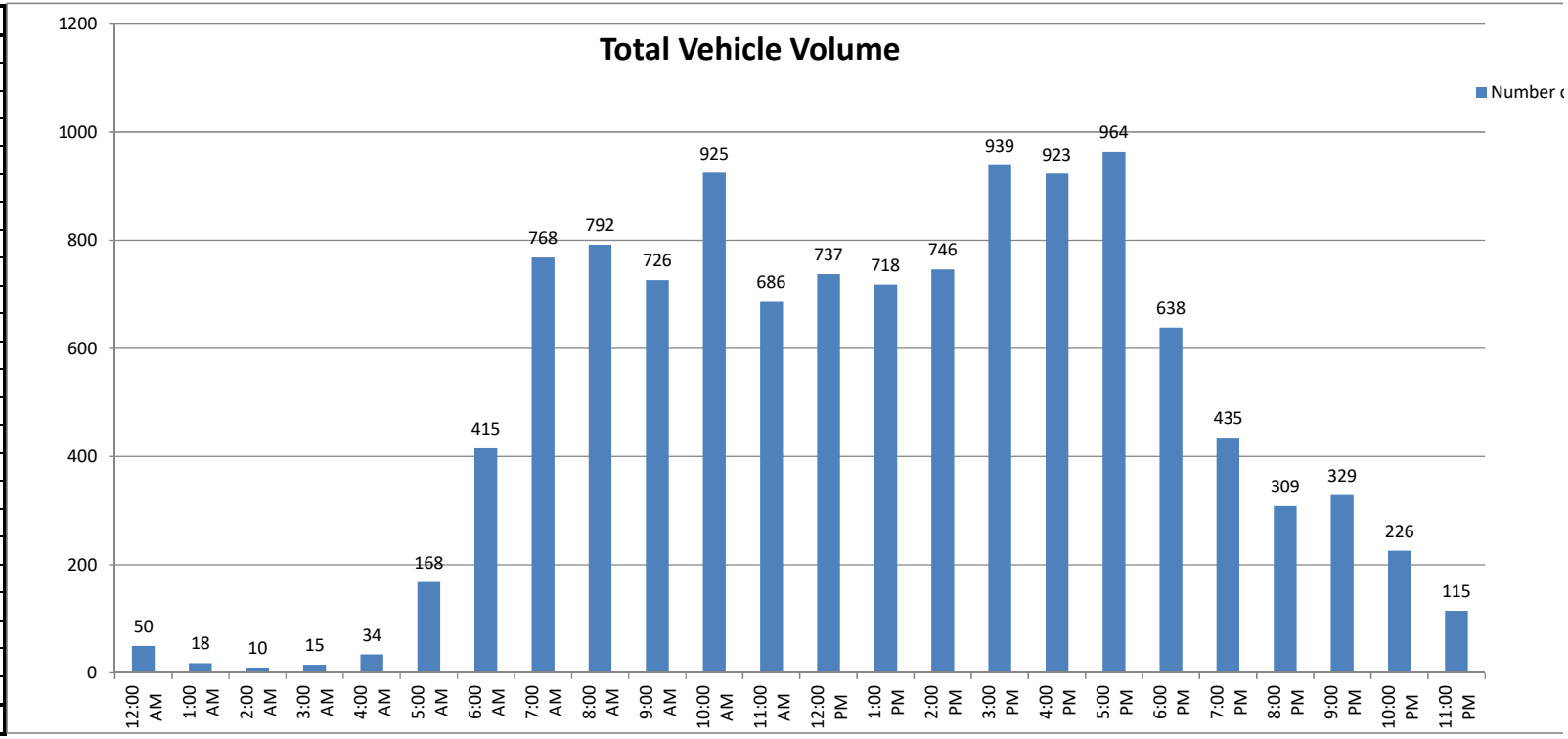
24 Hour Volume Plot

La Costa Avenue

B/ North Coast Highway 101 - North Vulcan Avenue

11/7/2019

Start Time	11/7/2019
12:00 AM	50
1:00 AM	18
2:00 AM	10
3:00 AM	15
4:00 AM	34
5:00 AM	168
6:00 AM	415
7:00 AM	768
8:00 AM	792
9:00 AM	726
10:00 AM	925
11:00 AM	686
12:00 PM	737
1:00 PM	718
2:00 PM	746
3:00 PM	939
4:00 PM	923
5:00 PM	964
6:00 PM	638
7:00 PM	435
8:00 PM	309
9:00 PM	329
10:00 PM	226
11:00 PM	115
Total	11686



Volumes represent the combined totals for both directions

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PO Box 1178
Corona, CA 92878

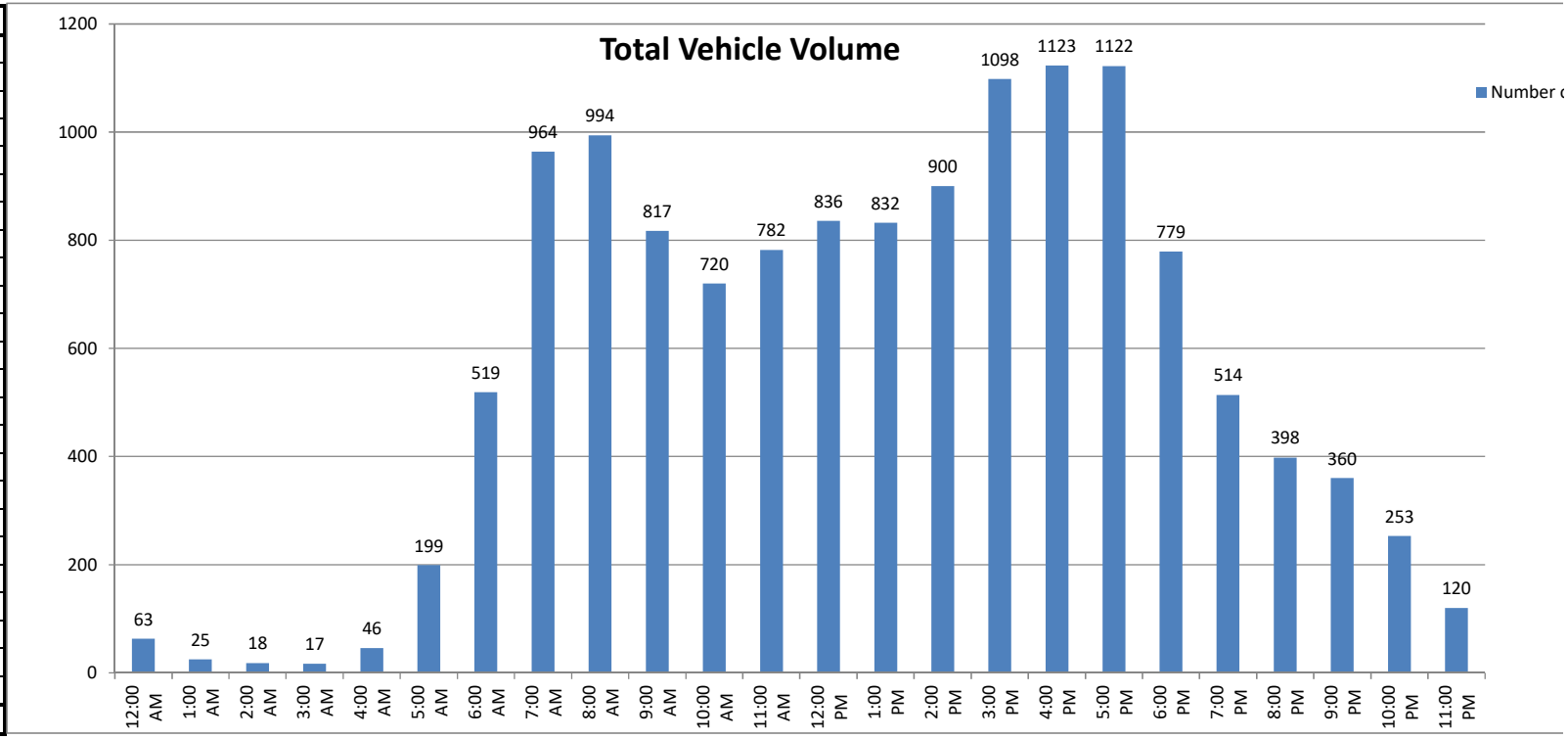
24 Hour Volume Plot

La Costa Avenue

B/ North Vulcan Avenue - Sheridan Road

11/7/2019

Start Time	11/7/2019
12:00 AM	63
1:00 AM	25
2:00 AM	18
3:00 AM	17
4:00 AM	46
5:00 AM	199
6:00 AM	519
7:00 AM	964
8:00 AM	994
9:00 AM	817
10:00 AM	720
11:00 AM	782
12:00 PM	836
1:00 PM	832
2:00 PM	900
3:00 PM	1098
4:00 PM	1123
5:00 PM	1122
6:00 PM	779
7:00 PM	514
8:00 PM	398
9:00 PM	360
10:00 PM	253
11:00 PM	120
Total	13499



Volumes represent the combined totals for both directions

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counts@countsunlimited.com
Phone: 951-268-6268

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Corona, CA 92878

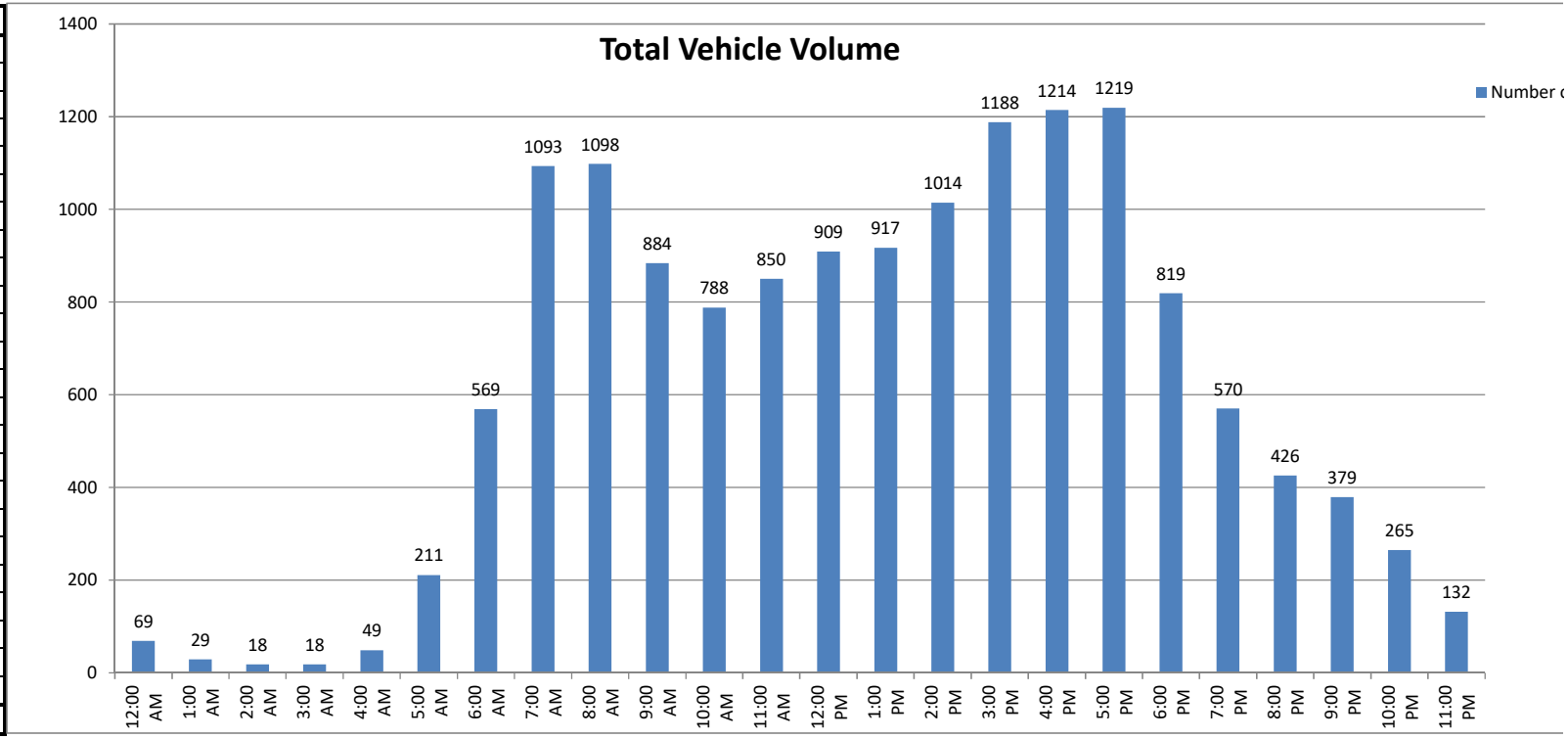
24 Hour Volume Plot

La Costa Avenue

B/ Sheridan Road - Interstate 5

11/7/2019

Start Time	11/7/2019
12:00 AM	69
1:00 AM	29
2:00 AM	18
3:00 AM	18
4:00 AM	49
5:00 AM	211
6:00 AM	569
7:00 AM	1093
8:00 AM	1098
9:00 AM	884
10:00 AM	788
11:00 AM	850
12:00 PM	909
1:00 PM	917
2:00 PM	1014
3:00 PM	1188
4:00 PM	1214
5:00 PM	1219
6:00 PM	819
7:00 PM	570
8:00 PM	426
9:00 PM	379
10:00 PM	265
11:00 PM	132
Total	14728



Volumes represent the combined totals for both directions

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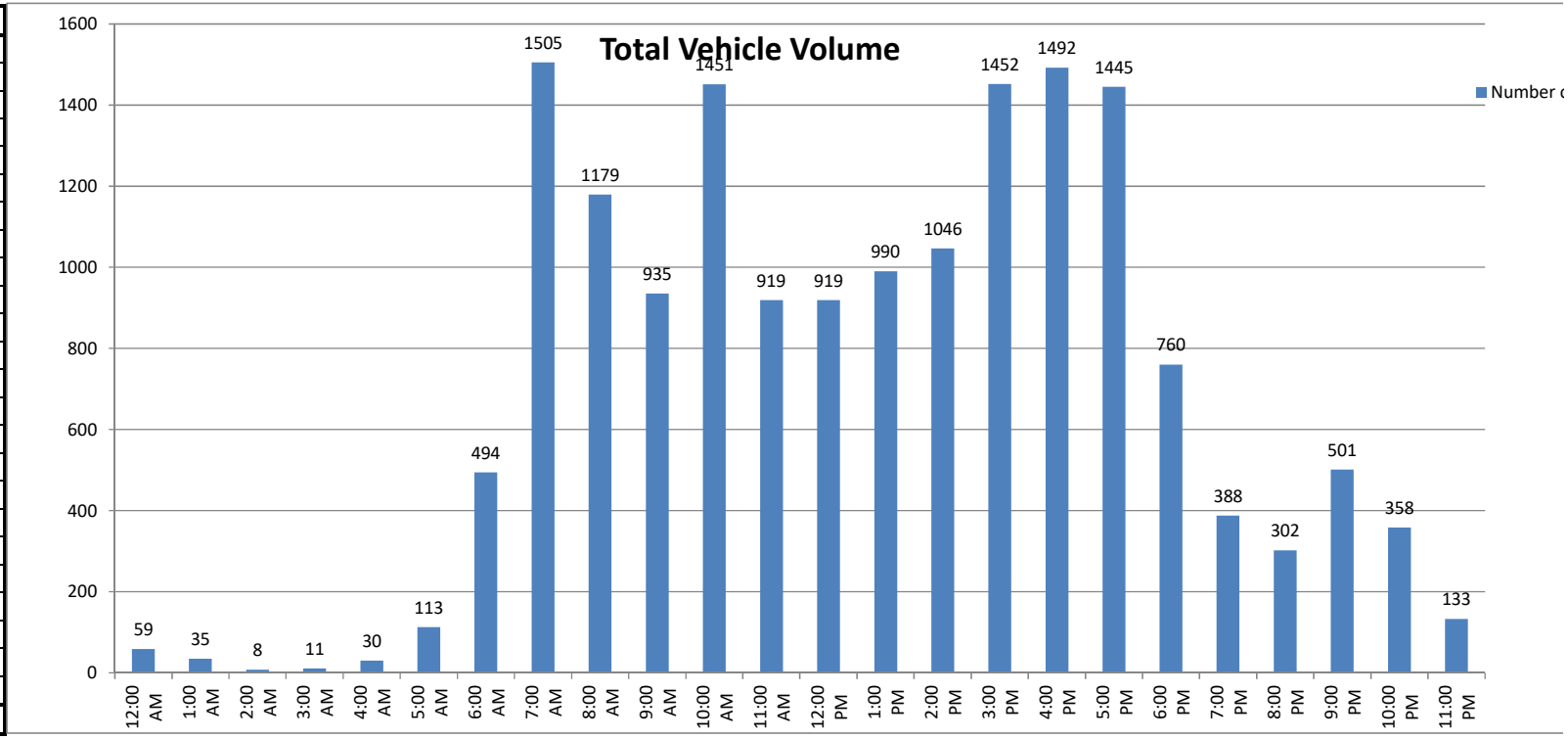
Corona, CA 92878

24 Hour Volume Plot

North Coast Highway 101
B/ Avenida Encinas - La Costa Avenue
11/7/2019

Start Time	11/7/2019
12:00 AM	59
1:00 AM	35
2:00 AM	8
3:00 AM	11
4:00 AM	30
5:00 AM	113
6:00 AM	494
7:00 AM	1505
8:00 AM	1179
9:00 AM	935
10:00 AM	1451
11:00 AM	919
12:00 PM	919
1:00 PM	990
2:00 PM	1046
3:00 PM	1452
4:00 PM	1492
5:00 PM	1445
6:00 PM	760
7:00 PM	388
8:00 PM	302
9:00 PM	501
10:00 PM	358
11:00 PM	133
Total	16525



Volumes represent the combined totals for both directions

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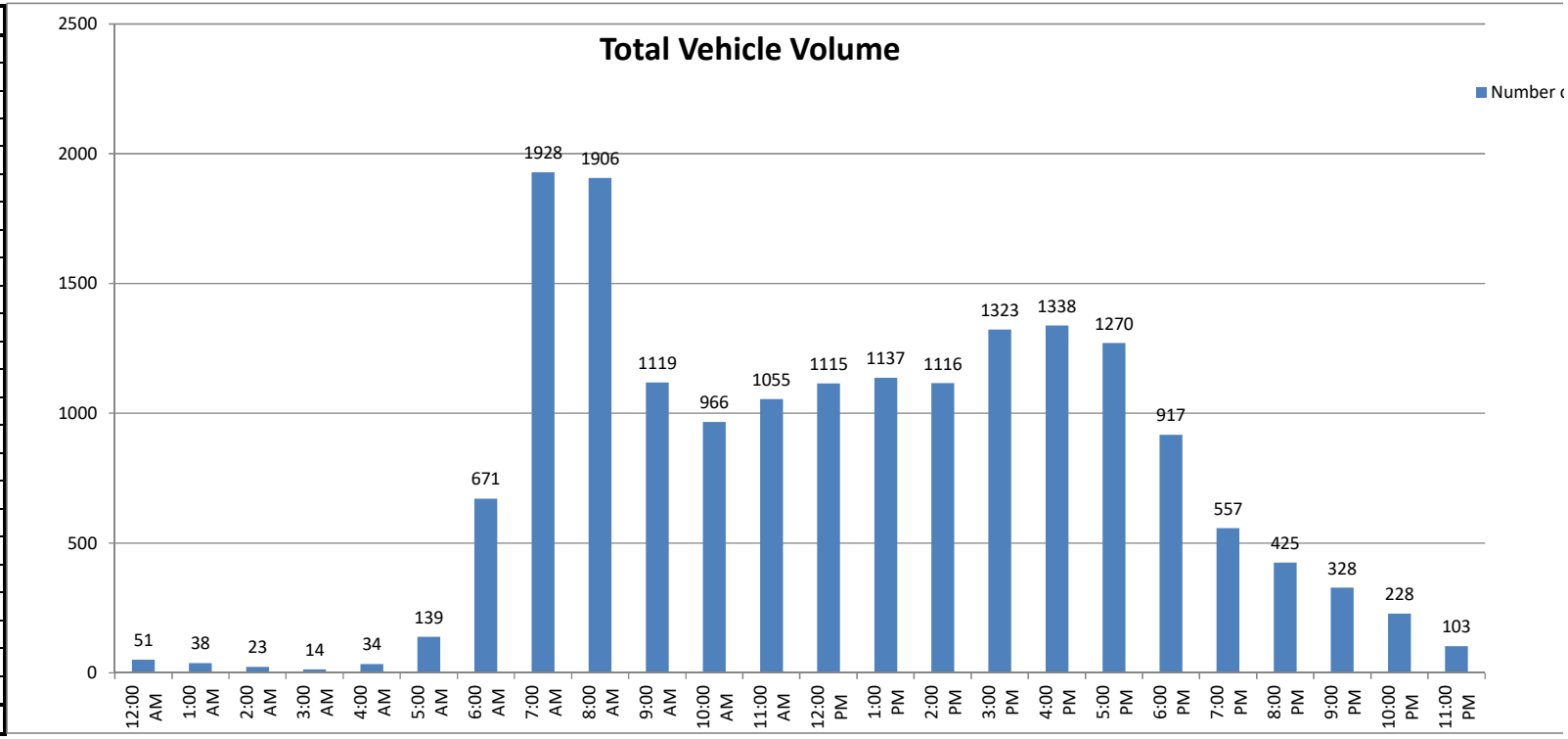
24 Hour Volume Plot

North Coast Highway 101

B/ La Costa Avenue - Bishops Gate Road

11/13/2019

Start Time	#########
12:00 AM	51
1:00 AM	38
2:00 AM	23
3:00 AM	14
4:00 AM	34
5:00 AM	139
6:00 AM	671
7:00 AM	1928
8:00 AM	1906
9:00 AM	1119
10:00 AM	966
11:00 AM	1055
12:00 PM	1115
1:00 PM	1137
2:00 PM	1116
3:00 PM	1323
4:00 PM	1338
5:00 PM	1270
6:00 PM	917
7:00 PM	557
8:00 PM	425
9:00 PM	328
10:00 PM	228
11:00 PM	103
Total	17801



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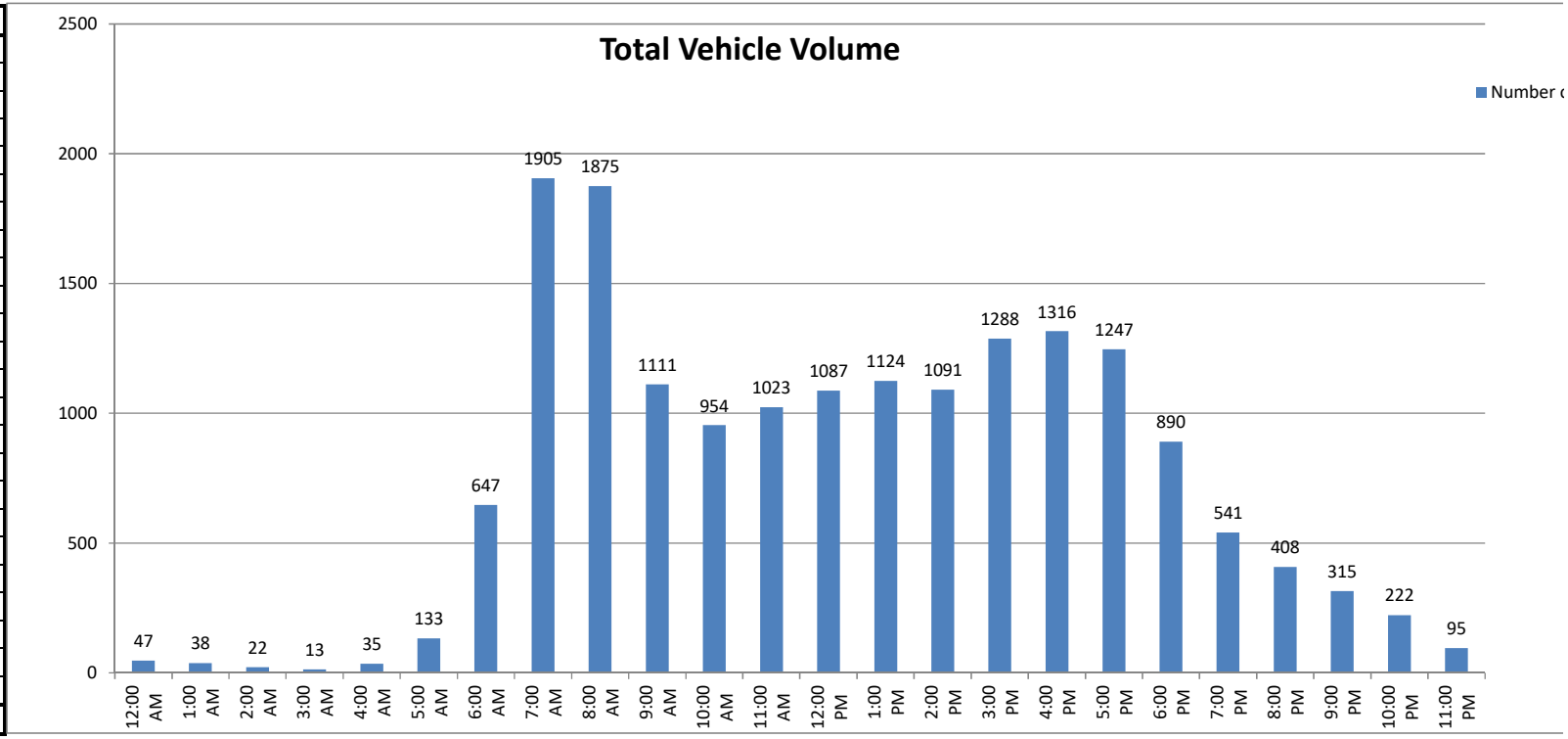
24 Hour Volume Plot

North Coast Highway 101
B/ Bishops Gate Road - Grandview Street
11/13/2019

Start Time	#########
12:00 AM	47
1:00 AM	38
2:00 AM	22
3:00 AM	13
4:00 AM	35
5:00 AM	133
6:00 AM	647
7:00 AM	1905
8:00 AM	1875
9:00 AM	1111
10:00 AM	954
11:00 AM	1023
12:00 PM	1087
1:00 PM	1124
2:00 PM	1091
3:00 PM	1288
4:00 PM	1316
5:00 PM	1247
6:00 PM	890
7:00 PM	541
8:00 PM	408
9:00 PM	315
10:00 PM	222
11:00 PM	95
Total	17427



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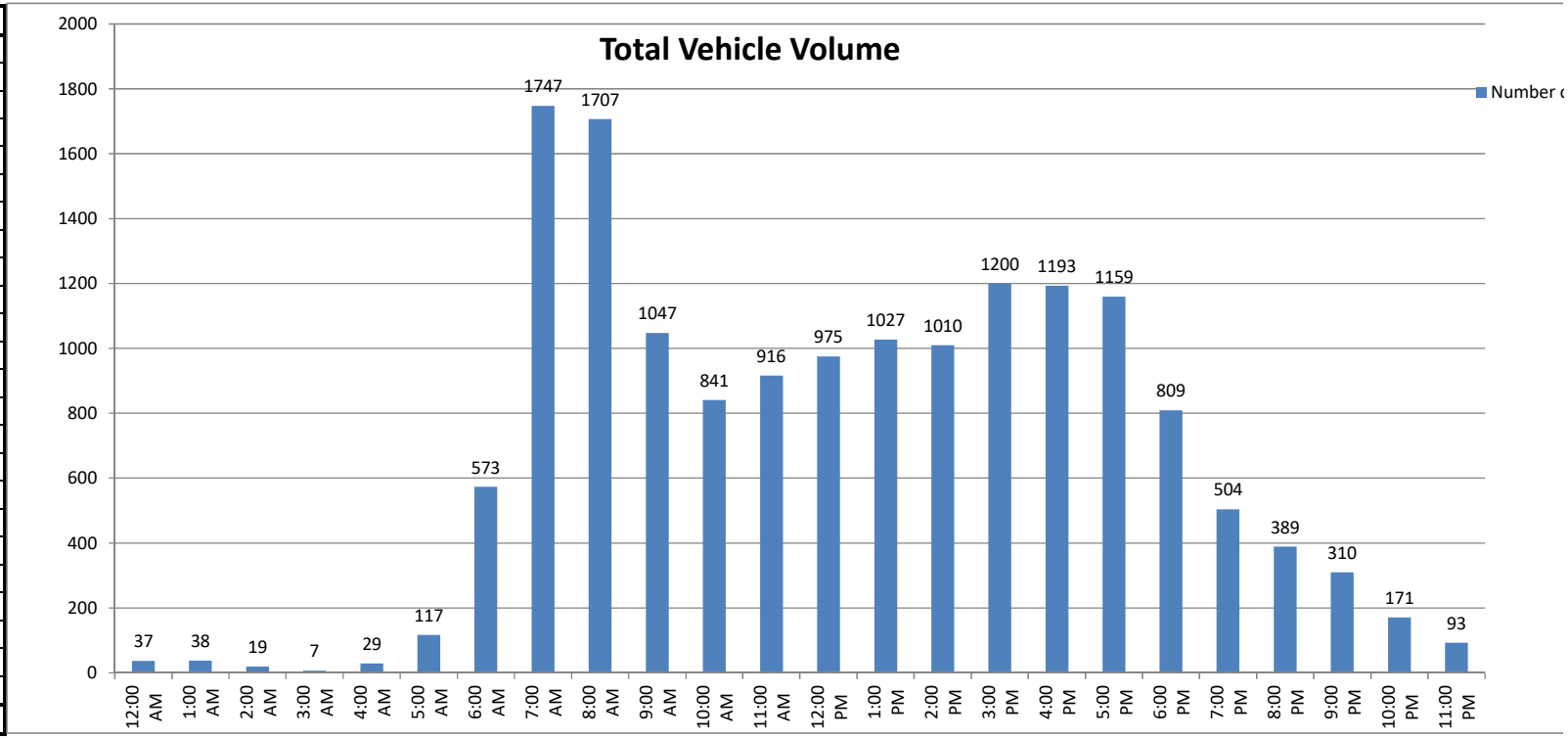
24 Hour Volume Plot

North Coast Highway 101

B/ Grandview Street - Jupiter Street

11/13/2019

Start Time	#########
12:00 AM	37
1:00 AM	38
2:00 AM	19
3:00 AM	7
4:00 AM	29
5:00 AM	117
6:00 AM	573
7:00 AM	1747
8:00 AM	1707
9:00 AM	1047
10:00 AM	841
11:00 AM	916
12:00 PM	975
1:00 PM	1027
2:00 PM	1010
3:00 PM	1200
4:00 PM	1193
5:00 PM	1159
6:00 PM	809
7:00 PM	504
8:00 PM	389
9:00 PM	310
10:00 PM	171
11:00 PM	93
Total	15918



Volumes represent the combined totals for both directions

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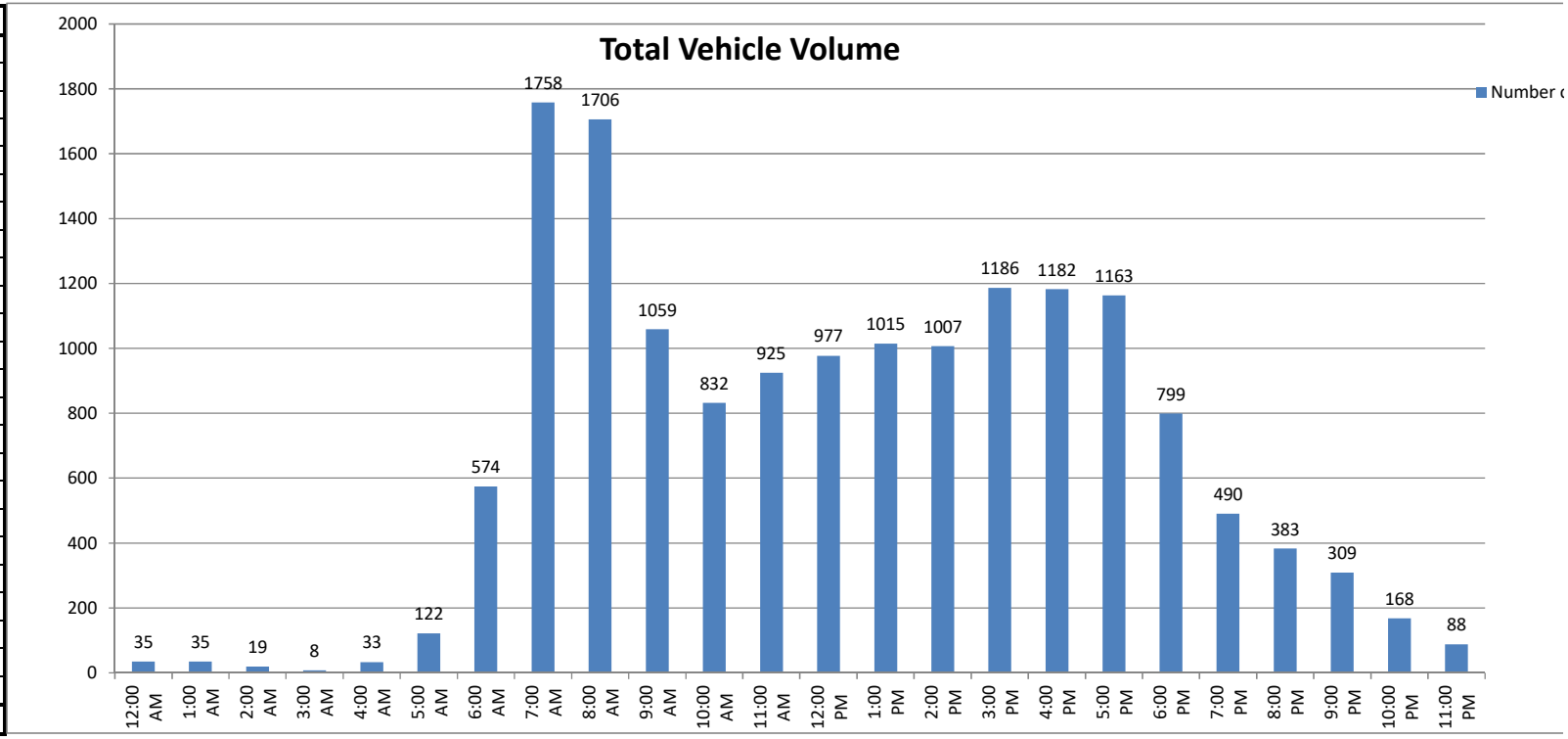
24 Hour Volume Plot

North Coast Highway 101

B/ Jupiter Street - Leucadia Boulevard

11/13/2019

Start Time	#########
12:00 AM	35
1:00 AM	35
2:00 AM	19
3:00 AM	8
4:00 AM	33
5:00 AM	122
6:00 AM	574
7:00 AM	1758
8:00 AM	1706
9:00 AM	1059
10:00 AM	832
11:00 AM	925
12:00 PM	977
1:00 PM	1015
2:00 PM	1007
3:00 PM	1186
4:00 PM	1182
5:00 PM	1163
6:00 PM	799
7:00 PM	490
8:00 PM	383
9:00 PM	309
10:00 PM	168
11:00 PM	88
Total	15873



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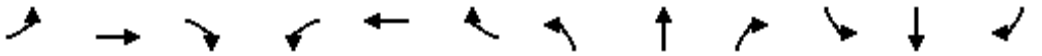
Appendix I

Existing Intersection LOS Calculations

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	173	0	0	0	8	1098
Future Volume (vph)	173	0	0	0	8	1098
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				0.53	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				945	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				945	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	186	0	0	0	9	1181
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	186	0	0	0	9	1181
Confl. Peds. (#/hr)		15			15	
Confl. Bikes (#/hr)		30		30		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	9.1				0.6	43.5
Effective Green, g (s)	9.1				0.6	43.5
Actuated g/C Ratio	0.14				0.01	0.66
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	476				8	2346
v/s Ratio Prot	c0.05				0.01	c0.33
v/s Ratio Perm						
v/c Ratio	0.39				1.12	0.50
Uniform Delay, d1	25.7				32.5	5.6
Progression Factor	0.07				1.00	1.00
Incremental Delay, d2	0.5				366.8	0.2
Delay (s)	2.4				399.3	5.8
Level of Service	A				F	A
Approach Delay (s)	2.4		0.0			8.7
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	65.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	7	0	0	173	6	0	196	65	0	0	0
Future Volume (vph)	1	7	0	0	173	6	0	196	65	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	0.87			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			1.00			1.00	0.85			
Flt Protected		0.99			1.00			1.00	1.00			
Satd. Flow (prot)		1852			3514			3539	1381			
Flt Permitted		0.99			1.00			1.00	1.00			
Satd. Flow (perm)		1852			3514			3539	1381			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1	8	0	0	186	6	0	211	70	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	60	0	0	0
Lane Group Flow (vph)	0	9	0	0	189	0	0	211	10	0	0	0
Confl. Peds. (#/hr)			15			15			15			
Confl. Bikes (#/hr)			30			30			30			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		1.0			9.1			38.9	9.1			
Effective Green, g (s)		1.0			9.1			38.9	9.1			
Actuated g/C Ratio		0.02			0.14			0.59	0.14			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		28			487			2098	191			
v/s Ratio Prot		c0.00			c0.05			c0.06				
v/s Ratio Perm									0.01			
v/c Ratio		0.32			0.39			0.10	0.05			
Uniform Delay, d1		32.0			25.7			5.8	24.5			
Progression Factor		1.61			1.00			1.00	1.00			
Incremental Delay, d2		6.6			0.5			0.1	0.1			
Delay (s)		58.1			26.2			5.9	24.6			
Level of Service		E			C			A	C			
Approach Delay (s)		58.1			26.2			10.5			0.0	
Approach LOS		E			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	65.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	241	102	167	190	265	1002
Future Volume (veh/h)	241	102	167	190	265	1002
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	0.99	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	0	182	0	288	1089
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	317		2532		928	2532
Arrive On Green	0.18	0.00	0.71	0.00	0.71	0.71
Sat Flow, veh/h	1781	1585	3647	1585	1190	3647
Grp Volume(v), veh/h	262	0	182	0	288	1089
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1190	1777
Q Serve(g_s), s	10.3	0.0	1.1	0.0	7.1	9.3
Cycle Q Clear(g_c), s	10.3	0.0	1.1	0.0	8.2	9.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	317		2532		928	2532
V/C Ratio(X)	0.83		0.07		0.31	0.43
Avail Cap(c_a), veh/h	732		2532		928	2532
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	28.9	0.0	3.2	0.0	4.4	4.3
Incr Delay (d2), s/veh	5.5	0.0	0.1	0.0	0.9	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	4.7	0.0	0.3	0.0	1.5	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.4	0.0	3.2	0.0	5.3	4.9
LnGrp LOS	C		A		A	A
Approach Vol, veh/h	262	A	182	A		1377
Approach Delay, s/veh	34.4		3.2			5.0
Approach LOS	C		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	56.0			56.0	17.0
Change Period (Y+Rc), s	4.0			4.0	4.0
Max Green Setting (Gmax), s	52.0			52.0	30.0
Max Q Clear Time (g_c+I1), s	3.1			11.3	12.3
Green Ext Time (p_c), s	1.3			12.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	28	8	376	1617	26
Future Vol, veh/h	32	28	8	376	1617	26
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	75	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	31	9	413	1777	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2243	923	1816	0	-	0
Stage 1	1802	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	41	273	336	-	-	-
Stage 1	118	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	39	268	333	-	-	-
Mov Cap-2 Maneuver	96	-	-	-	-	-
Stage 1	114	-	-	-	-	-
Stage 2	643	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	42.9	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	333	-	96	268	-	-
HCM Lane V/C Ratio	0.026	-	0.366	0.115	-	-
HCM Control Delay (s)	16.1	-	62.7	20.2	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.5	0.4	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	34	9	336	1609	26
Future Vol, veh/h	33	34	9	336	1609	26
Conflicting Peds, #/hr	15	15	15	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	38	10	378	1808	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2251	949	1852	0	-	0
Stage 1	1838	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	40	262	325	-	-	-
Stage 1	112	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	38	255	321	-	-	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	107	-	-	-	-	-
Stage 2	659	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	61	0.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	321	-	135	-	-
HCM Lane V/C Ratio	0.032	-	0.558	-	-
HCM Control Delay (s)	16.6	-	61	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	2.8	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	5	0	328	54	1603	3
Future Vol, veh/h	0	5	0	328	54	1603	3
Conflicting Peds, #/hr	15	15	15	0	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	50	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	6	0	377	62	1843	3

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	2376	953	-	0	-	-	0
Stage 1	1984	-	-	-	-	-	-
Stage 2	392	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	-	-	-
Pot Cap-1 Maneuver	33	260	0	-	-	-	-
Stage 1	93	-	0	-	-	-	-
Stage 2	682	-	0	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	32	254	-	-	-	-	-
Mov Cap-2 Maneuver	32	-	-	-	-	-	-
Stage 1	92	-	-	-	-	-	-
Stage 2	674	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.5	0	
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	-	254	-	-	-
HCM Lane V/C Ratio	-	0.023	-	-	-
HCM Control Delay (s)	-	19.5	-	-	-
HCM Lane LOS	-	C	-	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-	-

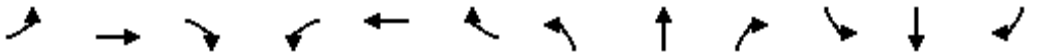
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	27	13	242	1606	10
Future Vol, veh/h	19	27	13	242	1606	10
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	30	14	266	1765	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2085	908	1786	0	-	0
Stage 1	1781	-	-	-	-	-
Stage 2	304	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	52	279	345	-	-	-
Stage 1	121	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	49	274	342	-	-	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	115	-	-	-	-	-
Stage 2	742	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.9	0.8	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	342	-	159	-	-
HCM Lane V/C Ratio	0.042	-	0.318	-	-
HCM Control Delay (s)	16	-	37.9	-	-
HCM Lane LOS	C	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	38	9	209	23	96	5	172	57	384	1257	1
Future Volume (veh/h)	11	38	9	209	23	96	5	172	57	384	1257	1
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		0.93	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	40	9	172	90	101	5	181	60	404	1323	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	16	52	12	301	130	146	9	1053	451	461	2002	2
Arrive On Green	0.04	0.04	0.04	0.17	0.17	0.17	0.01	0.30	0.30	0.26	0.55	0.55
Sat Flow, veh/h	351	1169	263	1781	770	864	1781	3554	1524	1781	3644	3
Grp Volume(v), veh/h	61	0	0	172	0	191	5	181	60	404	645	679
Grp Sat Flow(s),veh/h/ln	1782	0	0	1781	0	1634	1781	1777	1524	1781	1777	1870
Q Serve(g_s), s	2.3	0.0	0.0	6.1	0.0	7.6	0.2	2.6	2.0	15.0	17.8	17.8
Cycle Q Clear(g_c), s	2.3	0.0	0.0	6.1	0.0	7.6	0.2	2.6	2.0	15.0	17.8	17.8
Prop In Lane	0.20		0.15	1.00		0.53	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	80	0	0	301	0	276	9	1053	451	461	976	1027
V/C Ratio(X)	0.76	0.00	0.00	0.57	0.00	0.69	0.53	0.17	0.13	0.88	0.66	0.66
Avail Cap(c_a), veh/h	412	0	0	412	0	378	103	1053	451	644	976	1027
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	32.7	0.0	0.0	26.4	0.0	27.0	34.3	18.0	17.8	24.6	11.0	11.0
Incr Delay (d2), s/veh	13.9	0.0	0.0	1.7	0.0	3.2	39.2	0.4	0.6	9.9	3.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.6	0.0	3.1	0.2	1.1	0.7	7.2	6.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	0.0	0.0	28.1	0.0	30.2	73.5	18.4	18.4	34.4	14.5	14.4
LnGrp LOS	D	A	A	C	A	C	E	B	B	C	B	B
Approach Vol, veh/h		61			363			246			1728	
Approach Delay, s/veh		46.5			29.2			19.5			19.1	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.9	24.5		7.1	4.4	42.0		15.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	25.0	17.0		16.0	4.0	38.0		16.0				
Max Q Clear Time (g_c+I1), s	17.0	4.6		4.3	2.2	19.8		9.6				
Green Ext Time (p_c), s	0.8	1.0		0.2	0.0	9.0		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		21.4
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	26.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	310	50	252	361	0	20	0	187	0	1	0
Future Vol, veh/h	0	310	50	252	361	0	20	0	187	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	337	54	252	361	0	22	0	203	0	1	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	16.3	38.7	12.4	10.4
HCM LOS	C	E	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	41%	0%
Vol Thru, %	0%	0%	86%	59%	100%
Vol Right, %	0%	100%	14%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	187	360	613	1
LT Vol	20	0	0	252	0
Through Vol	0	0	310	361	1
RT Vol	0	187	50	0	0
Lane Flow Rate	22	203	391	613	1
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.046	0.358	0.594	0.907	0.002
Departure Headway (Hd)	7.572	6.342	5.466	5.326	7.404
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	472	565	657	680	486
Service Time	5.335	4.105	3.521	3.372	5.404
HCM Lane V/C Ratio	0.047	0.359	0.595	0.901	0.002
HCM Control Delay	10.7	12.6	16.3	38.7	10.4
HCM Lane LOS	B	B	C	E	B
HCM 95th-tile Q	0.1	1.6	3.9	11.7	0

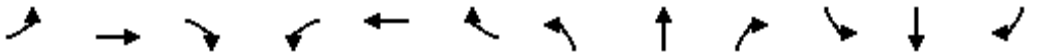
Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	509	12	77	490	12	83
Future Vol, veh/h	509	12	77	490	12	83
Conflicting Peds, #/hr	0	25	25	0	25	25
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	536	13	81	516	13	87

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	574	0	1271	593
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	703	-
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	-	-	999	-	185	506
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	491	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	978	-	157	485
Mov Cap-2 Maneuver	-	-	-	-	157	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	425	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	384	-	-	978	-
HCM Lane V/C Ratio	0.26	-	-	0.083	-
HCM Control Delay (s)	17.6	-	-	9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.3	-



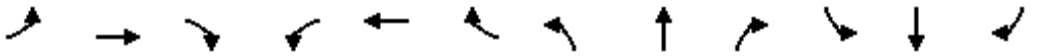
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	593	82	547	441	0	0	0	0	492	10	167
Future Volume (veh/h)	0	593	82	547	441	0	0	0	0	492	10	167
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	605	84	558	450	0				509	0	170
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1549	215	648	2589	0				650	0	270
Arrive On Green	0.00	0.50	0.50	0.31	1.00	0.00				0.18	0.00	0.18
Sat Flow, veh/h	0	3214	432	3456	3647	0				3563	0	1478
Grp Volume(v), veh/h	0	344	345	558	450	0				509	0	170
Grp Sat Flow(s),veh/h/ln	0	1777	1775	1728	1777	0				1781	0	1478
Q Serve(g_s), s	0.0	10.9	10.9	13.7	0.0	0.0				12.3	0.0	9.6
Cycle Q Clear(g_c), s	0.0	10.9	10.9	13.7	0.0	0.0				12.3	0.0	9.6
Prop In Lane	0.00		0.24	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	882	882	648	2589	0				650	0	270
V/C Ratio(X)	0.00	0.39	0.39	0.86	0.17	0.00				0.78	0.00	0.63
Avail Cap(c_a), veh/h	0	882	882	845	2589	0				1069	0	444
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.91	0.91	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.2	29.8	0.0	0.0				35.1	0.0	34.0
Incr Delay (d2), s/veh	0.0	1.3	1.3	6.6	0.1	0.0				2.1	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.5	4.5	5.4	0.0	0.0				5.4	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.4	15.5	36.4	0.1	0.0				37.2	0.0	36.4
LnGrp LOS	A	B	B	D	A	A				D	A	D
Approach Vol, veh/h		689			1008						679	
Approach Delay, s/veh		15.5			20.2						37.0	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.9	48.7		20.4		69.6
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	22.0	29.0		27.0		55.0
Max Q Clear Time (g_c+I1), s	15.7	12.9		14.3		2.0
Green Ext Time (p_c), s	1.2	3.9		2.2		3.4

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

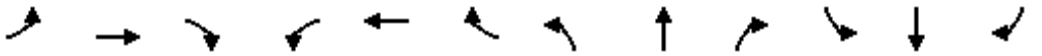


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	895	0	0	925	477	74	1	715	0	0	0
Future Volume (veh/h)	157	895	0	0	925	477	74	1	715	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		0.93			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	164	932	0	0	964	497	77	1	745			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	197	2172	0	0	2330	685	528	7	778			
Arrive On Green	0.22	1.00	0.00	0.00	0.46	0.46	0.30	0.30	0.30			
Sat Flow, veh/h	1781	3647	0	0	5274	1500	1760	23	2593			
Grp Volume(v), veh/h	164	932	0	0	964	497	78	0	745			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1500	1782	0	1296			
Q Serve(g_s), s	7.9	0.0	0.0	0.0	11.4	24.2	2.9	0.0	25.4			
Cycle Q Clear(g_c), s	7.9	0.0	0.0	0.0	11.4	24.2	2.9	0.0	25.4			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	197	2172	0	0	2330	685	535	0	778			
V/C Ratio(X)	0.83	0.43	0.00	0.00	0.41	0.73	0.15	0.00	0.96			
Avail Cap(c_a), veh/h	297	2172	0	0	2330	685	535	0	778			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.84	0.84	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	34.3	0.0	0.0	0.0	16.4	19.9	23.1	0.0	30.9			
Incr Delay (d2), s/veh	10.2	0.5	0.0	0.0	0.5	6.6	0.1	0.0	22.5			
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	3.6	0.2	0.0	0.0	4.4	9.2	1.2	0.0	10.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	0.5	0.0	0.0	16.9	26.5	23.2	0.0	53.4			
LnGrp LOS	D	A	A	A	B	C	C	A	D			
Approach Vol, veh/h		1096			1461			823				
Approach Delay, s/veh		7.1			20.2			50.5				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		59.0			13.9	45.1		31.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		55.0			15.0	36.0		27.0				
Max Q Clear Time (g_c+I1), s		2.0			9.9	26.2		27.4				
Green Ext Time (p_c), s		8.5			0.2	5.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.3									
HCM 6th LOS			C									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	132	0	0	0	13	508
Future Volume (vph)	132	0	0	0	13	508
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				0.56	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				984	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				984	3539
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	148	0	0	0	15	571
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	148	0	0	0	15	571
Confl. Peds. (#/hr)		15			15	
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	8.9				0.6	40.6
Effective Green, g (s)	8.9				0.6	40.6
Actuated g/C Ratio	0.14				0.01	0.65
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	488				9	2298
v/s Ratio Prot	c0.04				c0.02	c0.16
v/s Ratio Perm						
v/c Ratio	0.30				1.67	0.25
Uniform Delay, d1	24.0				30.9	4.6
Progression Factor	0.11				1.00	1.00
Incremental Delay, d2	0.4				565.3	0.1
Delay (s)	3.1				596.3	4.6
Level of Service	A				F	A
Approach Delay (s)	3.1		0.0			19.8
Approach LOS	A		A			B

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	11	0	0	132	11	0	640	167	0	0	0
Future Volume (vph)	2	11	0	0	132	11	0	640	167	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	0.93			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		0.99			1.00			1.00	1.00			
Satd. Flow (prot)		1850			3480			3539	1466			
Flt Permitted		0.99			1.00			1.00	1.00			
Satd. Flow (perm)		1850			3480			3539	1466			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.80	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2	12	0	0	148	14	0	719	188	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	161	0	0	0
Lane Group Flow (vph)	0	14	0	0	153	0	0	719	27	0	0	0
Confl. Peds. (#/hr)			15			15			15			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		1.0			8.9			36.0	8.9			
Effective Green, g (s)		1.0			8.9			36.0	8.9			
Actuated g/C Ratio		0.02			0.14			0.58	0.14			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		29			495			2038	208			
v/s Ratio Prot		c0.01			c0.04			c0.20				
v/s Ratio Perm									0.02			
v/c Ratio		0.48			0.31			0.35	0.13			
Uniform Delay, d1		30.5			24.0			7.1	23.4			
Progression Factor		1.58			1.00			1.00	1.00			
Incremental Delay, d2		12.1			0.4			0.5	0.3			
Delay (s)		60.2			24.4			7.5	23.7			
Level of Service		E			C			A	C			
Approach Delay (s)		60.2			24.4			10.9			0.0	
Approach LOS		E			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	226	304	605	235	199	337
Future Volume (veh/h)	226	304	605	235	199	337
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	254	0	680	0	224	379
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	301		2601		597	2601
Arrive On Green	0.17	0.00	0.73	0.00	0.73	0.73
Sat Flow, veh/h	1781	1585	3647	1585	759	3647
Grp Volume(v), veh/h	254	0	680	0	224	379
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	759	1777
Q Serve(g_s), s	11.1	0.0	5.1	0.0	11.2	2.6
Cycle Q Clear(g_c), s	11.1	0.0	5.1	0.0	16.3	2.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	301		2601		597	2601
V/C Ratio(X)	0.84		0.26		0.38	0.15
Avail Cap(c_a), veh/h	508		2601		597	2601
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	32.5	0.0	3.6	0.0	6.3	3.2
Incr Delay (d2), s/veh	6.4	0.0	0.2	0.0	1.8	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	5.2	0.0	1.4	0.0	1.7	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.9	0.0	3.8	0.0	8.1	3.4
LnGrp LOS	D		A		A	A
Approach Vol, veh/h	254	A	680	A		603
Approach Delay, s/veh	38.9		3.8			5.1
Approach LOS	D		A			A

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	63.0				63.0	17.6
Change Period (Y+Rc), s	4.0				4.0	4.0
Max Green Setting (Gmax), s	59.0				59.0	23.0
Max Q Clear Time (g_c+I1), s	7.1				18.3	13.1
Green Ext Time (p_c), s	5.6				4.9	0.5

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	17	17	768	514	26
Future Vol, veh/h	31	17	17	768	514	26
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	75	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	17	17	784	524	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1376	296	561	0	-	0
Stage 1	548	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	148	701	1008	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	143	689	1000	-	-	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	425	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1000	-	279	689	-	-
HCM Lane V/C Ratio	0.017	-	0.113	0.025	-	-
HCM Control Delay (s)	8.7	-	19.5	10.4	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	57	7	747	520	13
Future Vol, veh/h	37	57	7	747	520	13
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	58	7	762	531	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1334	292	554	0	-	0
Stage 1	548	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	157	705	1014	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	153	693	1006	-	-	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	444	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1006	-	449	-	-
HCM Lane V/C Ratio	0.007	-	0.214	-	-
HCM Control Delay (s)	8.6	-	15.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	11	6	792	71	495	8
Future Vol, veh/h	0	11	6	792	71	495	8
Conflicting Peds, #/hr	10	10	10	0	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	50	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	11	6	816	73	510	8

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1508	279	528	0	-	-	0
Stage 1	670	-	-	-	-	-	-
Stage 2	838	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-	-
Pot Cap-1 Maneuver	122	719	1037	-	-	-	-
Stage 1	471	-	-	-	-	-	-
Stage 2	423	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	119	707	1028	-	-	-	-
Mov Cap-2 Maneuver	119	-	-	-	-	-	-
Stage 1	462	-	-	-	-	-	-
Stage 2	420	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.1	
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	1028	-	707	-	-	-
HCM Lane V/C Ratio	0.006	-	0.016	-	-	-
HCM Control Delay (s)	8.5	-	10.2	-	-	-
HCM Lane LOS	A	-	B	-	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-	-

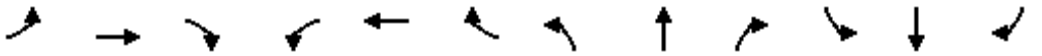
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	18	33	686	472	36
Future Vol, veh/h	13	18	33	686	472	36
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	19	34	715	492	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1314	285	540	0	-	0
Stage 1	521	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	162	713	1027	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	154	701	1018	-	-	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	539	-	-	-	-	-
Stage 2	441	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1018	-	441	-	-
HCM Lane V/C Ratio	0.034	-	0.073	-	-
HCM Control Delay (s)	8.7	-	13.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	45	13	165	30	178	7	595	168	263	411	3
Future Volume (veh/h)	23	45	13	165	30	178	7	595	168	263	411	3
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		0.92	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	48	14	177	32	191	8	640	181	283	442	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	64	19	336	41	244	15	1203	517	336	1878	13
Arrive On Green	0.07	0.07	0.07	0.19	0.19	0.19	0.01	0.34	0.34	0.19	0.52	0.52
Sat Flow, veh/h	509	977	285	1781	217	1296	1781	3554	1527	1781	3616	25
Grp Volume(v), veh/h	87	0	0	177	0	223	8	640	181	283	217	228
Grp Sat Flow(s),veh/h/ln	1771	0	0	1781	0	1513	1781	1777	1527	1781	1777	1864
Q Serve(g_s), s	3.5	0.0	0.0	6.6	0.0	10.3	0.3	10.6	6.5	11.2	4.9	4.9
Cycle Q Clear(g_c), s	3.5	0.0	0.0	6.6	0.0	10.3	0.3	10.6	6.5	11.2	4.9	4.9
Prop In Lane	0.29		0.16	1.00		0.86	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	116	0	0	336	0	285	15	1203	517	336	923	968
V/C Ratio(X)	0.75	0.00	0.00	0.53	0.00	0.78	0.55	0.53	0.35	0.84	0.24	0.24
Avail Cap(c_a), veh/h	387	0	0	390	0	331	97	1203	517	609	923	968
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	33.6	0.0	0.0	26.8	0.0	28.3	36.2	19.5	18.2	28.6	9.6	9.6
Incr Delay (d2), s/veh	9.3	0.0	0.0	1.3	0.0	10.1	28.3	1.7	1.9	5.7	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	2.8	0.0	4.4	0.3	4.4	2.4	5.1	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.0	0.0	28.0	0.0	38.3	64.4	21.2	20.0	34.3	10.2	10.2
LnGrp LOS	D	A	A	C	A	D	E	C	C	C	B	B
Approach Vol, veh/h		87			400			829			728	
Approach Delay, s/veh		42.9			33.8			21.4			19.6	
Approach LOS		D			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.8	28.8		8.8	4.6	42.0		17.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	25.0	17.0		16.0	4.0	38.0		16.0				
Max Q Clear Time (g_c+I1), s	13.2	12.6		5.5	2.3	6.9		12.3				
Green Ext Time (p_c), s	0.7	2.0		0.2	0.0	2.8		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		24.1
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	24.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	363	70	131	392	1	58	0	155	0	0	0
Future Vol, veh/h	1	363	70	131	392	1	58	0	155	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	1	395	76	142	426	1	63	0	168	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	20.7	32.4	11.8	0
HCM LOS	C	D	B	-

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	25%	0%
Vol Thru, %	0%	0%	84%	75%	100%
Vol Right, %	0%	100%	16%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	155	434	524	0
LT Vol	58	0	1	131	0
Through Vol	0	0	363	392	0
RT Vol	0	155	70	1	0
Lane Flow Rate	63	168	472	570	0
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.134	0.3	0.71	0.857	0
Departure Headway (Hd)	7.64	6.411	5.417	5.419	7.536
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	468	558	665	666	0
Service Time	5.406	4.177	3.47	3.469	5.536
HCM Lane V/C Ratio	0.135	0.301	0.71	0.856	0
HCM Control Delay	11.6	11.9	20.7	32.4	10.5
HCM Lane LOS	B	B	C	D	N
HCM 95th-tile Q	0.5	1.3	5.9	9.8	0

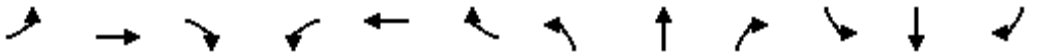
Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	557	13	63	582	13	50
Future Vol, veh/h	557	13	63	582	13	50
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	580	14	66	606	14	52

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	604	0	1345	607
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	748	-
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	-	-	974	-	167	496
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	468	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	966	-	147	488
Mov Cap-2 Maneuver	-	-	-	-	147	-
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	417	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	18.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	330	-	-	966	-
HCM Lane V/C Ratio	0.199	-	-	0.068	-
HCM Control Delay (s)	18.6	-	-	9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.2	-



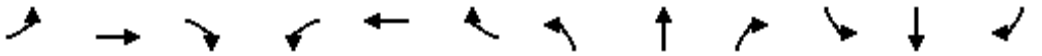
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	556	88	705	525	0	0	0	0	497	1	158
Future Volume (veh/h)	0	556	88	705	525	0	0	0	0	497	1	158
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	598	95	758	565	0				535	0	170
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1345	213	817	2563	0				677	0	281
Arrive On Green	0.00	0.44	0.44	0.39	1.00	0.00				0.19	0.00	0.19
Sat Flow, veh/h	0	3149	484	3456	3647	0				3563	0	1482
Grp Volume(v), veh/h	0	347	346	758	565	0				535	0	170
Grp Sat Flow(s),veh/h/ln	0	1777	1762	1728	1777	0				1781	0	1482
Q Serve(g_s), s	0.0	12.2	12.3	18.9	0.0	0.0				12.9	0.0	9.4
Cycle Q Clear(g_c), s	0.0	12.2	12.3	18.9	0.0	0.0				12.9	0.0	9.4
Prop In Lane	0.00		0.27	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	782	776	817	2563	0				677	0	281
V/C Ratio(X)	0.00	0.44	0.45	0.93	0.22	0.00				0.79	0.00	0.60
Avail Cap(c_a), veh/h	0	782	776	845	2563	0				1069	0	445
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.5	17.5	26.5	0.0	0.0				34.7	0.0	33.4
Incr Delay (d2), s/veh	0.0	1.8	1.9	14.5	0.2	0.0				2.1	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	5.2	7.8	0.1	0.0				5.7	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.3	19.4	41.0	0.2	0.0				36.9	0.0	35.4
LnGrp LOS	A	B	B	D	A	A				D	A	D
Approach Vol, veh/h		693			1323						705	
Approach Delay, s/veh		19.4			23.5						36.5	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	25.3	43.6		21.1		68.9						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	22.0	29.0		27.0		55.0						
Max Q Clear Time (g_c+I1), s	20.9	14.3		14.9		2.0						
Green Ext Time (p_c), s	0.4	3.8		2.2		4.4						

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	876	0	0	1097	414	123	1	639	0	0	0
Future Volume (veh/h)	164	876	0	0	1097	414	123	1	639	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		0.93			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	171	912	0	0	1143	431	128	1	666			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	204	2232	0	0	2397	705	500	4	731			
Arrive On Green	0.23	1.00	0.00	0.00	0.47	0.47	0.28	0.28	0.28			
Sat Flow, veh/h	1781	3647	0	0	5274	1502	1768	14	2584			
Grp Volume(v), veh/h	171	912	0	0	1143	431	129	0	666			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1502	1782	0	1292			
Q Serve(g_s), s	8.2	0.0	0.0	0.0	13.8	19.2	5.0	0.0	22.4			
Cycle Q Clear(g_c), s	8.2	0.0	0.0	0.0	13.8	19.2	5.0	0.0	22.4			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	204	2232	0	0	2397	705	504	0	731			
V/C Ratio(X)	0.84	0.41	0.00	0.00	0.48	0.61	0.26	0.00	0.91			
Avail Cap(c_a), veh/h	297	2232	0	0	2397	705	535	0	775			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.79	0.79	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.9	0.0	0.0	0.0	16.3	17.8	24.9	0.0	31.2			
Incr Delay (d2), s/veh	10.7	0.4	0.0	0.0	0.7	3.9	0.3	0.0	14.4			
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	3.7	0.1	0.0	0.0	5.2	7.0	2.1	0.0	8.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.4	0.0	0.0	17.0	21.7	25.2	0.0	45.5			
LnGrp LOS	D	A	A	A	B	C	C	A	D			
Approach Vol, veh/h		1083			1574			795				
Approach Delay, s/veh		7.4			18.3			42.2				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		60.5			14.3	46.2		29.5				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		55.0			15.0	36.0		27.0				
Max Q Clear Time (g_c+I1), s		2.0			10.2	21.2		24.4				
Green Ext Time (p_c), s		8.3			0.2	8.5		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			C									

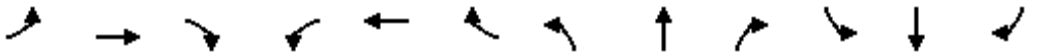
Appendix J

Existing + Project Intersection LOS Calculations

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	175	0	0	0	8	1102
Future Volume (vph)	175	0	0	0	8	1102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				0.53	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				933	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				933	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	188	0	0	0	9	1185
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	188	0	0	0	9	1185
Confl. Peds. (#/hr)		15			15	
Confl. Bikes (#/hr)		30		30		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	9.2				0.5	44.3
Effective Green, g (s)	9.2				0.5	44.3
Actuated g/C Ratio	0.14				0.01	0.67
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	474				7	2357
v/s Ratio Prot	c0.05				0.01	c0.33
v/s Ratio Perm						
v/c Ratio	0.40				1.29	0.50
Uniform Delay, d1	26.1				33.0	5.6
Progression Factor	0.07				1.00	1.00
Incremental Delay, d2	0.5				455.3	0.2
Delay (s)	2.4				488.3	5.7
Level of Service	A				F	A
Approach Delay (s)	2.4		0.0			9.4
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	66.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	7	0	0	175	6	0	204	68	0	0	0
Future Volume (vph)	1	7	0	0	175	6	0	204	68	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	0.87			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			1.00			1.00	0.85			
Flt Protected		0.99			1.00			1.00	1.00			
Satd. Flow (prot)		1852			3514			3539	1380			
Flt Permitted		0.99			1.00			1.00	1.00			
Satd. Flow (perm)		1852			3514			3539	1380			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1	8	0	0	188	6	0	219	73	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	63	0	0	0
Lane Group Flow (vph)	0	9	0	0	191	0	0	219	10	0	0	0
Confl. Peds. (#/hr)			15			15			15			
Confl. Bikes (#/hr)			30			30			30			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		1.0			9.2			39.8	9.2			
Effective Green, g (s)		1.0			9.2			39.8	9.2			
Actuated g/C Ratio		0.02			0.14			0.60	0.14			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		27			486			2118	190			
v/s Ratio Prot		c0.00			c0.05			c0.06				
v/s Ratio Perm									0.01			
v/c Ratio		0.33			0.39			0.10	0.05			
Uniform Delay, d1		32.4			26.1			5.7	24.9			
Progression Factor		1.61			1.00			1.00	1.00			
Incremental Delay, d2		7.2			0.5			0.1	0.1			
Delay (s)		59.2			26.6			5.8	25.0			
Level of Service		E			C			A	C			
Approach Delay (s)		59.2			26.6			10.6			0.0	
Approach LOS		E			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	66.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	255	102	178	215	265	1008
Future Volume (veh/h)	255	102	178	215	265	1008
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	0.99	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	277	0	193	0	288	1096
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	332		2506		909	2506
Arrive On Green	0.19	0.00	0.71	0.00	0.71	0.71
Sat Flow, veh/h	1781	1585	3647	1585	1178	3647
Grp Volume(v), veh/h	277	0	193	0	288	1096
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1178	1777
Q Serve(g_s), s	11.0	0.0	1.2	0.0	7.4	9.7
Cycle Q Clear(g_c), s	11.0	0.0	1.2	0.0	8.7	9.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	332		2506		909	2506
V/C Ratio(X)	0.83		0.08		0.32	0.44
Avail Cap(c_a), veh/h	725		2506		909	2506
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	28.9	0.0	3.4	0.0	4.7	4.6
Incr Delay (d2), s/veh	5.5	0.0	0.1	0.0	0.9	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	5.0	0.0	0.3	0.0	1.6	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.4	0.0	3.4	0.0	5.7	5.2
LnGrp LOS	C		A		A	A
Approach Vol, veh/h	277	A	193	A		1384
Approach Delay, s/veh	34.4		3.4			5.3
Approach LOS	C		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	56.0			56.0	17.7
Change Period (Y+Rc), s	4.0			4.0	4.0
Max Green Setting (Gmax), s	52.0			52.0	30.0
Max Q Clear Time (g_c+I1), s	3.2			11.7	13.0
Green Ext Time (p_c), s	1.3			12.3	0.7

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

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

Intersection	
Intersection Delay, s/veh	25.8
Intersection LOS	D

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	74	861	1281
Demand Flow Rate, veh/h	76	878	1307
Vehicles Circulating, veh/h	1268	49	21
Vehicles Exiting, veh/h	60	1295	906
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	13.2	11.7	36.1
Approach LOS	B	B	E

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	76	878	1307
Cap Entry Lane, veh/h	379	1313	1351
Entry HV Adj Factor	0.974	0.981	0.980
Flow Entry, veh/h	74	861	1281
Cap Entry, veh/h	369	1284	1320
V/C Ratio	0.201	0.671	0.970
Control Delay, s/veh	13.2	11.7	36.1
LOS	B	B	E
95th %tile Queue, veh	1	6	20

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	28	8	387	1636	26
Future Vol, veh/h	32	28	8	387	1636	26
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	75	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	31	9	425	1798	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2276	934	1837	0	-	0
Stage 1	1823	-	-	-	-	-
Stage 2	453	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	39	268	329	-	-	-
Stage 1	114	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	37	264	326	-	-	-
Mov Cap-2 Maneuver	93	-	-	-	-	-
Stage 1	110	-	-	-	-	-
Stage 2	634	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	44.5	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	326	-	93	264	-	-
HCM Lane V/C Ratio	0.027	-	0.378	0.117	-	-
HCM Control Delay (s)	16.3	-	65.5	20.4	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.5	0.4	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	34	9	347	1628	26
Future Vol, veh/h	33	34	9	347	1628	26
Conflicting Peds, #/hr	15	15	15	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	42	10	390	1829	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2284	959	1873	0	-	0
Stage 1	1859	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	38	258	319	-	-	-
Stage 1	109	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 36	252	315	-	-	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	104	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	63	0.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	315	-	136	-	-
HCM Lane V/C Ratio	0.032	-	0.582	-	-
HCM Control Delay (s)	16.8	-	63	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	2.9	-	-

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	5	0	339	54	1622	3
Future Vol, veh/h	0	5	0	339	54	1622	3
Conflicting Peds, #/hr	15	15	15	0	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	50	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	6	0	390	62	1864	3

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	2410	964	-	0	-	-	0
Stage 1	2005	-	-	-	-	-	-
Stage 2	405	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	-	-	-
Pot Cap-1 Maneuver	31	256	0	-	-	-	-
Stage 1	91	-	0	-	-	-	-
Stage 2	673	-	0	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	30	250	-	-	-	-	-
Mov Cap-2 Maneuver	30	-	-	-	-	-	-
Stage 1	90	-	-	-	-	-	-
Stage 2	665	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.7	0	
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	-	250	-	-	-
HCM Lane V/C Ratio	-	0.023	-	-	-
HCM Control Delay (s)	-	19.7	-	-	-
HCM Lane LOS	-	C	-	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-	-

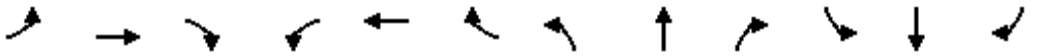
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	27	13	253	1624	11
Future Vol, veh/h	19	27	13	253	1624	11
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	30	14	278	1785	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2117	919	1807	0	-	0
Stage 1	1801	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	49	274	338	-	-	-
Stage 1	118	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	46	269	335	-	-	-
Mov Cap-2 Maneuver	97	-	-	-	-	-
Stage 1	112	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	39.1	0.8	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	335	-	155	-	-
HCM Lane V/C Ratio	0.043	-	0.326	-	-
HCM Control Delay (s)	16.2	-	39.1	-	-
HCM Lane LOS	C	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	38	9	209	23	101	5	178	57	392	1266	2
Future Volume (veh/h)	11	38	9	209	23	101	5	178	57	392	1266	2
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		0.93	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	40	9	175	87	106	5	187	60	413	1333	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	16	52	12	303	125	152	9	1032	442	469	1997	3
Arrive On Green	0.04	0.04	0.04	0.17	0.17	0.17	0.01	0.29	0.29	0.26	0.55	0.55
Sat Flow, veh/h	351	1169	263	1781	733	893	1781	3554	1523	1781	3640	5
Grp Volume(v), veh/h	61	0	0	175	0	193	5	187	60	413	651	684
Grp Sat Flow(s),veh/h/ln	1782	0	0	1781	0	1626	1781	1777	1523	1781	1777	1869
Q Serve(g_s), s	2.3	0.0	0.0	6.3	0.0	7.7	0.2	2.7	2.0	15.4	18.1	18.1
Cycle Q Clear(g_c), s	2.3	0.0	0.0	6.3	0.0	7.7	0.2	2.7	2.0	15.4	18.1	18.1
Prop In Lane	0.20		0.15	1.00		0.55	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	80	0	0	303	0	277	9	1032	442	469	975	1025
V/C Ratio(X)	0.76	0.00	0.00	0.58	0.00	0.70	0.53	0.18	0.14	0.88	0.67	0.67
Avail Cap(c_a), veh/h	412	0	0	411	0	376	103	1032	442	643	975	1025
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	32.7	0.0	0.0	26.4	0.0	27.1	34.4	18.4	18.2	24.5	11.1	11.1
Incr Delay (d2), s/veh	13.9	0.0	0.0	1.7	0.0	3.5	39.2	0.4	0.6	10.4	3.6	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.7	0.0	3.1	0.2	1.1	0.7	7.4	6.9	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	0.0	0.0	28.2	0.0	30.5	73.6	18.8	18.8	34.9	14.8	14.6
LnGrp LOS	D	A	A	C	A	C	E	B	B	C	B	B
Approach Vol, veh/h		61			368			252			1748	
Approach Delay, s/veh		46.6			29.4			19.9			19.4	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.2	24.1		7.1	4.4	42.0		15.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	25.0	17.0		16.0	4.0	38.0		16.0				
Max Q Clear Time (g_c+I1), s	17.4	4.7		4.3	2.2	20.1		9.7				
Green Ext Time (p_c), s	0.8	1.0		0.2	0.0	9.0		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		21.7	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	30
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	334	51	252	375	0	20	0	187	0	1	0
Future Vol, veh/h	0	334	51	252	375	0	20	0	187	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	363	55	252	375	0	22	0	203	0	1	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	18	44.2	12.7	10.6
HCM LOS	C	E	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	40%	0%
Vol Thru, %	0%	0%	87%	60%	100%
Vol Right, %	0%	100%	13%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	187	385	627	1
LT Vol	20	0	0	252	0
Through Vol	0	0	334	375	1
RT Vol	0	187	51	0	0
Lane Flow Rate	22	203	418	627	1
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.046	0.364	0.641	0.937	0.002
Departure Headway (Hd)	7.674	6.443	5.51	5.38	7.561
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	465	555	653	671	476
Service Time	5.445	4.214	3.569	3.431	5.561
HCM Lane V/C Ratio	0.047	0.366	0.64	0.934	0.002
HCM Control Delay	10.8	12.9	18	44.2	10.6
HCM Lane LOS	B	B	C	E	B
HCM 95th-tile Q	0.1	1.7	4.6	12.9	0

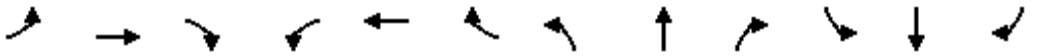
Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	531	14	77	502	14	83
Future Vol, veh/h	531	14	77	502	14	83
Conflicting Peds, #/hr	0	25	25	0	25	25
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	559	15	81	528	15	87

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	599	0	1307	617
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	715	-
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	-	-	978	-	176	490
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	958	-	148	470
Mov Cap-2 Maneuver	-	-	-	-	148	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	418	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	358	-	-	958	-
HCM Lane V/C Ratio	0.285	-	-	0.085	-
HCM Control Delay (s)	19	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.3	-



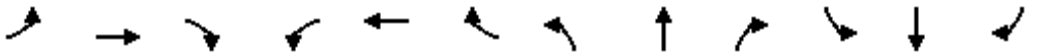
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	607	90	547	447	0	0	0	0	492	10	173
Future Volume (veh/h)	0	607	90	547	447	0	0	0	0	492	10	173
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	619	92	558	456	0				509	0	177
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1533	227	648	2588	0				651	0	270
Arrive On Green	0.00	0.50	0.50	0.31	1.00	0.00				0.18	0.00	0.18
Sat Flow, veh/h	0	3182	458	3456	3647	0				3563	0	1479
Grp Volume(v), veh/h	0	356	355	558	456	0				509	0	177
Grp Sat Flow(s),veh/h/ln	0	1777	1770	1728	1777	0				1781	0	1479
Q Serve(g_s), s	0.0	11.3	11.4	13.7	0.0	0.0				12.3	0.0	10.0
Cycle Q Clear(g_c), s	0.0	11.3	11.4	13.7	0.0	0.0				12.3	0.0	10.0
Prop In Lane	0.00		0.26	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	882	878	648	2588	0				651	0	270
V/C Ratio(X)	0.00	0.40	0.40	0.86	0.18	0.00				0.78	0.00	0.65
Avail Cap(c_a), veh/h	0	882	878	845	2588	0				1069	0	444
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.91	0.91	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.3	14.3	29.8	0.0	0.0				35.1	0.0	34.1
Incr Delay (d2), s/veh	0.0	1.4	1.4	6.6	0.1	0.0				2.1	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.7	4.7	5.4	0.0	0.0				5.4	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.6	15.7	36.4	0.1	0.0				37.2	0.0	36.8
LnGrp LOS	A	B	B	D	A	A				D	A	D
Approach Vol, veh/h		711			1014						686	
Approach Delay, s/veh		15.7			20.1						37.1	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.9	48.7		20.4		69.6						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	22.0	29.0		27.0		55.0						
Max Q Clear Time (g_c+I1), s	15.7	13.4		14.3		2.0						
Green Ext Time (p_c), s	1.2	4.0		2.2		3.5						

Intersection Summary												
HCM 6th Ctrl Delay			23.6									
HCM 6th LOS			C									

Notes

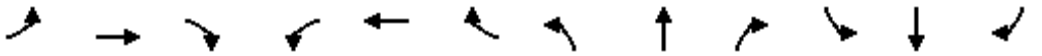
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	898	0	0	927	477	78	1	715	0	0	0
Future Volume (veh/h)	168	898	0	0	927	477	78	1	715	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		0.93			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	175	935	0	0	966	497	81	1	745			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	208	2172	0	0	2298	675	528	7	778			
Arrive On Green	0.23	1.00	0.00	0.00	0.45	0.45	0.30	0.30	0.30			
Sat Flow, veh/h	1781	3647	0	0	5274	1500	1761	22	2593			
Grp Volume(v), veh/h	175	935	0	0	966	497	82	0	745			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1500	1782	0	1296			
Q Serve(g_s), s	8.4	0.0	0.0	0.0	11.5	24.5	3.0	0.0	25.4			
Cycle Q Clear(g_c), s	8.4	0.0	0.0	0.0	11.5	24.5	3.0	0.0	25.4			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	208	2172	0	0	2298	675	535	0	778			
V/C Ratio(X)	0.84	0.43	0.00	0.00	0.42	0.74	0.15	0.00	0.96			
Avail Cap(c_a), veh/h	297	2172	0	0	2298	675	535	0	778			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.83	0.83	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.7	0.0	0.0	0.0	16.8	20.3	23.1	0.0	30.9			
Incr Delay (d2), s/veh	11.8	0.5	0.0	0.0	0.6	7.0	0.1	0.0	22.5			
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	3.9	0.2	0.0	0.0	4.4	9.4	1.3	0.0	10.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.5	0.0	0.0	17.3	27.4	23.2	0.0	53.4			
LnGrp LOS	D	A	A	A	B	C	C	A	D			
Approach Vol, veh/h		1110			1463			827				
Approach Delay, s/veh		7.6			20.8			50.4				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		59.0			14.5	44.5		31.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		55.0			15.0	36.0		27.0				
Max Q Clear Time (g_c+I1), s		2.0			10.4	26.5		27.4				
Green Ext Time (p_c), s		8.6			0.2	5.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.7									
HCM 6th LOS			C									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	136	0	0	0	13	519
Future Volume (vph)	136	0	0	0	13	519
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				0.55	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				976	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				976	3539
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor (vph)	115%	100%	100%	100%	100%	100%
Adj. Flow (vph)	176	0	0	0	15	583
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	176	0	0	0	15	583
Confl. Peds. (#/hr)		15			15	
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	9.4				0.6	40.6
Effective Green, g (s)	9.4				0.6	40.6
Actuated g/C Ratio	0.15				0.01	0.64
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	511				9	2277
v/s Ratio Prot	c0.05				c0.02	c0.16
v/s Ratio Perm						
v/c Ratio	0.34				1.67	0.26
Uniform Delay, d1	24.1				31.2	4.8
Progression Factor	0.23				1.00	1.00
Incremental Delay, d2	0.4				565.3	0.1
Delay (s)	5.9				596.6	4.9
Level of Service	A				F	A
Approach Delay (s)	5.9		0.0			19.7
Approach LOS	A		A			B

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	63.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	11	0	0	136	11	0	647	170	0	0	0
Future Volume (vph)	2	11	0	0	136	11	0	647	170	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	0.93			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		0.99			1.00			1.00	1.00			
Satd. Flow (prot)		1850			3482			3539	1468			
Flt Permitted		0.99			1.00			1.00	1.00			
Satd. Flow (perm)		1850			3482			3539	1468			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.80	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2	12	0	0	153	14	0	727	191	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	163	0	0	0
Lane Group Flow (vph)	0	14	0	0	158	0	0	727	28	0	0	0
Confl. Peds. (#/hr)			15			15			15			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		1.1			9.4			36.0	9.4			
Effective Green, g (s)		1.1			9.4			36.0	9.4			
Actuated g/C Ratio		0.02			0.15			0.57	0.15			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		32			518			2019	218			
v/s Ratio Prot		c0.01			c0.05			c0.21				
v/s Ratio Perm									0.02			
v/c Ratio		0.44			0.31			0.36	0.13			
Uniform Delay, d1		30.7			23.9			7.3	23.3			
Progression Factor		1.56			1.00			1.00	1.00			
Incremental Delay, d2		9.3			0.3			0.5	0.3			
Delay (s)		57.2			24.3			7.8	23.6			
Level of Service		E			C			A	C			
Approach Delay (s)		57.2			24.3			11.1			0.0	
Approach LOS		E			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	63.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	260	304	615	257	199	352
Future Volume (veh/h)	260	304	615	257	199	352
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	0	691	0	224	396
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	338		2536		571	2536
Arrive On Green	0.19	0.00	0.71	0.00	0.71	0.71
Sat Flow, veh/h	1781	1585	3647	1585	751	3647
Grp Volume(v), veh/h	292	0	691	0	224	396
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	751	1777
Q Serve(g_s), s	13.1	0.0	5.7	0.0	12.5	3.0
Cycle Q Clear(g_c), s	13.1	0.0	5.7	0.0	18.2	3.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	338		2536		571	2536
V/C Ratio(X)	0.87		0.27		0.39	0.16
Avail Cap(c_a), veh/h	496		2536		571	2536
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	32.5	0.0	4.2	0.0	7.4	3.8
Incr Delay (d2), s/veh	10.4	0.0	0.3	0.0	2.0	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	6.5	0.0	1.7	0.0	2.0	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.9	0.0	4.5	0.0	9.5	3.9
LnGrp LOS	D		A		A	A
Approach Vol, veh/h	292	A	691	A		620
Approach Delay, s/veh	42.9		4.5			5.9
Approach LOS	D		A			A

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	63.0				63.0	19.7
Change Period (Y+Rc), s	4.0				4.0	4.0
Max Green Setting (Gmax), s	59.0				59.0	23.0
Max Q Clear Time (g_c+I1), s	7.7				20.2	15.1
Green Ext Time (p_c), s	5.7				5.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

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

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Approach	EB	NB	SB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	83	953	686
Demand Flow Rate, veh/h	85	972	699
Vehicles Circulating, veh/h	624	55	41
Vehicles Exiting, veh/h	116	654	986
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	0.997	0.978	0.997
Approach Delay, s/veh	6.3	12.2	8.5
Approach LOS	A	B	A

Lane	Left	Left	Right	Left
Designated Moves	LR	L	TR	TR
Assumed Moves	LR	L	TR	TR
RT Channelized				
Lane Util	1.000	0.042	0.958	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
Entry Flow, veh/h	85	41	931	699
Cap Entry Lane, veh/h	730	1351	1351	1323
Entry HV Adj Factor	0.976	0.976	0.980	0.981
Flow Entry, veh/h	83	40	913	686
Cap Entry, veh/h	711	1289	1295	1295
V/C Ratio	0.117	0.031	0.705	0.530
Control Delay, s/veh	6.3	3.0	12.6	8.5
LOS	A	A	B	A
95th %tile Queue, veh	0	0	6	3

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	17	17	794	531	26
Future Vol, veh/h	31	17	17	794	531	26
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	75	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	17	17	810	542	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1420	305	579	0	-	0
Stage 1	566	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	138	692	993	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	133	681	985	-	-	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	520	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	985	-	270	681	-	-
HCM Lane V/C Ratio	0.018	-	0.117	0.025	-	-
HCM Control Delay (s)	8.7	-	20.1	10.4	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	57	7	773	537	13
Future Vol, veh/h	37	57	7	773	537	13
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	58	7	789	548	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1378	301	571	0	-	0
Stage 1	565	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	147	696	1000	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	144	684	992	-	-	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	992	-	437	-	-
HCM Lane V/C Ratio	0.007	-	0.219	-	-
HCM Control Delay (s)	8.7	-	15.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	0	11	6	818	71	512	8
Future Vol, veh/h	0	11	6	818	71	512	8
Conflicting Peds, #/hr	10	10	10	0	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	50	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	11	6	843	73	528	8

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1553	288	546	0	-	-	0
Stage 1	688	-	-	-	-	-	-
Stage 2	865	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-	-
Pot Cap-1 Maneuver	114	709	1021	-	-	-	-
Stage 1	461	-	-	-	-	-	-
Stage 2	411	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	111	697	1012	-	-	-	-
Mov Cap-2 Maneuver	111	-	-	-	-	-	-
Stage 1	452	-	-	-	-	-	-
Stage 2	408	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.1	
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	1012	-	697	-	-	-
HCM Lane V/C Ratio	0.006	-	0.016	-	-	-
HCM Control Delay (s)	8.6	-	10.3	-	-	-
HCM Lane LOS	A	-	B	-	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-	-

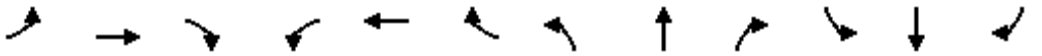
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	18	33	711	489	36
Future Vol, veh/h	14	18	33	711	489	36
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	19	34	741	509	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1357	294	557	0	-	0
Stage 1	538	-	-	-	-	-
Stage 2	819	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	152	703	1012	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	145	691	1004	-	-	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	429	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1004	-	422	-	-
HCM Lane V/C Ratio	0.034	-	0.079	-	-
HCM Control Delay (s)	8.7	-	14.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	45	13	165	30	188	7	609	168	270	421	3
Future Volume (veh/h)	24	45	13	165	30	188	7	609	168	270	421	3
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		0.93	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	48	14	177	32	202	8	655	181	290	453	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	64	19	343	40	251	15	1178	506	343	1866	12
Arrive On Green	0.07	0.07	0.07	0.19	0.19	0.19	0.01	0.33	0.33	0.19	0.52	0.52
Sat Flow, veh/h	523	966	282	1781	207	1306	1781	3554	1527	1781	3617	24
Grp Volume(v), veh/h	88	0	0	177	0	234	8	655	181	290	222	234
Grp Sat Flow(s),veh/h/ln	1771	0	0	1781	0	1513	1781	1777	1527	1781	1777	1864
Q Serve(g_s), s	3.6	0.0	0.0	6.6	0.0	10.9	0.3	11.1	6.6	11.6	5.1	5.1
Cycle Q Clear(g_c), s	3.6	0.0	0.0	6.6	0.0	10.9	0.3	11.1	6.6	11.6	5.1	5.1
Prop In Lane	0.30		0.16	1.00		0.86	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	117	0	0	343	0	291	15	1178	506	343	917	962
V/C Ratio(X)	0.75	0.00	0.00	0.52	0.00	0.80	0.55	0.56	0.36	0.84	0.24	0.24
Avail Cap(c_a), veh/h	385	0	0	387	0	329	97	1178	506	605	917	962
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	33.8	0.0	0.0	26.7	0.0	28.4	36.4	20.2	18.7	28.7	9.9	9.9
Incr Delay (d2), s/veh	9.2	0.0	0.0	1.2	0.0	12.2	28.3	1.9	2.0	5.7	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	2.8	0.0	4.8	0.3	4.6	2.5	5.3	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.0	0.0	27.9	0.0	40.6	64.7	22.1	20.6	34.4	10.5	10.5
LnGrp LOS	D	A	A	C	A	D	E	C	C	C	B	B
Approach Vol, veh/h		88			411			844			746	
Approach Delay, s/veh		43.0			35.1			22.2			19.8	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.2	28.4		8.9	4.6	42.0		18.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	25.0	17.0		16.0	4.0	38.0		16.0				
Max Q Clear Time (g_c+I1), s	13.6	13.1		5.6	2.3	7.1		12.9				
Green Ext Time (p_c), s	0.7	1.8		0.2	0.0	2.9		0.6				

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

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	30
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	385	70	131	425	1	59	0	155	0	0	0
Future Vol, veh/h	1	385	70	131	425	1	59	0	155	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	1	418	76	142	462	1	64	0	168	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	23.8	42	12.1	0
HCM LOS	C	E	B	-

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	24%	0%
Vol Thru, %	0%	0%	84%	76%	100%
Vol Right, %	0%	100%	15%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	155	456	557	0
LT Vol	59	0	1	131	0
Through Vol	0	0	385	425	0
RT Vol	0	155	70	1	0
Lane Flow Rate	64	168	496	605	0
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.139	0.307	0.758	0.922	0
Departure Headway (Hd)	7.789	6.559	5.503	5.48	7.772
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	459	544	654	660	0
Service Time	5.567	4.336	3.563	3.537	5.772
HCM Lane V/C Ratio	0.139	0.309	0.758	0.917	0
HCM Control Delay	11.8	12.2	23.8	42	10.8
HCM Lane LOS	B	B	C	E	N
HCM 95th-tile Q	0.5	1.3	6.9	12.2	0

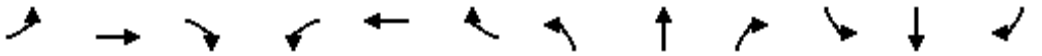
Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	577	15	63	612	16	50
Future Vol, veh/h	577	15	63	612	16	50
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	601	16	66	638	17	52

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	627	0	1399	629
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	780	-
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	-	-	955	-	155	482
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	452	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	947	-	136	474
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	533	-
Stage 2	-	-	-	-	400	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	296	-	-	947	-
HCM Lane V/C Ratio	0.232	-	-	0.069	-
HCM Control Delay (s)	20.8	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-



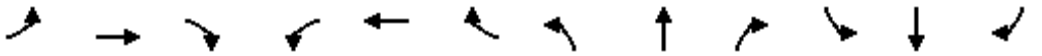
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	568	96	705	540	0	0	0	0	497	1	173
Future Volume (veh/h)	0	568	96	705	540	0	0	0	0	497	1	173
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	611	103	758	581	0				535	0	186
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1340	225	806	2561	0				679	0	282
Arrive On Green	0.00	0.44	0.44	0.39	1.00	0.00				0.19	0.00	0.19
Sat Flow, veh/h	0	3119	509	3456	3647	0				3563	0	1482
Grp Volume(v), veh/h	0	358	356	758	581	0				535	0	186
Grp Sat Flow(s),veh/h/ln	0	1777	1757	1728	1777	0				1781	0	1482
Q Serve(g_s), s	0.0	12.7	12.7	19.0	0.0	0.0				12.9	0.0	10.5
Cycle Q Clear(g_c), s	0.0	12.7	12.7	19.0	0.0	0.0				12.9	0.0	10.5
Prop In Lane	0.00		0.29	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	787	778	806	2561	0				679	0	282
V/C Ratio(X)	0.00	0.46	0.46	0.94	0.23	0.00				0.79	0.00	0.66
Avail Cap(c_a), veh/h	0	787	778	806	2561	0				1069	0	445
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.87	0.87	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.5	17.5	26.9	0.0	0.0				34.7	0.0	33.7
Incr Delay (d2), s/veh	0.0	1.9	1.9	16.9	0.2	0.0				2.1	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.4	5.3	8.1	0.1	0.0				5.7	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.4	19.4	43.8	0.2	0.0				36.8	0.0	36.3
LnGrp LOS	A	B	B	D	A	A				D	A	D
Approach Vol, veh/h		714			1339						721	
Approach Delay, s/veh		19.4			24.9						36.7	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	25.0	43.9		21.1		68.9						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	21.0	30.0		27.0		55.0						
Max Q Clear Time (g_c+I1), s	21.0	14.7		14.9		2.0						
Green Ext Time (p_c), s	0.0	4.0		2.3		4.6						

Intersection Summary												
HCM 6th Ctrl Delay			26.5									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	878	0	0	1101	414	134	1	639	0	0	0
Future Volume (veh/h)	174	878	0	0	1101	414	134	1	639	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		0.93			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	181	915	0	0	1147	431	140	1	666			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	214	2231	0	0	2367	696	501	4	732			
Arrive On Green	0.24	1.00	0.00	0.00	0.46	0.46	0.28	0.28	0.28			
Sat Flow, veh/h	1781	3647	0	0	5274	1501	1769	13	2585			
Grp Volume(v), veh/h	181	915	0	0	1147	431	141	0	666			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1501	1782	0	1292			
Q Serve(g_s), s	8.7	0.0	0.0	0.0	14.0	19.4	5.5	0.0	22.4			
Cycle Q Clear(g_c), s	8.7	0.0	0.0	0.0	14.0	19.4	5.5	0.0	22.4			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	214	2231	0	0	2367	696	505	0	732			
V/C Ratio(X)	0.85	0.41	0.00	0.00	0.48	0.62	0.28	0.00	0.91			
Avail Cap(c_a), veh/h	297	2231	0	0	2367	696	535	0	775			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.78	0.78	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.4	0.0	0.0	0.0	16.7	18.2	25.1	0.0	31.1			
Incr Delay (d2), s/veh	12.1	0.4	0.0	0.0	0.7	4.1	0.3	0.0	14.3			
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	4.0	0.1	0.0	0.0	5.3	7.2	2.3	0.0	8.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.4	0.0	0.0	17.4	22.3	25.4	0.0	45.5			
LnGrp LOS	D	A	A	A	B	C	C	A	D			
Approach Vol, veh/h		1096			1578			807				
Approach Delay, s/veh		7.9			18.7			41.9				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		60.5			14.8	45.7		29.5				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		55.0			15.0	36.0		27.0				
Max Q Clear Time (g_c+I1), s		2.0			10.7	21.4		24.4				
Green Ext Time (p_c), s		8.3			0.2	8.4		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			20.7									
HCM 6th LOS			C									

Appendix K

Cumulative Project Roadway Changes

PARKING TABLE			
	REGULAR	HANDICAP	MOTORCYCLE
WEST	37	4	17
EAST	72	0	0
EXISTING		34	

EXISTING TREE

PROPOSED TREE

SEE SHEET 70
MATCHLINE STA 94+00

JASON STREET

JUPITER STREET

MATCHLINE STA 104+00
SEE BELOW LEFT

NORTH COAST HIGHWAY 101

SCALE: 1"=40'

40 20 0 40 80 120

SCALE: 1"=40'

SEE ABOVE RIGHT
MATCHLINE STA 104+00

NORTH COAST HIGHWAY 101

AVOCADO STREET

MATCHLINE STA 115+50
SEE SHEET 72

SCALE: 1"=40'

40 20 0 40 80 120

SCALE: 1"=40'

Michael Baker INTERNATIONAL

Source: Michael Baker International, November 30, 2016
137350Exhibits.indd

Marea Village LTA Appendix

North Coast Highway 101 Streetscape Improvement Project

PROPOSED PROJECT DESIGN

Figure 2-3E

PARKING TABLE			
	REGULAR	HANDICAP	MOTORCYCLE
WEST	24	3	5
EAST	0	0	0
EXISTING		24	

EXISTING TREE

PROPOSED TREE

SEE SHEET 71
MATCHLINE STA 114+50

GRAND VIEW STREET

NORTH COAST HIGHWAY 101

MATCHLINE STA 124+00
SEE BELOW LEFT

SCALE: 1"=40'

40 20 0 40 80 120

SCALE: 1"=40'

SEE ABOVE RIGHT
MATCHLINE STA 124+00

BISHOPS GATE ROAD

NORTH COAST HIGHWAY 101

MATCHLINE STA 134+00
SEE SHEET 73

SCALE: 1"=40'

40 20 0 40 80 120

SCALE: 1"=40'

Michael Baker INTERNATIONAL

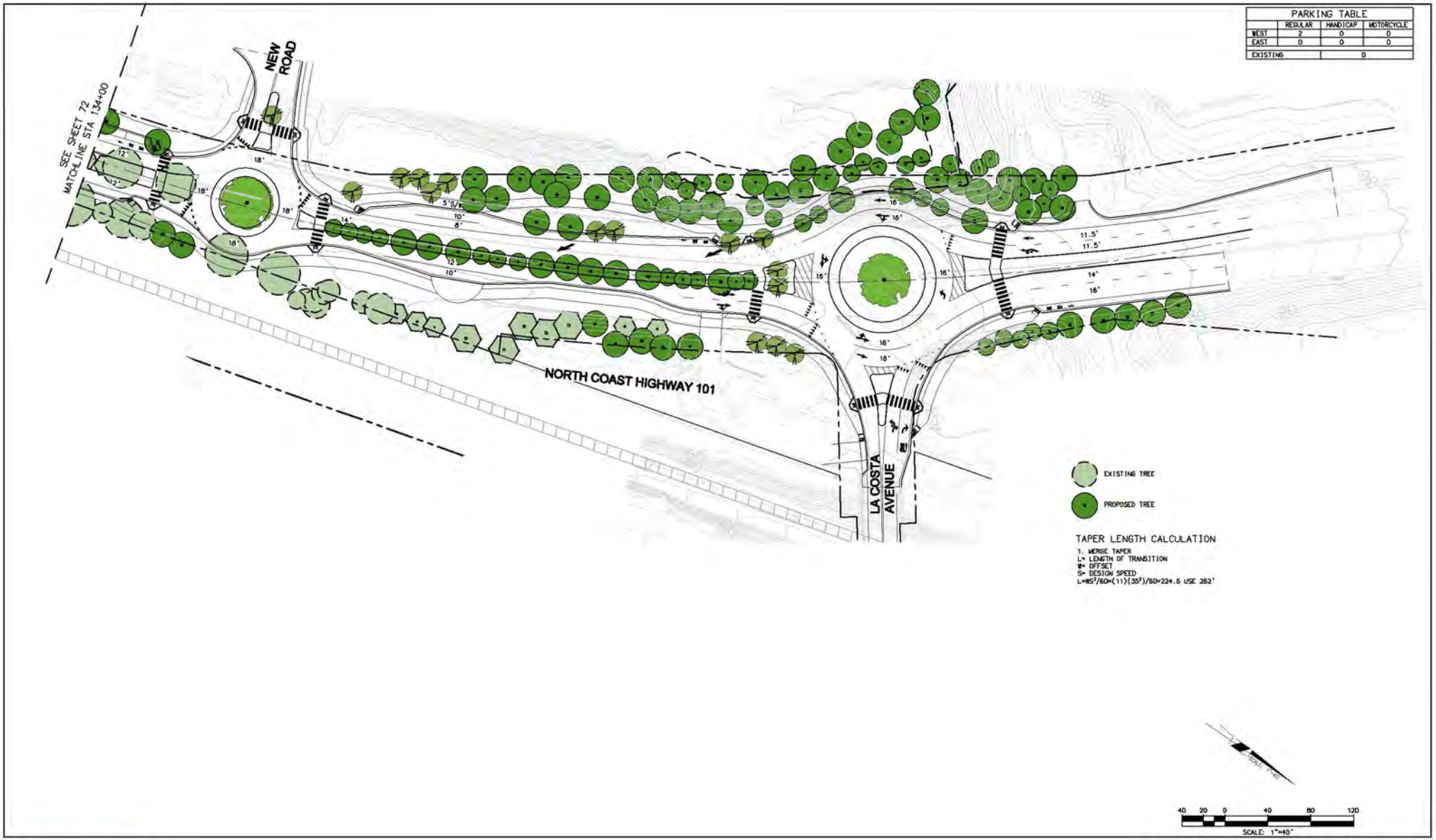
Source: Michael Baker International, November 30, 2016
137350Exhibits.indd

Marea Village LTA Appendix

North Coast Highway 101 Streetscape Improvement Project

PROPOSED PROJECT DESIGN

Figure 2-3F



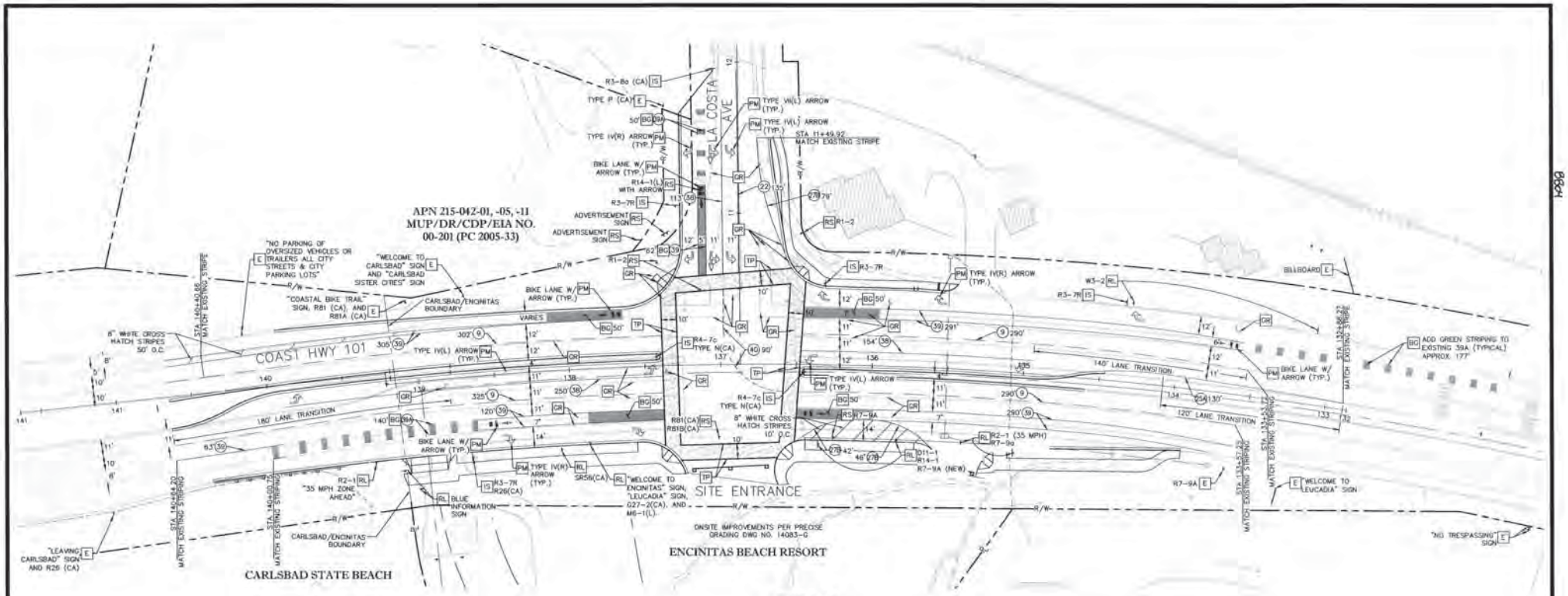
Michael Baker INTERNATIONAL

Source: Michael Baker International, November 30, 2016
137350Exhibits.indd

North Coast Highway 101 Streetscape Improvement Project

PROPOSED PROJECT DESIGN

Figure 2-3G



LEGEND

- EXISTING CURB
- EXISTING STRIPING
- PROPOSED STRIPING
- PROPOSED GREEN BIKE LANE TREATMENT (ENNIS-FLINT GREEN FAST DRY TRAFFIC PAINT OR APPROV. EQUIV. AND SWARCO REFLEX GLASS BEADS OR APPROV. EQUIV.) [BG]
- EXISTING STRIPING TO REMAIN (E)
- EXISTING SIGN TO REMAIN [E]
- INSTALL SIGN – TYPE AS NOTED ON PLAN [IS]
- INSTALL STRIPING PER CALTRANS STANDARD PLANS. NUMBER REFERS TO DETAIL (#)
- PAVEMENT MARKING – TYPE AS NOTED ON PLAN [PM]
- RELOCATE SIGN BEHIND NEW CURB UNLESS OTHERWISE SPECIFIED [RL]
- REMOVE EXISTING STRIPING BY GRINDING. ALL DEBRIS TO BE REMOVED AT THE END OF EACH WORK DAY. [GR]
- REMOVE AND SALVAGE [RS]
- 12" THERMOPLASTIC CROSSWALK LINES (TYPICAL FOR INTERSECTION) [TP]

SIGN LEGEND

D11-1 BIKE ROUTE
G27-2(CA) MARKER
R1-2 YIELD
R2-1 SPEED LIMIT 50
R3-7L LEFT LANE MUST TURN LEFT
R3-7R RIGHT LANE MUST TURN RIGHT
R4-7c
R7-9A BIKE LANE
R14-1 TRUCK ROUTE
R14-1(L) TRUCK ROUTE
R26(CA) NO PARKING ANY TIME
R3-8a (CA) ONLY ONLY
R81(CA) BIKE LANE
R81A(CA) BEGIN
R81B(CA) END
M6-1(L)(CA)
SR56(CA) PHOTO ENFORCED

Type P (CA) Object Marker (Type 3) (obstructions adjacent to the roadway)

(OM-3L) (OM-3R)

SCALE 1" = 30'

CHANGE NO.	DESCRIPTION	APPROVED	DATE

BENCHMARK
DESCRIPTION: PT NO. 22 STA 0139-022 PER BOS 17271
LOCATION: PD, 2" IRON PIPE AND DISK IN AC PATH, NORTH SIDE OF LA COSTA AVE. AT VULCAN AVENUE 13' OFF SHOULDER
RECORD FROM: SAN DIEGO COUNTY
ELEVATION: 62.849 DATUM: NAVD 88

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

AS-BUILT
MARK L. HENNING DATE
REVIEWER INSPECTOR SENIOR ENGINEER

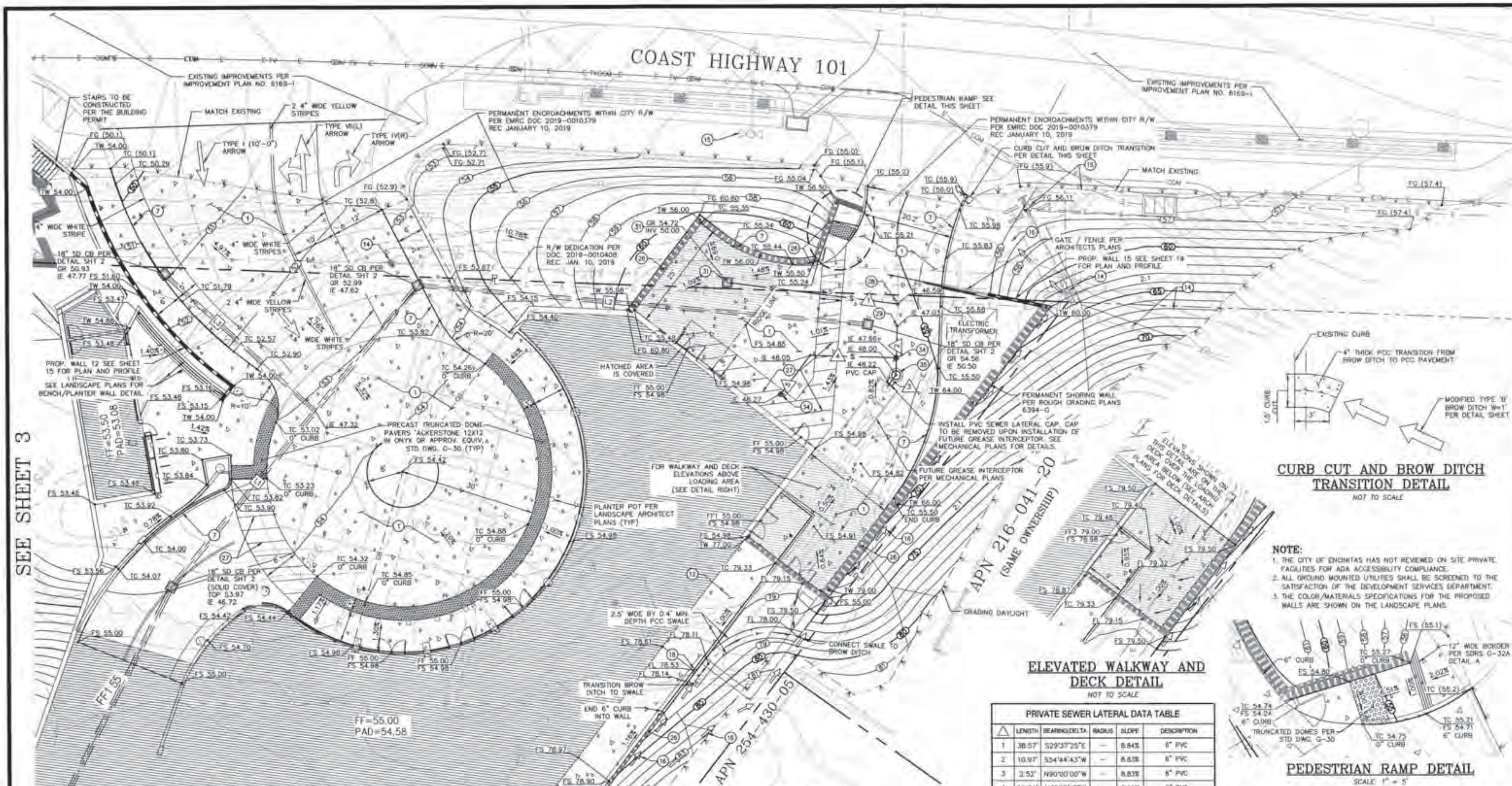
DESIGNED BY: MHH DRAWN BY: MHH CHECKED BY: MLH
PLANS PREPARED UNDER SUPERVISION OF
MARK L. HENNING DATE: 2/8/19
R.C.E. NO.: 58007 EXP.: 06/30/20

ENGINEERING DIVISION APPROVALS
RECOMMENDED: STEVEN NOWAK DATE 3-1-19
APPROVED: EDWARD ALTIMMER DATE 3/1/2019

CITY OF ENCINITAS - DEVELOPMENT SERVICES DEPARTMENT
TRAFFIC STRIPING PLAN FOR:
ENCINITAS BEACH HOTEL
COAST HIGHWAY 101
WIDENING
PLANNING CASE NO: TPM-89-014 APN: 216-041-26

DRAWING NO. 6169-I
SHEET 13 OF 20

HALE ENGINEERING AND SURVEYING, INC.
7910 CONVOY COURT, SAN DIEGO, CA 92111
TEL: (858) 715-1420 FAX: (858) 715-1424



CURB CUT AND BROW DITCH TRANSITION DETAIL

NOT TO SCALE

NOTE:

1. THE CITY OF ENCINITAS HAS NOT REVIEWED ON SITE PRIVATE FACILITIES FOR ADA ACCESSIBILITY COMPLIANCE.
2. ALL GROUND MOUNTED UTILITIES SHALL BE SCREENED TO THE SATISFACTION OF THE DEVELOPMENT SERVICES DEPARTMENT.
3. THE COLOR/MATERIALS SPECIFICATIONS FOR THE PROPOSED WALLS ARE SHOWN ON THE LANDSCAPE PLANS.

ELEVATED WALKWAY AND DECK DETAIL

NOT TO SCALE

PEDESTRIAN RAMP DETAIL

SCALE: 1" = 5'

PRIVATE SEWER LATERAL DATA TABLE					
△	LENGTH	BEARING/DELTA	RADIUS	SLOPE	DESCRIPTION
1	38.57'	S29°37'25"E	—	8.84%	6" PVC
2	10.97'	S34°44'43"W	—	8.83%	6" PVC
3	2.52'	N90°00'00"W	—	8.83%	6" PVC
4	19.34'	N35°15'17"W	—	2.00%	6" PVC
5	10.99'	N89°24'04"W	—	2.00%	6" PVC

SEE SHEET 5

PLAN VIEW

SCALE 1" = 10'

SEE SHEET 10

SCALE: 1" = 10'

CONSTRUCTION NOTES

(1) – INSTALL 6" DECORATIVE P.C.C. OVER 6" CLASS 2 AGGREGATE BASE COMPACTED TO 95% PER ASTM D1557. FINISH PER LANDSCAPE PLANS.

(7) – INSTALL 6" CURB PER SDRS DWG G-1.

(12) – INSTALL 5' WIDE SIDEWALK PER DETAIL, SHEET 2.

(14) – EXISTING UTILITY TO BE REMOVED PER GRADING PLAN NO. 6394-G.

(15) – PROTECT IN PLACE EXISTING UTILITIES.

(16) – INSTALL MODIFIED TYPE 'B' BROW DITCH PER DETAIL, SHEET 2.

(18) – INSTALL ONE FOOT WIDE CURB CUT AND PCC APRON, DIRECT RUNOFF TO BROW DITCH.

(26) – RETAINING WALL PER ARCHITECT PLANS.

(27) – INSTALL 4" WIDE BLUE STRIPE AT 3' O.C.

(28) – CONNECT TO EXISTING SEWER CLEANOUT PER 6169-I.

(29) – CONNECT TO EXISTING SEWER STUB PER 6169-I

(31) – COVERED TRASH AREA DRAIN TO SEWER. USE 18" CATCH BASIN PER DETAIL SHEET 2 W/ A REM 'TRITON VPF FILTER SERIES', CARTRIDGE 'TR10-CART' WITH FOG MEDIA OR AN APPROVED EQUIVALENT FOR FILTER. FILTER TO BE PROVIDED WITH AN OVERFLOW CAP TO BE SOLVENT WELDED TO THE TOP OF THE FILTER.

(34) – INSTALL SEWER CLEANOUT PER LWD STD S-25

(35) – INSTALL SEWER SAMPLE BOX, JENSEN PRECAST MODEL EV200 OR APPROVED EQUIVALENT

PRIVATE STORM DRAIN DATA TABLE					
☐	LENGTH	BEARING/DELTA	RADIUS	SLOPE	DESCRIPTION
L1	87.59'	S87°39'14"E	—	1.00%	12" HDPE PVT SD*
L2	101.41'	S31°53'35"E	—	2.68%	10" HDPE PVT SD*
L3	45.77'	N5°36'53"E	—	1.00%	10" HDPE PVT SD*

*HDPE PER AASHTO M252 & M294 WITH WATER TIGHT JOINTS

KEY MAP

CHANGE NO.	DESCRIPTION	APPROVED	DATE	BENCHMARK	SCALE	AS-BUILT
				DESCRIPTION: PT NO. 22 STA CL5B-022 PER ROS 17271 LOCATION: FD. 2" IRON PIPE AND DISK IN AC PATH, NORTH SIDE OF LA COSTA AVE. AT VULCAN AVENUE 13' OFF SHOULDER RECORD FROM: SAN DIEGO COUNTY ELEVATION: 82.949 DATUM: NAVD 88	HORIZONTAL: 1"=10' VERTICAL: N/A	MARK L. HENNING DATE REVIEWER INSPECTOR SENIOR ENGINEER

DESIGNED BY: WHM | DRAWN BY: WHM | CHECKED BY: MLH

PLANS PREPARED UNDER SUPERVISION OF
DATE: 3/27/19
R.C.E. NO.: 58007
MARK L. HENNING
EXP.: 06/30/20

ENGINEERING DIVISION APPROVALS
RECOMMENDED: STEVEN NOWAK DATE
APPROVED: EDWARD J. WIMMER DATE

CITY OF ENCINITAS - DEVELOPMENT SERVICES DEPARTMENT
GRADING PLAN FOR:
ENCINITAS BEACH RESORT
PRECISE GRADING
APN: 216-041-28
PLANNING CASE NO. TPM-89-014 18-257 SUBC

DRAWING NO. 14083-G
SHEET 4 OF 25

HALE ENGINEERING AND SURVEYING, INC. 7910 CONVOY COURT, SAN DIEGO, CA 92111 TEL: (858) 715-1420

Appendix L

Cumulative Project Volumes

1) Carlsbad Blvd SB/Avenida Encinas	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**0**	**0**	**50**	**25**	**0**	**0**	**0**	**0**	**69**	**0**	**0**
Enc 04-268 Hotel 130r	x	x	x		4	x	x	x	x		x	x
Enc multiple (1)	x	x	x		1	x	x	x	x		x	x
Enc 15-222 48du	x	x	x		1	x	x	x	x		x	x
Enc 18-188 Hotel 17r	x	x	x		1	x	x	x	x		x	x
Enc 18-135 108beds	x	x	x		1	x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
Housing AD08 72 du	x	x	x		1	x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
Carlsbad Newage Hotel	x	x	x	46		x	x	x	x	31	x	x
Carlsbad Ponto	x	x	x	3	12	x	x	x	x	37	x	x
Unknown/Distant	x	x	x	1	4	x	x	x	x	1	x	x
	x	x	x			x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
	x	x	x			x	x	x	x		x	x
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**()**	**()**	**(69)**	**(27)**	**()**	**()**	**()**	**()**	**(68)**	**()**	**()**
Enc 04-268 Hotel 130r	x	x	x		(6)	x	x	x	x		x	x
Enc multiple (1)	x	x	x		(2)	x	x	x	x		x	x
Enc 15-222 48du	x	x	x		(3)	x	x	x	x		x	x
Enc 18-188 Hotel 17r	x	x	x		(1)	x	x	x	x		x	x
Enc 18-135 108beds					(1)							
()												
()												
()												
()												
()	x	x	x			x	x	x	x		x	x
()	x	x	x			x	x	x	x		x	x
Housing AD08 72 du	x	x	x		(2)	x	x	x	x		x	x
()	x	x	x			x	x	x	x		x	x
Carlsbad Newage Hotel	x	x	x	(62)		x	x	x	x	(41)	x	x
Carlsbad Ponto	x	x	x	(6)	(8)	x	x	x	x	(26)	x	x
Unknown/Distant	x	x	x	(1)	(4)	x	x	x	x	(1)	x	x
()	x	x	x			x	x	x	x		x	x
()	x	x	x			x	x	x	x		x	x
()	x	x	x			x	x	x	x		x	x
()	x	x	x			x	x	x	x		x	x
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

2) Caliente/SR905 WB Ramp	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**23**	**68**	**0**	**0**	**0**	**1**	**50**	**0**	**0**	**69**	**35**
Enc 04-268 Hotel 130r	x	3		x	x	x			x	x		
Enc multiple (1)	x	2		x	x	x			x	x		
Enc 15-222 48du	x	2		x	x	x			x	x		
Enc 18-188 Hotel 17r	x	1		x	x	x			x	x		
Enc 18-135 108beds	x			x	x	x			x	x		
0	x			x	x	x			x	x		
0	x			x	x	x			x	x		
0	x			x	x	x			x	x		
0	x			x	x	x			x	x		
0	x			x	x	x			x	x		
0	x			x	x	x			x	x		
Housing AD08 72 du	x	3		x	x	x			x	x		
0	x			x	x	x			x	x		
Carlsbad Newage Hotel	x		47	x	x	x		46	x	x	31	31
Carlsbad Ponto	x	8	20	x	x	x		3	x	x	37	3
Unknown/Distant	x	4	1	x	x	x	1	1	x	x	1	1
0	x			x	x	x			x	x		
0	x			x	x	x			x	x		
0	x			x	x	x			x	x		
0	x			x	x	x			x	x		
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**(33)**	**(109)**	**()**	**()**	**()**	**(1)**	**(69)**	**()**	**()**	**(68)**	**(44)**
Enc 04-268 Hotel 130r	x	(4)		x	x	x			x	x		
Enc multiple (1)	x	(1)		x	x	x			x	x		
Enc 15-222 48du	x	(1)		x	x	x			x	x		
Enc 18-188 Hotel 17r	x	(1)		x	x	x			x	x		
Enc 18-135 108beds		(1)										
()												
()												
()												
()												
()	x			x	x	x			x	x		
()	x			x	x	x			x	x		
Housing AD08 72 du	x	(1)		x	x	x			x	x		
()	x			x	x	x			x	x		
Carlsbad Newage Hotel	x		(61)	x	x	x		(62)	x	x	(41)	(41)
Carlsbad Ponto	x	(20)	(47)	x	x	x		(6)	x	x	(26)	(2)
Unknown/Distant	x	(4)	(1)	x	x	x	(1)	(1)	x	x	(1)	(1)
()	x			x	x	x			x	x		
()	x			x	x	x			x	x		
()	x			x	x	x			x	x		
()	x			x	x	x			x	x		
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

3) N. Coast Hwy/La Costa	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**7**	**26**	**7**	**62**	**27**	**4**	**3**	**24**	**4**	**9**	**36**	**63**
Enc 04-268 Hotel 130r	7					4	3	24	4		36	
Enc multiple (1)		1			1							1
Enc 15-222 48du			1	1						2		2
Enc 18-188 Hotel 17r			1	1						1		
Enc 18-135 108beds				1								
0												
0												
0												
0												
0												
0												
Housing AD08 72 du			1	1						3		3
0												
Carlsbad Newage Hotel		12		23	8							35
Carlsbad Ponto		8		34	14							20
Unknown/Distant		5	4	1	4					3		2
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**(9)**	**(39)**	**(10)**	**(65)**	**(25)**	**(6)**	**(4)**	**(32)**	**(6)**	**(6)**	**(47)**	**(101)**
Enc 04-268 Hotel 130r	(9)					(6)	(4)	(32)	(6)		(47)	
Enc multiple (1)		(1)		(1)	(1)							(1)
Enc 15-222 48du			(3)	(3)						(1)		(1)
Enc 18-188 Hotel 17r			(1)	(1)						(1)		
Enc 18-135 108beds				(1)								(1)
()												
()												
()												
()												
()												
()												
Housing AD08 72 du			(2)	(2)						(1)		(1)
()												
Carlsbad Newage Hotel		(15)		(31)	(10)							(46)
Carlsbad Ponto		(18)		(25)	(10)							(49)
Unknown/Distant		(5)	(4)	(1)	(4)					(3)		(2)
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

4) N. Coast Hwy/Project Access	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**40**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Enc 04-268 Hotel 130r		7			4							
Enc multiple (1)		1			1							
Enc 15-222 48du		1			2							
Enc 18-188 Hotel 17r		1			1							
Enc 18-135 108beds												
0												
0												
0												
0												
0												
0												
Housing AD08 72 du		1			3							
0												
Carlsbad Newage Hotel		12			8							
Carlsbad Ponto		8			14							
Unknown/Distant		9			7							
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**(58)**	**()**	**()**	**(37)**	**()**	**()**	**()**	**()**	**()**	**()**	**()**
Enc 04-268 Hotel 130r		(9)			(6)							
Enc multiple (1)		(1)			(1)							
Enc 15-222 48du		(3)			(1)							
Enc 18-188 Hotel 17r		(1)			(1)							
Enc 18-135 108beds												
()												
()												
()												
()												
()												
()												
Housing AD08 72 du		(2)			(1)							
()												
Carlsbad Newage Hotel		(15)			(10)							
Carlsbad Ponto		(18)			(10)							
Unknown/Distant		(9)			(7)							
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

5) N. Coast Hwy/Bishops Gate	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**40**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Enc 04-268 Hotel 130r		7			4							
Enc multiple (1)		1			1							
Enc 15-222 48du		1			2							
Enc 18-188 Hotel 17r		1			1							
Enc 18-135 108beds												
0												
0												
0												
0												
0												
0												
Housing AD08 72 du		1			3							
0												
Carlsbad Newage Hotel		12			8							
Carlsbad Ponto		8			14							
Unknown/Distant		9			7							
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**(58)**	**()**	**()**	**(37)**	**()**	**()**	**()**	**()**	**()**	**()**	**()**
Enc 04-268 Hotel 130r		(9)			(6)							
Enc multiple (1)		(1)			(1)							
Enc 15-222 48du		(3)			(1)							
Enc 18-188 Hotel 17r		(1)			(1)							
Enc 18-135 108beds												
()												
()												
()												
()												
()												
()												
Housing AD08 72 du		(2)			(1)							
()												
Carlsbad Newage Hotel		(15)			(10)							
Carlsbad Ponto		(18)			(10)							
Unknown/Distant		(9)			(7)							
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

6) N. Coast Hwy/Grandview	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**40**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Enc 04-268 Hotel 130r		7			4							
Enc multiple (1)		1			1							
Enc 15-222 48du		1			2							
Enc 18-188 Hotel 17r		1			1							
Enc 18-135 108beds												
0												
0												
0												
0												
0												
0												
Housing AD08 72 du		1			3							
0												
Carlsbad Newage Hotel		12			8							
Carlsbad Ponto		8			14							
Unknown/Distant		9			7							
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**(58)**	**()**	**()**	**(37)**	**()**	**()**	**()**	**()**	**()**	**()**	**()**
Enc 04-268 Hotel 130r		(9)			(6)							
Enc multiple (1)		(1)			(1)							
Enc 15-222 48du		(3)			(1)							
Enc 18-188 Hotel 17r		(1)			(1)							
Enc 18-135 108beds												
()												
()												
()												
()												
()												
()												
Housing AD08 72 du		(2)			(1)							
()												
Carlsbad Newage Hotel		(15)			(10)							
Carlsbad Ponto		(18)			(10)							
Unknown/Distant		(9)			(7)							
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

7) N. Coast Hwy/Sands MHP	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**40**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Enc 04-268 Hotel 130r		7			4							
Enc multiple (1)		1			1							
Enc 15-222 48du		1			2							
Enc 18-188 Hotel 17r		1			1							
Enc 18-135 108beds												
0												
0												
0												
0												
0												
0												
Housing AD08 72 du		1			3							
0												
Carlsbad Newage Hotel		12			8							
Carlsbad Ponto		8			14							
Unknown/Distant		9			7							
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**(58)**	**()**	**()**	**(37)**	**()**	**()**	**()**	**()**	**()**	**()**	**()**
Enc 04-268 Hotel 130r		(9)			(6)							
Enc multiple (1)		(1)			(1)							
Enc 15-222 48du		(3)			(1)							
Enc 18-188 Hotel 17r		(1)			(1)							
Enc 18-135 108beds												
()												
()												
()												
()												
()												
()												
Housing AD08 72 du		(2)			(1)							
()												
Carlsbad Newage Hotel		(15)			(10)							
Carlsbad Ponto		(18)			(10)							
Unknown/Distant		(9)			(7)							
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

8) N. Coast Hwy/Jupiter St	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**40**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Enc 04-268 Hotel 130r		7			4							
Enc multiple (1)		1			1							
Enc 15-222 48du		1			2							
Enc 18-188 Hotel 17r		1			1							
Enc 18-135 108beds												
0												
0												
0												
0												
0												
0												
Housing AD08 72 du		1			3							
0												
Carlsbad Newage Hotel		12			8							
Carlsbad Ponto		8			14							
Unknown/Distant		9			7							
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**(58)**	**()**	**()**	**(37)**	**()**	**()**	**()**	**()**	**()**	**()**	**()**
Enc 04-268 Hotel 130r		(9)			(6)							
Enc multiple (1)		(1)			(1)							
Enc 15-222 48du		(3)			(1)							
Enc 18-188 Hotel 17r		(1)			(1)							
Enc 18-135 108beds												
()												
()												
()												
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()												
()												
Housing AD08 72 du		(2)			(1)							
()												
Carlsbad Newage Hotel		(15)			(10)							
Carlsbad Ponto		(18)			(10)							
Unknown/Distant		(9)			(7)							
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

9) N. Coast Hwy/Leucadia Blvd	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**36**	**6**	**2**	**37**	**0**	**0**	**0**	**0**	**10**	**0**	**4**
Enc 04-268 Hotel 130r		7			4							
Enc multiple (1)		1	1							5		
Enc 15-222 48du		1			2							
Enc 18-188 Hotel 17r		1			1							
Enc 18-135 108beds												
0												
0												
0												
0												
0												
0												
Housing AD08 72 du		1			3							
0												
Carlsbad Newage Hotel		12			8							
Carlsbad Ponto		8			14							
Unknown/Distant		5	5	2	5					5		4
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**(54)**	**(6)**	**(2)**	**(34)**	**()**	**()**	**()**	**()**	**(6)**	**()**	**(4)**
Enc 04-268 Hotel 130r		(9)			(6)							
Enc multiple (1)		(1)	(1)							(1)		
Enc 15-222 48du		(3)			(1)							
Enc 18-188 Hotel 17r		(1)			(1)							
Enc 18-135 108beds												
()												
()												
()												
()												
()												
()												
Housing AD08 72 du		(2)			(1)							
()												
Carlsbad Newage Hotel		(15)			(10)							
Carlsbad Ponto		(18)			(10)							
Unknown/Distant		(5)	(5)	(2)	(5)					(5)		(4)
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

10) La Costa Ave/N. Vulcan	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**6**	**0**	**21**	**0**	**0**	**0**	**0**	**91**	**1**	**6**	**101**	**0**
Enc 04-268 Hotel 130r								24			36	
Enc multiple (1)	1		3							1		
Enc 15-222 48du			0					2		1	4	
Enc 18-188 Hotel 17r								2			1	
Enc 18-135 108beds								1				
0												
0												
0												
0												
0												
0												
Housing AD08 72 du	5		18						1	4		
0												
Carlsbad Newage Hotel								23			35	
Carlsbad Ponto								34			20	
Unknown/Distant								5			5	
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**(4)**	**()**	**(10)**	**()**	**()**	**()**	**()**	**(102)**	**(6)**	**(22)**	**(150)**	**()**
Enc 04-268 Hotel 130r	(1)							(32)			(46)	
Enc multiple (1)	(1)		(2)						(1)	(4)		
Enc 15-222 48du			(1)					(6)		(1)	(2)	
Enc 18-188 Hotel 17r								(2)			(1)	
Enc 18-135 108beds								(1)			(1)	
()												
()												
()												
()												
()												
()												
Housing AD08 72 du	(2)		(7)						(5)	(17)		
()												
Carlsbad Newage Hotel								(31)			(46)	
Carlsbad Ponto								(25)			(49)	
Unknown/Distant								(5)			(5)	
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

11) La Costa/Sheridan Rd	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**112**	**0**	**10**	**107**	**0**
Enc 04-268 Hotel 130r								24			36	
Enc multiple (1)			10					3		5	1	
Enc 15-222 48du								2			5	
Enc 18-188 Hotel 17r								2			1	
Enc 18-135 108beds								1				
0												
0												
0												
0												
0												
0												
Housing AD08 72 du								18			4	
0												
Carlsbad Newage Hotel								23			35	
Carlsbad Ponto								34			20	
Unknown/Distant			5					5		5	5	
0												
0												
0												
0												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**()**	**(5)**	**()**	**()**	**()**	**()**	**(112)**	**()**	**(15)**	**(172)**	**()**
Enc 04-268 Hotel 130r								(32)			(46)	
Enc multiple (1)								(2)		(10)	(4)	
Enc 15-222 48du								(7)			(3)	
Enc 18-188 Hotel 17r								(2)			(1)	
Enc 18-135 108beds								(1)			(1)	
()												
()												
()												
()												
()												
()												
Housing AD08 72 du								(7)			(17)	
()												
Carlsbad Newage Hotel								(31)			(46)	
Carlsbad Ponto								(25)			(49)	
Unknown/Distant			(5)					(5)		(5)	(5)	
()												
()												
()												
()												
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

12) La Costa/I-5 SB Ramps	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**0**	**0**	**0**	**12**	**0**	**15**	**0**	**50**	**82**	**31**	**101**	**0**
Enc 04-268 Hotel 130r	x	x	x			10	x	12	12		26	x
Enc multiple (1)	x	x	x			1	x	2	1			x
Enc 15-222 48du	x	x	x			1	x	11	10		9	x
Enc 18-188 Hotel 17r	x	x	x			1	x	2	1		4	x
Enc 18-135 108beds	x	x	x	2			x	1		1		x
0	x	x	x				x					x
0	x	x	x				x					x
0	x	x	x				x					x
0	x	x	x				x					x
0	x	x	x				x					x
0	x	x	x				x					x
Housing AD08 72 du	x	x	x			2	x	10	8		2	x
0	x	x	x				x					x
Carlsbad Newage Hotel	x	x	x				x		23		35	x
Carlsbad Ponto	x	x	x				x	9	25		20	x
Unknown/Distant	x	x	x	10			x	3	2	30	5	x
0	x	x	x				x					x
0	x	x	x				x					x
0	x	x	x				x					x
0	x	x	x				x					x
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**()**	**()**	**()**	**(13)**	**()**	**(26)**	**()**	**(39)**	**(78)**	**(33)**	**(175)**	**()**
Enc 04-268 Hotel 130r	x	x	x			(12)	x	(16)	(16)		(34)	x
Enc multiple (1)	x	x	x			(2)	x	(1)	(1)		(2)	x
Enc 15-222 48du	x	x	x			(3)	x	(5)	(5)		(23)	x
Enc 18-188 Hotel 17r	x	x	x			(2)	x	(2)	(2)		(5)	x
Enc 18-135 108beds				(3)				(1)		(3)	(1)	
()												
()												
()												
()												
()	x	x	x				x					x
()	x	x	x				x					x
Housing AD08 72 du	x	x	x			(7)	x	(4)	(3)		(10)	x
()	x	x	x				x					x
Carlsbad Newage Hotel	x	x	x				x		(31)		(46)	x
Carlsbad Ponto	x	x	x				x	(7)	(18)		(49)	x
Unknown/Distant	x	x	x	(10)			x	(3)	(2)	(30)	(5)	x
()	x	x	x				x					x
()	x	x	x				x					x
()	x	x	x				x					x
()	x	x	x				x					x
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

13) La Costa/I-5 NB Ramps	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM Cumulative Total	**75**	**0**	**22**	**0**	**0**	**0**	**21**	**32**	**0**	**0**	**58**	**1**
Enc 04-268 Hotel 130r	16			x	x	x	6	6	x	x	10	
Enc multiple (1)				x	x	x	1	1	x	x		
Enc 15-222 48du	5			x	x	x	3	8	x	x	4	
Enc 18-188 Hotel 17r	2			x	x	x	1	1	x	x	2	
Enc 18-135 108beds			2	x	x	x		3	x	x	1	1
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
Housing AD08 72 du	2			x	x	x	8	3	x	x	1	
0				x	x	x			x	x		
Carlsbad Newage Hotel	35			x	x	x			x	x		
Carlsbad Ponto	15			x	x	x		9	x	x	5	
Unknown/Distant			20	x	x	x	2	1	x	x	35	
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												
PM Cumulative Total	**(130)**	**()**	**(38)**	**()**	**()**	**()**	**(16)**	**(26)**	**()**	**()**	**(77)**	**(3)**
Enc 04-268 Hotel 130r	(22)			x	x	x	(8)	(8)	x	x	(12)	
Enc multiple (1)	(2)			x	x	x	(1)		x	x		
Enc 15-222 48du	(13)			x	x	x	(1)	(4)	x	x	(10)	
Enc 18-188 Hotel 17r	(3)			x	x	x	(1)	(1)	x	x	(2)	
Enc 18-135 108beds			(3)					(4)			(4)	(3)
()												
()												
()												
()												
()				x	x	x			x	x		
()				x	x	x			x	x		
Housing AD08 72 du	(7)			x	x	x	(3)	(1)	x	x	(2)	
()				x	x	x			x	x		
Carlsbad Newage Hotel	(46)			x	x	x			x	x		
Carlsbad Ponto	(37)			x	x	x		(7)	x	x	(12)	
Unknown/Distant			(35)	x	x	x	(2)	(1)	x	x	(35)	
()				x	x	x			x	x		
()				x	x	x			x	x		
()				x	x	x			x	x		
()				x	x	x			x	x		
(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.												

		04-268	Encinitas	15-222	18-135	18-188	AD08	Carlsbad	Carlsbad	Distant/
Study	**Cumulative**	130 Rm	Multiple(1)	Weston	108 beds	516 LaCosta	1967 Vulcan	Ponto	Newage Hotel	Unknown
Segment	**TOTAL**	hotel		48 lots	care home	hotel	Redev.	Beach	322 rm	
Carlsbad Blvd										
Avenida Encinas to La Costa Ave	**2,791**	117	10	41	20	20	37	1,158	1,288	100
Coast Highway										
La Costa Ave to 600' S. of La Costa	**1,064**	195	20	37	7	23	37	323	322	100
600' S. of La Costa to Bishops Gate	**1,064**	195	20	37	7	23	37	323	322	100
Bishops Gate to Grandview St	**1,062**	195	20	37	7	21	37	323	322	100
Grandview St to Jupiter St	**1,062**	195	20	37	7	21	37	323	322	100
Jupiter St to Leucadia Blvd	**1,061**	195	20	37	7	20	37	323	322	100
La Costa Avenue										
Coast Hwy to N. Vulcan	**3,241**	988	30	78	27	43	74	835	966	200
N. Vulcan to Sheridan Rd	**3,418**	975	20	92	27	43	260	835	966	200
Sheridan Rd to I-5	**3,779**	975	20	368	27	128	260	835	966	200

(1) includes 13-187, 17-152, 17-197, 17-280, 18-220.

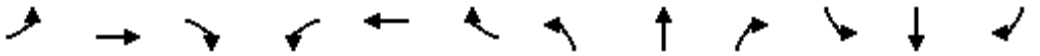
Appendix M

Existing + Cumulative Intersection LOS Calculations

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	242	0	0	0	58	1123
Future Volume (vph)	242	0	0	0	58	1123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				1.00	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				1770	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	263	0	0	0	63	1221
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	263	0	0	0	63	1221
Confl. Peds. (#/hr)		30			30	
Confl. Bikes (#/hr)		30		30		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	12.8				4.5	45.8
Effective Green, g (s)	12.8				4.5	45.8
Actuated g/C Ratio	0.17				0.06	0.59
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	569				103	2099
v/s Ratio Prot	c0.08				0.04	c0.34
v/s Ratio Perm						
v/c Ratio	0.46				0.61	0.58
Uniform Delay, d1	29.1				35.5	9.8
Progression Factor	0.10				1.00	1.00
Incremental Delay, d2	0.6				10.3	0.4
Delay (s)	3.4				45.8	10.2
Level of Service	A				D	B
Approach Delay (s)	3.4		0.0			11.9
Approach LOS	A		A			B

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

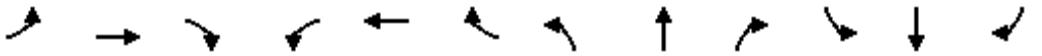
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	57	0	0	242	41	0	219	133	0	0	0
Future Volume (vph)	2	57	0	0	242	41	0	219	133	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.99			1.00	0.87			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		1860			3422			3539	1376			
Flt Permitted		1.00			1.00			1.00	1.00			
Satd. Flow (perm)		1860			3422			3539	1376			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	62	0	0	263	45	0	238	145	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	91	0	0	0
Lane Group Flow (vph)	0	64	0	0	292	0	0	238	54	0	0	0
Confl. Peds. (#/hr)			20			20			20			
Confl. Bikes (#/hr)			30			30			30			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		6.6			12.8			37.3	12.8			
Effective Green, g (s)		6.6			12.8			37.3	12.8			
Actuated g/C Ratio		0.09			0.17			0.48	0.17			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		159			567			1709	228			
v/s Ratio Prot		c0.03			c0.09			c0.07				
v/s Ratio Perm									0.04			
v/c Ratio		0.40			0.52			0.14	0.24			
Uniform Delay, d1		33.4			29.4			11.1	28.0			
Progression Factor		1.42			1.00			1.00	1.00			
Incremental Delay, d2		1.5			0.8			0.2	0.5			
Delay (s)		49.1			30.2			11.2	28.5			
Level of Service		D			C			B	C			
Approach Delay (s)		49.1			30.2			17.8			0.0	
Approach LOS		D			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	30.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	24	4	250	36	165	7	193	197	327	1029	4
Future Volume (veh/h)	3	24	4	250	36	165	7	193	197	327	1029	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.67	1.00		0.93	1.00		0.91	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	26	4	272	39	179	8	210	214	355	1118	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	12	104	67	318	46	299	15	1033	419	408	1817	761
Arrive On Green	0.06	0.06	0.06	0.20	0.20	0.20	0.01	0.29	0.29	0.23	0.51	0.51
Sat Flow, veh/h	192	1668	1068	1567	225	1471	1781	3554	1441	1781	3554	1489
Grp Volume(v), veh/h	29	0	4	311	0	179	8	210	214	355	1118	4
Grp Sat Flow(s),veh/h/ln	1861	0	1068	1792	0	1471	1781	1777	1441	1781	1777	1489
Q Serve(g_s), s	1.1	0.0	0.3	12.4	0.0	8.2	0.3	3.3	9.2	14.3	16.7	0.1
Cycle Q Clear(g_c), s	1.1	0.0	0.3	12.4	0.0	8.2	0.3	3.3	9.2	14.3	16.7	0.1
Prop In Lane	0.10		1.00	0.87		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	0	67	364	0	299	15	1033	419	408	1817	761
V/C Ratio(X)	0.25	0.00	0.06	0.85	0.00	0.60	0.55	0.20	0.51	0.87	0.62	0.01
Avail Cap(c_a), veh/h	400	0	230	386	0	317	96	1033	419	599	1817	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	32.8	28.6	0.0	26.9	36.7	19.9	22.0	27.6	13.0	8.9
Incr Delay (d2), s/veh	1.1	0.0	0.4	16.3	0.0	2.8	28.4	0.4	4.4	9.3	1.6	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	0.1	6.7	0.0	3.0	0.3	1.4	3.5	6.8	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	0.0	33.2	44.8	0.0	29.7	65.1	20.3	26.4	36.9	14.5	8.9
LnGrp LOS	C	A	C	D	A	C	E	C	C	D	B	A
Approach Vol, veh/h		33			490			432			1477	
Approach Delay, s/veh		34.2			39.3			24.2			19.9	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.0	25.6		8.6	4.6	42.0		19.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	25.0	17.0		16.0	4.0	38.0		16.0				
Max Q Clear Time (g_c+I1), s	16.3	11.2		3.1	2.3	18.7		14.4				
Green Ext Time (p_c), s	0.8	1.1		0.1	0.0	8.2		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			24.8									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	60	8	416	1657	26
Future Vol, veh/h	0	60	8	416	1657	26
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	63	8	438	1744	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1798	1791	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	99	345	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	96	339	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	96	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	339	-	96	-	-
HCM Lane V/C Ratio	0.025	-	0.658	-	-
HCM Control Delay (s)	15.9	-	96	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.2	-	-

Intersection	
Intersection Delay, s/veh	40.4
Intersection LOS	E

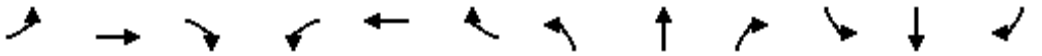
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	57	309	1419
Demand Flow Rate, veh/h	59	315	1447
Vehicles Circulating, veh/h	1423	29	8
Vehicles Exiting, veh/h	32	1453	336
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	10.9	4.6	49.4
Approach LOS	B	A	E

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	59	315	1447
Cap Entry Lane, veh/h	424	1386	1410
Entry HV Adj Factor	0.966	0.981	0.981
Flow Entry, veh/h	57	309	1419
Cap Entry, veh/h	409	1355	1380
V/C Ratio	0.139	0.228	1.029
Control Delay, s/veh	10.9	4.6	49.4
LOS	B	A	F
95th %tile Queue, veh	0	1	26

Intersection	
Intersection Delay, s/veh	26.5
Intersection LOS	D

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	36	232	1305
Demand Flow Rate, veh/h	36	236	1331
Vehicles Circulating, veh/h	1323	15	10
Vehicles Exiting, veh/h	18	1344	241
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	8.9	4.0	31.0
Approach LOS	A	A	D

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	36	236	1331
Cap Entry Lane, veh/h	461	1402	1408
Entry HV Adj Factor	1.000	0.981	0.981
Flow Entry, veh/h	36	232	1305
Cap Entry, veh/h	461	1372	1377
V/C Ratio	0.078	0.169	0.948
Control Delay, s/veh	8.9	4.0	31.0
LOS	A	A	D
95th %tile Queue, veh	0	1	18



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	38	9	219	23	100	5	208	63	386	1294	1
Future Volume (veh/h)	11	38	9	219	23	100	5	208	63	386	1294	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.92	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	41	10	186	98	109	5	226	68	420	1407	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	16	55	13	311	135	150	9	1017	433	475	1996	1
Arrive On Green	0.05	0.05	0.05	0.17	0.17	0.17	0.01	0.29	0.29	0.27	0.55	0.55
Sat Flow, veh/h	337	1152	281	1781	772	859	1781	3554	1512	1781	3644	3
Grp Volume(v), veh/h	63	0	0	186	0	207	5	226	68	420	686	722
Grp Sat Flow(s),veh/h/ln	1770	0	0	1781	0	1631	1781	1777	1512	1781	1777	1870
Q Serve(g_s), s	2.5	0.0	0.0	6.9	0.0	8.5	0.2	3.5	2.4	16.1	20.3	20.3
Cycle Q Clear(g_c), s	2.5	0.0	0.0	6.9	0.0	8.5	0.2	3.5	2.4	16.1	20.3	20.3
Prop In Lane	0.19		0.16	1.00		0.53	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	84	0	0	311	0	285	9	1017	433	475	973	1024
V/C Ratio(X)	0.75	0.00	0.00	0.60	0.00	0.73	0.53	0.22	0.16	0.88	0.70	0.70
Avail Cap(c_a), veh/h	621	0	0	400	0	366	100	1017	433	650	973	1024
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	33.5	0.0	0.0	27.1	0.0	27.8	35.3	19.4	19.0	25.0	11.9	11.9
Incr Delay (d2), s/veh	12.5	0.0	0.0	1.8	0.0	5.1	39.3	0.5	0.8	10.7	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.9	0.0	3.6	0.2	1.4	0.9	7.8	7.9	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	0.0	0.0	28.9	0.0	32.9	74.7	19.9	19.8	35.7	16.1	15.9
LnGrp LOS	D	A	A	C	A	C	E	B	B	D	B	B
Approach Vol, veh/h		63			393			299			1828	
Approach Delay, s/veh		46.0			31.0			20.8			20.6	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.0	24.4		7.4	4.4	43.0		16.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	26.0	17.0		25.0	4.0	39.0		16.0				
Max Q Clear Time (g_c+I1), s	18.1	5.5		4.5	2.2	22.3		10.5				
Green Ext Time (p_c), s	0.9	1.2		0.2	0.0	9.2		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		22.8	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	81.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	401	51	258	462	0	26	0	208	0	1	0
Future Vol, veh/h	0	401	51	258	462	0	26	0	208	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	436	55	280	502	0	28	0	226	0	1	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	26.9	137.6	14.4	11.6
HCM LOS	D	F	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	36%	0%
Vol Thru, %	0%	0%	89%	64%	100%
Vol Right, %	0%	100%	11%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	208	452	720	1
LT Vol	26	0	0	258	0
Through Vol	0	0	401	462	1
RT Vol	0	208	51	0	0
Lane Flow Rate	28	226	491	783	1
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.062	0.418	0.777	1.232	0.002
Departure Headway (Hd)	8.352	7.113	6.032	5.669	8.535
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	432	509	604	642	422
Service Time	6.052	4.813	4.032	3.7	6.535
HCM Lane V/C Ratio	0.065	0.444	0.813	1.22	0.002
HCM Control Delay	11.6	14.8	26.9	137.6	11.6
HCM Lane LOS	B	B	D	F	B
HCM 95th-tile Q	0.2	2	7.3	28.5	0

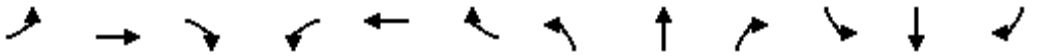
Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	621	12	87	597	12	98
Future Vol, veh/h	621	12	87	597	12	98
Conflicting Peds, #/hr	0	20	20	0	20	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	675	13	95	649	13	107

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	708	0	1561	722
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	859	-
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	-	-	891	-	123	427
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	415	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	876	-	99	413
Mov Cap-2 Maneuver	-	-	-	-	99	-
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	339	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	24
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	307	-	-	876	-
HCM Lane V/C Ratio	0.389	-	-	0.108	-
HCM Control Delay (s)	24	-	-	9.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.8	-	-	0.4	-



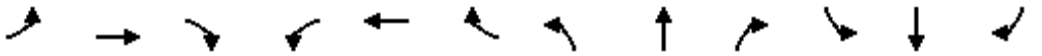
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	643	164	578	542	0	0	0	0	504	10	182
Future Volume (veh/h)	0	643	164	578	542	0	0	0	0	504	10	182
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	699	178	628	589	0				556	0	198
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	1301	331	706	2545	0				694	0	291
Arrive On Green	0.00	0.47	0.47	0.34	1.00	0.00				0.19	0.00	0.19
Sat Flow, veh/h	0	2877	709	3456	3647	0				3563	0	1492
Grp Volume(v), veh/h	0	446	431	628	589	0				556	0	198
Grp Sat Flow(s),veh/h/ln	0	1777	1716	1728	1777	0				1781	0	1492
Q Serve(g_s), s	0.0	16.1	16.1	15.5	0.0	0.0				13.4	0.0	11.1
Cycle Q Clear(g_c), s	0.0	16.1	16.1	15.5	0.0	0.0				13.4	0.0	11.1
Prop In Lane	0.00		0.41	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	831	802	706	2545	0				694	0	291
V/C Ratio(X)	0.00	0.54	0.54	0.89	0.23	0.00				0.80	0.00	0.68
Avail Cap(c_a), veh/h	0	831	802	806	2545	0				990	0	415
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.87	0.87	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.0	17.0	28.7	0.0	0.0				34.6	0.0	33.6
Incr Delay (d2), s/veh	0.0	2.5	2.6	9.8	0.2	0.0				3.2	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	6.8	6.6	6.2	0.1	0.0				6.0	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.5	19.6	38.4	0.2	0.0				37.7	0.0	36.4
LnGrp LOS	A	B	B	D	A	A				D	A	D
Approach Vol, veh/h		877			1217						754	
Approach Delay, s/veh		19.6			19.9						37.4	
Approach LOS		B			B						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	22.4	46.1		21.5		68.5						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	21.0	32.0		25.0		57.0						
Max Q Clear Time (g_c+I1), s	17.5	18.1		15.4		2.0						
Green Ext Time (p_c), s	0.9	4.9		2.1		4.7						

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

Notes

User approved volume balancing among the lanes for turning movement.

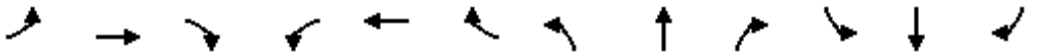


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	927	0	0	983	478	149	1	737	0	0	0
Future Volume (veh/h)	178	927	0	0	983	478	149	1	737	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		0.92			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	193	1008	0	0	1068	520	162	1	801			
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	228	2290	0	0	2410	709	472	3	687			
Arrive On Green	0.26	1.00	0.00	0.00	0.47	0.47	0.27	0.27	0.27			
Sat Flow, veh/h	1781	3647	0	0	5274	1502	1771	11	2575			
Grp Volume(v), veh/h	193	1008	0	0	1068	520	163	0	801			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1502	1782	0	1288			
Q Serve(g_s), s	9.3	0.0	0.0	0.0	12.6	25.2	6.6	0.0	24.0			
Cycle Q Clear(g_c), s	9.3	0.0	0.0	0.0	12.6	25.2	6.6	0.0	24.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	228	2290	0	0	2410	709	475	0	687			
V/C Ratio(X)	0.85	0.44	0.00	0.00	0.44	0.73	0.34	0.00	1.17			
Avail Cap(c_a), veh/h	416	2290	0	0	2410	709	475	0	687			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.6	0.0	0.0	0.0	15.9	19.2	26.6	0.0	33.0			
Incr Delay (d2), s/veh	6.2	0.4	0.0	0.0	0.6	6.6	0.4	0.0	90.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.8	0.1	0.0	0.0	4.8	9.5	2.8	0.0	15.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	0.4	0.0	0.0	16.5	25.8	27.1	0.0	123.1			
LnGrp LOS	D	A	A	A	B	C	C	A	F			
Approach Vol, veh/h		1201			1588			964				
Approach Delay, s/veh		6.6			19.5			106.9				
Approach LOS		A			B			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			15.5	46.5		28.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		58.0			21.0	33.0		24.0				
Max Q Clear Time (g_c+I1), s		2.0			11.3	27.2		26.0				
Green Ext Time (p_c), s		9.6			0.4	4.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			37.8									
HCM 6th LOS			D									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	200	0	0	0	82	535
Future Volume (vph)	200	0	0	0	82	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				1.00	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				1770	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	0	0	0	89	582
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	217	0	0	0	89	582
Confl. Peds. (#/hr)		15			15	
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	13.0				7.6	52.4
Effective Green, g (s)	13.0				7.6	52.4
Actuated g/C Ratio	0.15				0.09	0.62
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	523				157	2176
v/s Ratio Prot	c0.06				c0.05	c0.16
v/s Ratio Perm						
v/c Ratio	0.41				0.57	0.27
Uniform Delay, d1	32.7				37.2	7.6
Progression Factor	0.13				1.00	1.00
Incremental Delay, d2	0.5				4.6	0.1
Delay (s)	4.8				41.9	7.6
Level of Service	A				D	A
Approach Delay (s)	4.8		0.0			12.2
Approach LOS	A		A			B

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

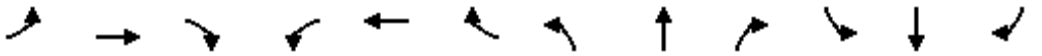
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	80	0	0	200	55	0	673	276	0	0	0
Future Volume (vph)	3	80	0	0	200	55	0	673	276	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.99			1.00	0.92			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.97			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		1860			3388			3539	1453			
Flt Permitted		1.00			1.00			1.00	1.00			
Satd. Flow (perm)		1860			3388			3539	1453			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	87	0	0	217	60	0	732	300	0	0	0
RTOR Reduction (vph)	0	0	0	0	25	0	0	0	254	0	0	0
Lane Group Flow (vph)	0	90	0	0	252	0	0	732	46	0	0	0
Confl. Peds. (#/hr)			15			15			15			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		7.8			13.0			40.8	13.0			
Effective Green, g (s)		7.8			13.0			40.8	13.0			
Actuated g/C Ratio		0.09			0.15			0.48	0.15			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		170			516			1694	221			
v/s Ratio Prot		c0.05			c0.07			c0.21				
v/s Ratio Perm									0.03			
v/c Ratio		0.53			0.49			0.43	0.21			
Uniform Delay, d1		36.9			33.1			14.6	31.6			
Progression Factor		1.47			1.00			1.00	1.00			
Incremental Delay, d2		2.8			0.7			0.8	0.5			
Delay (s)		57.2			33.8			15.4	32.1			
Level of Service		E			C			B	C			
Approach Delay (s)		57.2			33.8			20.2			0.0	
Approach LOS		E			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	32	6	232	47	405	9	644	245	264	362	6
Future Volume (veh/h)	4	32	6	232	47	405	9	644	245	264	362	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.77	1.00		0.95	1.00		0.92	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	35	7	252	51	440	10	700	266	287	393	7
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	14	119	87	383	77	387	18	911	374	285	1444	607
Arrive On Green	0.07	0.07	0.07	0.26	0.26	0.26	0.01	0.26	0.26	0.16	0.41	0.41
Sat Flow, veh/h	191	1670	1228	1493	302	1510	1781	3554	1460	1781	3554	1494
Grp Volume(v), veh/h	39	0	7	303	0	440	10	700	266	287	393	7
Grp Sat Flow(s),veh/h/ln	1861	0	1228	1796	0	1510	1781	1777	1460	1781	1777	1494
Q Serve(g_s), s	1.2	0.0	0.3	9.4	0.0	16.0	0.3	11.4	10.3	10.0	4.6	0.2
Cycle Q Clear(g_c), s	1.2	0.0	0.3	9.4	0.0	16.0	0.3	11.4	10.3	10.0	4.6	0.2
Prop In Lane	0.10		1.00	0.83		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	0	87	460	0	387	18	911	374	285	1444	607
V/C Ratio(X)	0.29	0.00	0.08	0.66	0.00	1.14	0.55	0.77	0.71	1.01	0.27	0.01
Avail Cap(c_a), veh/h	507	0	334	460	0	387	171	911	374	285	1444	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	27.1	20.8	0.0	23.2	30.8	21.5	21.1	26.2	12.4	11.1
Incr Delay (d2), s/veh	1.2	0.0	0.4	3.4	0.0	88.6	23.5	6.2	10.9	54.8	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.1	4.1	0.0	14.7	0.3	5.1	4.4	8.3	1.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	0.0	27.5	24.2	0.0	111.8	54.2	27.7	32.0	81.0	12.8	11.1
LnGrp LOS	C	A	C	C	A	F	D	C	C	F	B	B
Approach Vol, veh/h		46			743			976			687	
Approach Delay, s/veh		28.6			76.1			29.2			41.3	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	20.0		8.4	4.6	29.4		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	10.0	16.0		17.0	6.0	20.0		16.0				
Max Q Clear Time (g_c+I1), s	12.0	13.4		3.2	2.3	6.6		18.0				
Green Ext Time (p_c), s	0.0	1.4		0.1	0.0	2.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			46.8									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	48	17	826	551	26
Future Vol, veh/h	0	48	17	826	551	26
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	51	18	869	580	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	614	617	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	492	963	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	484	955	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	955	-	484	-	-
HCM Lane V/C Ratio	0.019	-	0.104	-	-
HCM Control Delay (s)	8.8	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

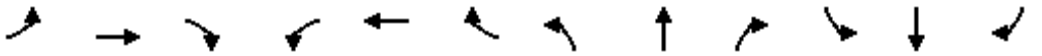
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	86	747	524
Demand Flow Rate, veh/h	88	762	534
Vehicles Circulating, veh/h	522	35	6
Vehicles Exiting, veh/h	18	575	791
Ped Vol Crossing Leg, #/h	10	10	10
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	5.0	8.7	6.1
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	88	762	534
Cap Entry Lane, veh/h	911	1378	1413
Entry HV Adj Factor	0.977	0.981	0.981
Flow Entry, veh/h	86	747	524
Cap Entry, veh/h	889	1350	1384
V/C Ratio	0.097	0.554	0.378
Control Delay, s/veh	5.0	8.7	6.1
LOS	A	A	A
95th %tile Queue, veh	0	4	2

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	29	714	501
Demand Flow Rate, veh/h	29	729	511
Vehicles Circulating, veh/h	477	12	31
Vehicles Exiting, veh/h	65	494	710
Ped Vol Crossing Leg, #/h	10	10	10
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	4.1	8.0	6.1
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	29	729	511
Cap Entry Lane, veh/h	947	1406	1383
Entry HV Adj Factor	1.000	0.980	0.980
Flow Entry, veh/h	29	714	501
Cap Entry, veh/h	945	1375	1353
V/C Ratio	0.031	0.519	0.370
Control Delay, s/veh	4.1	8.0	6.1
LOS	A	A	A
95th %tile Queue, veh	0	3	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	45	13	171	30	182	7	649	174	265	445	3
Future Volume (veh/h)	23	45	13	171	30	182	7	649	174	265	445	3
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		0.93	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	49	14	186	33	198	8	705	189	288	484	3
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	34	66	19	349	42	255	15	1193	513	332	1859	12
Arrive On Green	0.07	0.07	0.07	0.20	0.20	0.20	0.01	0.34	0.34	0.19	0.51	0.51
Sat Flow, veh/h	504	987	282	1781	217	1300	1781	3554	1527	1781	3619	22
Grp Volume(v), veh/h	88	0	0	186	0	231	8	705	189	288	238	249
Grp Sat Flow(s),veh/h/ln	1773	0	0	1781	0	1516	1781	1777	1527	1781	1777	1865
Q Serve(g_s), s	3.6	0.0	0.0	7.0	0.0	10.8	0.3	12.2	7.0	11.7	5.6	5.6
Cycle Q Clear(g_c), s	3.6	0.0	0.0	7.0	0.0	10.8	0.3	12.2	7.0	11.7	5.6	5.6
Prop In Lane	0.28		0.16	1.00		0.86	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	119	0	0	349	0	297	15	1193	513	332	913	958
V/C Ratio(X)	0.74	0.00	0.00	0.53	0.00	0.78	0.55	0.59	0.37	0.87	0.26	0.26
Avail Cap(c_a), veh/h	524	0	0	502	0	428	144	1193	513	383	913	958
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	34.1	0.0	0.0	26.9	0.0	28.4	36.8	20.5	18.7	29.4	10.2	10.2
Incr Delay (d2), s/veh	8.7	0.0	0.0	1.3	0.0	5.6	28.4	2.2	2.0	17.0	0.7	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	1.8	0.0	0.0	3.0	0.0	4.2	0.3	5.1	2.6	6.4	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	0.0	0.0	28.1	0.0	33.9	65.2	22.6	20.8	46.4	10.9	10.8
LnGrp LOS	D	A	A	C	A	C	E	C	C	D	B	B
Approach Vol, veh/h		88			417			902			775	
Approach Delay, s/veh		42.8			31.4			22.6			24.1	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.9	29.0		9.0	4.6	42.3		18.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	16.0	25.0		22.0	6.0	35.0		21.0				
Max Q Clear Time (g_c+I1), s	13.7	14.2		5.6	2.3	7.6		12.8				
Green Ext Time (p_c), s	0.2	4.1		0.3	0.0	3.0		1.3				

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

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	79.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	465	76	153	542	1	62	0	165	0	0	0
Future Vol, veh/h	1	465	76	153	542	1	62	0	165	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	1	505	83	166	589	1	67	0	179	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	44.8	129	13.4	0
HCM LOS	E	F	B	-

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	22%	0%
Vol Thru, %	0%	0%	86%	78%	100%
Vol Right, %	0%	100%	14%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	165	542	696	0
LT Vol	62	0	1	153	0
Through Vol	0	0	465	542	0
RT Vol	0	165	76	1	0
Lane Flow Rate	67	179	589	757	0
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.15	0.34	0.926	1.209	0
Departure Headway (Hd)	8.476	7.236	5.952	5.752	8.723
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	426	500	613	635	0
Service Time	6.176	4.936	3.952	3.789	6.723
HCM Lane V/C Ratio	0.157	0.358	0.961	1.192	0
HCM Control Delay	12.7	13.6	44.8	129	11.7
HCM Lane LOS	B	B	E	F	N
HCM 95th-tile Q	0.5	1.5	12	26.8	0

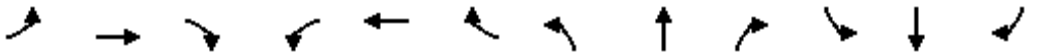
Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	669	13	78	754	13	55
Future Vol, veh/h	669	13	78	754	13	55
Conflicting Peds, #/hr	0	20	20	0	20	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	727	14	85	820	14	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	761	0	1764	774
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	1010	-
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	-	-	851	-	92	398
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	352	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	837	-	72	385
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	282	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	31.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	210	-	-	837	-
HCM Lane V/C Ratio	0.352	-	-	0.101	-
HCM Control Delay (s)	31.2	-	-	9.8	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.5	-	-	0.3	-



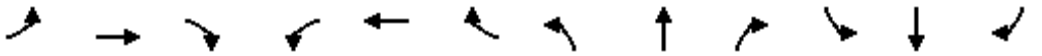
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	595	166	738	700	0	0	0	0	510	1	184
Future Volume (veh/h)	0	595	166	738	700	0	0	0	0	510	1	184
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	647	180	802	761	0				555	0	200
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	1142	317	899	2573	0				666	0	279
Arrive On Green	0.00	0.42	0.42	0.26	0.72	0.00				0.19	0.00	0.19
Sat Flow, veh/h	0	2817	757	3456	3647	0				3563	0	1489
Grp Volume(v), veh/h	0	422	405	802	761	0				555	0	200
Grp Sat Flow(s),veh/h/ln	0	1777	1703	1728	1777	0				1781	0	1489
Q Serve(g_s), s	0.0	16.3	16.3	20.1	6.8	0.0				13.5	0.0	11.3
Cycle Q Clear(g_c), s	0.0	16.3	16.3	20.1	6.8	0.0				13.5	0.0	11.3
Prop In Lane	0.00		0.44	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	745	714	899	2573	0				666	0	279
V/C Ratio(X)	0.00	0.57	0.57	0.89	0.30	0.00				0.83	0.00	0.72
Avail Cap(c_a), veh/h	0	745	714	998	2573	0				792	0	331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.63	0.63	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.9	19.9	32.1	4.4	0.0				35.2	0.0	34.4
Incr Delay (d2), s/veh	0.0	3.1	3.2	6.4	0.2	0.0				6.6	0.0	6.0
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	0.0	7.1	6.8	8.9	2.0	0.0				6.3	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.0	23.2	38.4	4.5	0.0				41.8	0.0	40.3
LnGrp LOS	A	C	C	D	A	A				D	A	D
Approach Vol, veh/h		827			1563						755	
Approach Delay, s/veh		23.1			21.9						41.4	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.4	41.7		20.8		69.2						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	26.0	32.0		20.0		62.0						
Max Q Clear Time (g_c+I1), s	22.1	18.3		15.5		8.8						
Green Ext Time (p_c), s	1.3	4.6		1.3		6.4						

Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	902	0	0	1174	417	253	1	677	0	0	0
Future Volume (veh/h)	180	902	0	0	1174	417	253	1	677	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		0.93			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	196	980	0	0	1276	453	275	1	736			
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	237	1978	0	0	1871	545	584	2	857			
Arrive On Green	0.13	0.56	0.00	0.00	0.37	0.37	0.33	0.33	0.33			
Sat Flow, veh/h	1781	3647	0	0	5274	1488	1775	6	2605			
Grp Volume(v), veh/h	196	980	0	0	1276	453	276	0	736			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1488	1782	0	1303			
Q Serve(g_s), s	7.5	11.8	0.0	0.0	14.8	19.4	8.6	0.0	18.5			
Cycle Q Clear(g_c), s	7.5	11.8	0.0	0.0	14.8	19.4	8.6	0.0	18.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	237	1978	0	0	1871	545	586	0	857			
V/C Ratio(X)	0.83	0.50	0.00	0.00	0.68	0.83	0.47	0.00	0.86			
Avail Cap(c_a), veh/h	254	1978	0	0	1871	545	662	0	968			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.6	9.5	0.0	0.0	18.7	20.2	18.6	0.0	22.0			
Incr Delay (d2), s/veh	13.6	0.6	0.0	0.0	2.0	13.8	0.6	0.0	7.2			
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	4.0	4.0	0.0	0.0	5.7	8.2	3.4	0.0	6.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	10.1	0.0	0.0	20.8	34.0	19.2	0.0	29.1			
LnGrp LOS	D	B	A	A	C	C	B	A	C			
Approach Vol, veh/h		1176			1729			1012				
Approach Delay, s/veh		15.6			24.2			26.4				
Approach LOS		B			C			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.0			13.3	29.7		27.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		36.0			10.0	22.0		26.0				
Max Q Clear Time (g_c+I1), s		13.8			9.5	21.4		20.5				
Green Ext Time (p_c), s		7.5			0.0	0.5		2.5				
Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									

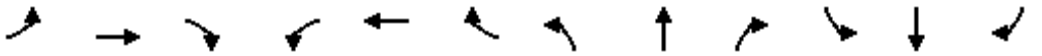
Appendix N

Existing + Cumulative + Project Intersection LOS Calculations

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	244	0	0	0	58	1127
Future Volume (vph)	244	0	0	0	58	1127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				1.00	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				1770	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	265	0	0	0	63	1225
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	265	0	0	0	63	1225
Confl. Peds. (#/hr)		30			30	
Confl. Bikes (#/hr)		30		30		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	13.3				4.5	45.8
Effective Green, g (s)	13.3				4.5	45.8
Actuated g/C Ratio	0.17				0.06	0.59
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	587				102	2086
v/s Ratio Prot	c0.08				0.04	c0.35
v/s Ratio Perm						
v/c Ratio	0.45				0.62	0.59
Uniform Delay, d1	28.9				35.8	10.0
Progression Factor	0.10				1.00	1.00
Incremental Delay, d2	0.5				10.6	0.4
Delay (s)	3.3				46.4	10.4
Level of Service	A				D	B
Approach Delay (s)	3.3		0.0			12.2
Approach LOS	A		A			B

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

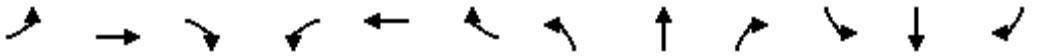
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	57	0	0	244	41	0	227	136	0	0	0
Future Volume (vph)	2	57	0	0	244	41	0	227	136	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.99			1.00	0.87			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		1860			3423			3539	1379			
Flt Permitted		1.00			1.00			1.00	1.00			
Satd. Flow (perm)		1860			3423			3539	1379			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	62	0	0	265	45	0	247	148	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	64	0	0	294	0	0	247	148	0	0	0
Confl. Peds. (#/hr)			20			20			20			
Confl. Bikes (#/hr)			30			30			30			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		6.6			13.3			37.3	13.3			
Effective Green, g (s)		6.6			13.3			37.3	13.3			
Actuated g/C Ratio		0.08			0.17			0.48	0.17			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		157			585			1698	236			
v/s Ratio Prot		c0.03			0.09			c0.07				
v/s Ratio Perm									c0.11			
v/c Ratio		0.41			0.50			0.15	0.63			
Uniform Delay, d1		33.7			29.2			11.3	29.9			
Progression Factor		1.42			1.00			1.00	1.00			
Incremental Delay, d2		1.6			0.7			0.2	5.1			
Delay (s)		49.3			29.9			11.5	35.0			
Level of Service		D			C			B	D			
Approach Delay (s)		49.3			29.9			20.3			0.0	
Approach LOS		D			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	24	4	264	36	165	7	204	222	327	1035	4
Future Volume (veh/h)	3	24	4	264	36	165	7	204	222	327	1035	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.67	1.00		0.93	1.00		0.91	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	26	4	287	39	179	8	222	241	355	1125	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	12	104	66	328	45	306	15	1022	414	407	1805	756
Arrive On Green	0.06	0.06	0.06	0.21	0.21	0.21	0.01	0.29	0.29	0.23	0.51	0.51
Sat Flow, veh/h	192	1668	1067	1577	214	1473	1781	3554	1440	1781	3554	1489
Grp Volume(v), veh/h	29	0	4	326	0	179	8	222	241	355	1125	4
Grp Sat Flow(s),veh/h/ln	1861	0	1067	1792	0	1473	1781	1777	1440	1781	1777	1489
Q Serve(g_s), s	1.1	0.0	0.3	13.2	0.0	8.2	0.3	3.6	10.7	14.4	17.1	0.1
Cycle Q Clear(g_c), s	1.1	0.0	0.3	13.2	0.0	8.2	0.3	3.6	10.7	14.4	17.1	0.1
Prop In Lane	0.10		1.00	0.88		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	0	66	372	0	306	15	1022	414	407	1805	756
V/C Ratio(X)	0.25	0.00	0.06	0.88	0.00	0.59	0.55	0.22	0.58	0.87	0.62	0.01
Avail Cap(c_a), veh/h	398	0	228	383	0	315	95	1022	414	595	1805	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	33.0	28.7	0.0	26.7	37.0	20.3	22.8	27.8	13.3	9.1
Incr Delay (d2), s/veh	1.1	0.0	0.4	19.4	0.0	2.6	28.4	0.5	5.9	9.5	1.6	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	0.1	7.4	0.0	3.0	0.3	1.5	4.1	6.9	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.0	33.4	48.1	0.0	29.4	65.4	20.7	28.7	37.3	14.9	9.1
LnGrp LOS	C	A	C	D	A	C	E	C	C	D	B	A
Approach Vol, veh/h		33			505			471			1484	
Approach Delay, s/veh		34.4			41.5			25.6			20.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.1	25.5		8.7	4.6	42.0		19.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	25.0	17.0		16.0	4.0	38.0		16.0				
Max Q Clear Time (g_c+I1), s	16.4	12.7		3.1	2.3	19.1		15.2				
Green Ext Time (p_c), s	0.7	1.0		0.1	0.0	8.2		0.2				

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

Intersection	
Intersection Delay, s/veh	29.7
Intersection LOS	D

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	74	901	1321
Demand Flow Rate, veh/h	74	919	1348
Vehicles Circulating, veh/h	1309	48	21
Vehicles Exiting, veh/h	60	1335	946
Ped Vol Crossing Leg, #/h	20	20	0
Ped Cap Adj	1.000	0.997	1.000
Approach Delay, s/veh	13.5	12.6	42.2
Approach LOS	B	B	E

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	74	919	1348
Cap Entry Lane, veh/h	363	1314	1351
Entry HV Adj Factor	1.000	0.981	0.980
Flow Entry, veh/h	74	901	1321
Cap Entry, veh/h	363	1285	1324
V/C Ratio	0.204	0.701	0.998
Control Delay, s/veh	13.5	12.6	42.2
LOS	B	B	E
95th %tile Queue, veh	1	6	22

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	60	8	427	1676	26
Future Vol, veh/h	0	60	8	427	1676	26
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	63	8	449	1764	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1818	1811	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	4.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	0	98	344	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	95	338	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	98	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	338	-	95	-	-
HCM Lane V/C Ratio	0.025	-	0.665	-	-
HCM Control Delay (s)	15.9	-	98	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.3	-	-

Intersection	
Intersection Delay, s/veh	42.1
Intersection LOS	E

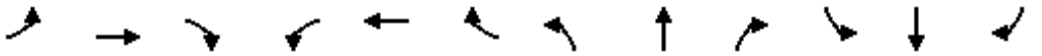
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	55	336	1433
Demand Flow Rate, veh/h	55	343	1461
Vehicles Circulating, veh/h	1439	27	7
Vehicles Exiting, veh/h	29	1467	363
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	10.6	4.8	52.0
Approach LOS	B	A	F

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	55	343	1461
Cap Entry Lane, veh/h	418	1388	1412
Entry HV Adj Factor	1.000	0.981	0.981
Flow Entry, veh/h	55	336	1433
Cap Entry, veh/h	418	1358	1381
V/C Ratio	0.132	0.248	1.038
Control Delay, s/veh	10.6	4.8	52.0
LOS	B	A	F
95th %tile Queue, veh	0	1	27

Intersection	
Intersection Delay, s/veh	28.0
Intersection LOS	D

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	36	241	1320
Demand Flow Rate, veh/h	36	246	1346
Vehicles Circulating, veh/h	1337	15	10
Vehicles Exiting, veh/h	19	1358	251
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	9.0	4.1	32.9
Approach LOS	A	A	D

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	36	246	1346
Cap Entry Lane, veh/h	456	1402	1408
Entry HV Adj Factor	1.000	0.981	0.981
Flow Entry, veh/h	36	241	1320
Cap Entry, veh/h	456	1372	1377
V/C Ratio	0.079	0.176	0.959
Control Delay, s/veh	9.0	4.1	32.9
LOS	A	A	D
95th %tile Queue, veh	0	1	19



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	38	9	219	23	105	5	214	63	394	1303	2
Future Volume (veh/h)	11	38	9	219	23	105	5	214	63	394	1303	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.92	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	41	10	188	94	114	5	233	68	428	1416	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	16	55	13	313	129	156	9	1000	425	483	1992	3
Arrive On Green	0.05	0.05	0.05	0.18	0.18	0.18	0.01	0.28	0.28	0.27	0.55	0.55
Sat Flow, veh/h	337	1152	281	1781	733	889	1781	3554	1512	1781	3641	5
Grp Volume(v), veh/h	63	0	0	188	0	208	5	233	68	428	691	727
Grp Sat Flow(s),veh/h/ln	1770	0	0	1781	0	1622	1781	1777	1512	1781	1777	1869
Q Serve(g_s), s	2.5	0.0	0.0	6.9	0.0	8.6	0.2	3.6	2.4	16.4	20.5	20.5
Cycle Q Clear(g_c), s	2.5	0.0	0.0	6.9	0.0	8.6	0.2	3.6	2.4	16.4	20.5	20.5
Prop In Lane	0.19		0.16	1.00		0.55	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	84	0	0	313	0	285	9	1000	425	483	972	1023
V/C Ratio(X)	0.75	0.00	0.00	0.60	0.00	0.73	0.53	0.23	0.16	0.89	0.71	0.71
Avail Cap(c_a), veh/h	621	0	0	400	0	364	100	1000	425	650	972	1023
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	33.5	0.0	0.0	27.1	0.0	27.8	35.4	19.7	19.3	24.9	12.0	12.0
Incr Delay (d2), s/veh	12.5	0.0	0.0	1.9	0.0	5.4	39.3	0.5	0.8	11.1	4.4	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	3.0	0.0	3.6	0.2	1.5	0.9	8.0	8.1	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	0.0	0.0	28.9	0.0	33.1	74.7	20.2	20.1	36.1	16.4	16.2
LnGrp LOS	D	A	A	C	A	C	E	C	C	D	B	B
Approach Vol, veh/h		63			396			306			1846	
Approach Delay, s/veh		46.1			31.1			21.1			20.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.3	24.1		7.4	4.4	43.0		16.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	26.0	17.0		25.0	4.0	39.0		16.0				
Max Q Clear Time (g_c+I1), s	18.4	5.6		4.5	2.2	22.5		10.6				
Green Ext Time (p_c), s	0.9	1.2		0.2	0.0	9.2		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		23.0	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	90
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	425	52	258	476	0	26	0	208	0	1	0
Future Vol, veh/h	0	425	52	258	476	0	26	0	208	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	462	57	280	517	0	28	0	226	0	1	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	31.3	152.2	14.7	11.7
HCM LOS	D	F	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	35%	0%
Vol Thru, %	0%	0%	89%	65%	100%
Vol Right, %	0%	100%	11%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	208	477	734	1
LT Vol	26	0	0	258	0
Through Vol	0	0	425	476	1
RT Vol	0	208	52	0	0
Lane Flow Rate	28	226	518	798	1
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.062	0.421	0.824	1.268	0.002
Departure Headway (Hd)	8.456	7.215	6.079	5.72	8.7
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	426	502	601	638	414
Service Time	6.156	4.915	4.079	3.754	6.7
HCM Lane V/C Ratio	0.066	0.45	0.862	1.251	0.002
HCM Control Delay	11.7	15.1	31.3	152.2	11.7
HCM Lane LOS	B	C	D	F	B
HCM 95th-tile Q	0.2	2.1	8.5	30.7	0

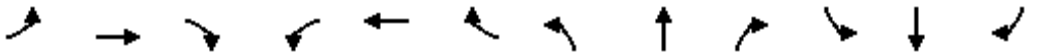
Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	643	14	87	609	14	98
Future Vol, veh/h	643	14	87	609	14	98
Conflicting Peds, #/hr	0	20	20	0	20	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	699	15	95	662	15	107

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	734	0	1599	747
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	872	-
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	-	-	871	-	117	413
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	409	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	856	-	93	399
Mov Cap-2 Maneuver	-	-	-	-	93	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	331	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	27
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	283	-	-	856	-
HCM Lane V/C Ratio	0.43	-	-	0.11	-
HCM Control Delay (s)	27	-	-	9.7	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.4	-



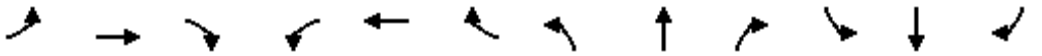
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	657	172	578	548	0	0	0	0	504	10	188
Future Volume (veh/h)	0	657	172	578	548	0	0	0	0	504	10	188
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	714	187	628	596	0				556	0	204
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	1292	338	706	2545	0				695	0	291
Arrive On Green	0.00	0.47	0.47	0.34	1.00	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	2859	724	3456	3647	0				3563	0	1493
Grp Volume(v), veh/h	0	459	442	628	596	0				556	0	204
Grp Sat Flow(s),veh/h/ln	0	1777	1712	1728	1777	0				1781	0	1493
Q Serve(g_s), s	0.0	16.7	16.7	15.5	0.0	0.0				13.4	0.0	11.5
Cycle Q Clear(g_c), s	0.0	16.7	16.7	15.5	0.0	0.0				13.4	0.0	11.5
Prop In Lane	0.00		0.42	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	830	800	706	2545	0				695	0	291
V/C Ratio(X)	0.00	0.55	0.55	0.89	0.23	0.00				0.80	0.00	0.70
Avail Cap(c_a), veh/h	0	830	800	806	2545	0				990	0	415
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.86	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.2	17.2	28.7	0.0	0.0				34.5	0.0	33.8
Incr Delay (d2), s/veh	0.0	2.6	2.7	9.7	0.2	0.0				3.1	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.1	6.8	6.2	0.1	0.0				6.0	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.9	20.0	38.4	0.2	0.0				37.7	0.0	36.8
LnGrp LOS	A	B	B	D	A	A				D	A	D
Approach Vol, veh/h		901			1224						760	
Approach Delay, s/veh		19.9			19.8						37.5	
Approach LOS		B			B						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	22.4	46.1		21.6		68.4						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	21.0	32.0		25.0		57.0						
Max Q Clear Time (g_c+I1), s	17.5	18.7		15.4		2.0						
Green Ext Time (p_c), s	0.9	5.0		2.2		4.7						

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

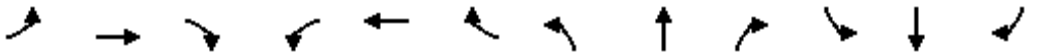


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	930	0	0	985	478	153	1	737	0	0	0
Future Volume (veh/h)	189	930	0	0	985	478	153	1	737	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		0.92			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	205	1011	0	0	1071	520	166	1	801			
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	240	2290	0	0	2375	699	472	3	687			
Arrive On Green	0.27	1.00	0.00	0.00	0.47	0.47	0.27	0.27	0.27			
Sat Flow, veh/h	1781	3647	0	0	5274	1501	1771	11	2575			
Grp Volume(v), veh/h	205	1011	0	0	1071	520	167	0	801			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1501	1782	0	1288			
Q Serve(g_s), s	9.8	0.0	0.0	0.0	12.8	25.5	6.8	0.0	24.0			
Cycle Q Clear(g_c), s	9.8	0.0	0.0	0.0	12.8	25.5	6.8	0.0	24.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	240	2290	0	0	2375	699	475	0	687			
V/C Ratio(X)	0.85	0.44	0.00	0.00	0.45	0.74	0.35	0.00	1.17			
Avail Cap(c_a), veh/h	416	2290	0	0	2375	699	475	0	687			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	0.0	0.0	0.0	16.3	19.7	26.7	0.0	33.0			
Incr Delay (d2), s/veh	6.1	0.4	0.0	0.0	0.6	7.1	0.4	0.0	90.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.0	0.1	0.0	0.0	4.9	9.7	2.9	0.0	15.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.4	0.0	0.0	16.9	26.8	27.1	0.0	123.1			
LnGrp LOS	D	A	A	A	B	C	C	A	F			
Approach Vol, veh/h		1216			1591			968				
Approach Delay, s/veh		6.8			20.1			106.5				
Approach LOS		A			C			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			16.1	45.9		28.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		58.0			21.0	33.0		24.0				
Max Q Clear Time (g_c+I1), s		2.0			11.8	27.5		26.0				
Green Ext Time (p_c), s		9.6			0.4	3.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			38.0									
HCM 6th LOS			D									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	204	0	0	0	82	546
Future Volume (vph)	204	0	0	0	82	546
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				1.00	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				1770	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	222	0	0	0	89	593
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	222	0	0	0	89	593
Confl. Peds. (#/hr)		15			15	
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	13.1				7.6	53.4
Effective Green, g (s)	13.1				7.6	53.4
Actuated g/C Ratio	0.15				0.09	0.62
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	520				155	2187
v/s Ratio Prot	c0.06				c0.05	c0.17
v/s Ratio Perm						
v/c Ratio	0.43				0.57	0.27
Uniform Delay, d1	33.2				37.8	7.6
Progression Factor	0.13				1.00	1.00
Incremental Delay, d2	0.5				5.1	0.1
Delay (s)	4.7				42.9	7.6
Level of Service	A				D	A
Approach Delay (s)	4.7		0.0			12.2
Approach LOS	A		A			B

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	86.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

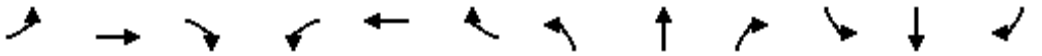
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	80	0	0	204	55	0	680	279	0	0	0
Future Volume (vph)	3	80	0	0	204	55	0	680	279	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.99			1.00	0.92			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.97			1.00	0.85			
Flt Protected		1.00			1.00			1.00	1.00			
Satd. Flow (prot)		1860			3390			3539	1452			
Flt Permitted		1.00			1.00			1.00	1.00			
Satd. Flow (perm)		1860			3390			3539	1452			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	87	0	0	222	60	0	739	303	0	0	0
RTOR Reduction (vph)	0	0	0	0	25	0	0	0	257	0	0	0
Lane Group Flow (vph)	0	90	0	0	257	0	0	739	46	0	0	0
Confl. Peds. (#/hr)			15			15			15			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		7.9			13.1			41.8	13.1			
Effective Green, g (s)		7.9			13.1			41.8	13.1			
Actuated g/C Ratio		0.09			0.15			0.48	0.15			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		170			513			1712	220			
v/s Ratio Prot		c0.05			c0.08			c0.21				
v/s Ratio Perm									0.03			
v/c Ratio		0.53			0.50			0.43	0.21			
Uniform Delay, d1		37.5			33.7			14.5	32.1			
Progression Factor		1.48			1.00			1.00	1.00			
Incremental Delay, d2		2.8			0.8			0.8	0.5			
Delay (s)		58.3			34.4			15.3	32.6			
Level of Service		E			C			B	C			
Approach Delay (s)		58.3			34.4			20.4			0.0	
Approach LOS		E			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	86.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	32	6	266	47	405	9	654	267	264	377	6
Future Volume (veh/h)	4	32	6	266	47	405	9	654	267	264	377	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.77	1.00		0.95	1.00		0.92	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	35	7	289	51	440	10	711	290	287	410	7
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	14	118	87	384	68	380	18	952	392	281	1475	621
Arrive On Green	0.07	0.07	0.07	0.25	0.25	0.25	0.01	0.27	0.27	0.16	0.42	0.42
Sat Flow, veh/h	191	1670	1227	1525	269	1509	1781	3554	1464	1781	3554	1495
Grp Volume(v), veh/h	39	0	7	340	0	440	10	711	290	287	410	7
Grp Sat Flow(s),veh/h/ln	1861	0	1227	1794	0	1509	1781	1777	1464	1781	1777	1495
Q Serve(g_s), s	1.3	0.0	0.3	11.1	0.0	16.0	0.4	11.6	11.5	10.0	4.8	0.2
Cycle Q Clear(g_c), s	1.3	0.0	0.3	11.1	0.0	16.0	0.4	11.6	11.5	10.0	4.8	0.2
Prop In Lane	0.10		1.00	0.85		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	0	87	452	0	380	18	952	392	281	1475	621
V/C Ratio(X)	0.30	0.00	0.08	0.75	0.00	1.16	0.55	0.75	0.74	1.02	0.28	0.01
Avail Cap(c_a), veh/h	469	0	309	452	0	380	140	952	392	281	1475	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	27.6	21.9	0.0	23.7	31.3	21.3	21.2	26.7	12.3	10.9
Incr Delay (d2), s/veh	1.2	0.0	0.4	6.9	0.0	96.3	23.6	5.3	11.9	59.8	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.1	5.2	0.0	15.4	0.3	5.2	4.9	8.6	1.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	0.0	28.0	28.9	0.0	120.0	54.8	26.6	33.1	86.5	12.7	10.9
LnGrp LOS	C	A	C	C	A	F	D	C	C	F	B	B
Approach Vol, veh/h		46			780			1011			704	
Approach Delay, s/veh		29.0			80.3			28.8			42.8	
Approach LOS		C			F			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	21.0		8.5	4.6	30.4		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	10.0	17.0		16.0	5.0	22.0		16.0				
Max Q Clear Time (g_c+I1), s	12.0	13.6		3.3	2.4	6.8		18.0				
Green Ext Time (p_c), s	0.0	1.9		0.1	0.0	2.4		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			48.5									
HCM 6th LOS			D									

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	83	1016	726
Demand Flow Rate, veh/h	85	1037	740
Vehicles Circulating, veh/h	665	55	41
Vehicles Exiting, veh/h	116	695	1051
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	0.997	0.997	0.997
Approach Delay, s/veh	6.6	16.8	9.1
Approach LOS	A	C	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	85	1037	740
Cap Entry Lane, veh/h	700	1305	1323
Entry HV Adj Factor	0.976	0.980	0.981
Flow Entry, veh/h	83	1016	726
Cap Entry, veh/h	682	1275	1295
V/C Ratio	0.122	0.797	0.561
Control Delay, s/veh	6.6	16.8	9.1
LOS	A	C	A
95th %tile Queue, veh	0	9	4

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	48	17	852	568	26
Future Vol, veh/h	0	48	17	852	568	26
Conflicting Peds, #/hr	10	10	10	0	0	10
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	51	18	897	598	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	632	635	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	480	948	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	472	940	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	940	-	472	-	-
HCM Lane V/C Ratio	0.019	-	0.107	-	-
HCM Control Delay (s)	8.9	0	13.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

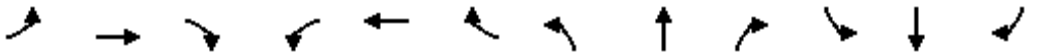
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	86	771	540
Demand Flow Rate, veh/h	88	786	551
Vehicles Circulating, veh/h	539	35	6
Vehicles Exiting, veh/h	18	592	815
Ped Vol Crossing Leg, #/h	10	10	10
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	5.0	9.0	6.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	88	786	551
Cap Entry Lane, veh/h	898	1378	1413
Entry HV Adj Factor	0.977	0.981	0.981
Flow Entry, veh/h	86	771	540
Cap Entry, veh/h	876	1350	1384
V/C Ratio	0.098	0.571	0.391
Control Delay, s/veh	5.0	9.0	6.2
LOS	A	A	A
95th %tile Queue, veh	0	4	2

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	30	737	517
Demand Flow Rate, veh/h	30	752	528
Vehicles Circulating, veh/h	494	13	31
Vehicles Exiting, veh/h	65	511	734
Ped Vol Crossing Leg, #/h	10	10	10
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	4.2	8.3	6.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	30	752	528
Cap Entry Lane, veh/h	933	1405	1383
Entry HV Adj Factor	1.000	0.980	0.980
Flow Entry, veh/h	30	737	517
Cap Entry, veh/h	932	1374	1353
V/C Ratio	0.032	0.536	0.382
Control Delay, s/veh	4.2	8.3	6.2
LOS	A	A	A
95th %tile Queue, veh	0	3	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	45	13	171	30	192	7	663	174	272	455	3
Future Volume (veh/h)	24	45	13	171	30	192	7	663	174	272	455	3
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		0.93	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	49	14	186	33	209	8	721	189	296	495	3
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	35	66	19	356	41	262	15	1175	505	338	1855	11
Arrive On Green	0.07	0.07	0.07	0.20	0.20	0.20	0.01	0.33	0.33	0.19	0.51	0.51
Sat Flow, veh/h	518	976	279	1781	207	1309	1781	3554	1527	1781	3620	22
Grp Volume(v), veh/h	89	0	0	186	0	242	8	721	189	296	243	255
Grp Sat Flow(s),veh/h/ln	1773	0	0	1781	0	1516	1781	1777	1527	1781	1777	1865
Q Serve(g_s), s	3.7	0.0	0.0	7.1	0.0	11.5	0.3	12.9	7.1	12.2	5.8	5.8
Cycle Q Clear(g_c), s	3.7	0.0	0.0	7.1	0.0	11.5	0.3	12.9	7.1	12.2	5.8	5.8
Prop In Lane	0.29		0.16	1.00		0.86	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	120	0	0	356	0	303	15	1175	505	338	910	955
V/C Ratio(X)	0.74	0.00	0.00	0.52	0.00	0.80	0.55	0.61	0.37	0.88	0.27	0.27
Avail Cap(c_a), veh/h	516	0	0	495	0	421	141	1175	505	377	910	955
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	34.6	0.0	0.0	27.0	0.0	28.8	37.4	21.2	19.3	29.8	10.4	10.4
Incr Delay (d2), s/veh	8.6	0.0	0.0	1.2	0.0	7.2	28.5	2.4	2.1	18.6	0.7	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	1.8	0.0	0.0	3.0	0.0	4.6	0.3	5.4	2.7	6.8	2.2	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	0.0	28.2	0.0	36.0	65.8	23.6	21.4	48.4	11.1	11.1
LnGrp LOS	D	A	A	C	A	D	E	C	C	D	B	B
Approach Vol, veh/h		89			428			918			794	
Approach Delay, s/veh		43.2			32.6			23.6			25.0	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.4	29.0		9.1	4.6	42.7		19.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	16.0	25.0		22.0	6.0	35.0		21.0				
Max Q Clear Time (g_c+I1), s	14.2	14.9		5.7	2.3	7.8		13.5				
Green Ext Time (p_c), s	0.2	4.0		0.3	0.0	3.1		1.3				

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

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	96.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	487	76	153	575	1	63	0	165	0	0	0
Future Vol, veh/h	1	487	76	153	575	1	63	0	165	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	1	529	83	166	625	1	68	0	179	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	53.2	156.3	13.6	0
HCM LOS	F	F	B	-

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	21%	0%
Vol Thru, %	0%	0%	86%	79%	100%
Vol Right, %	0%	100%	13%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	165	564	729	0
LT Vol	63	0	1	153	0
Through Vol	0	0	487	575	0
RT Vol	0	165	76	1	0
Lane Flow Rate	68	179	613	792	0
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.154	0.342	0.966	1.277	0
Departure Headway (Hd)	8.611	7.369	6.036	5.802	8.939
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	419	491	607	626	0
Service Time	6.311	5.069	4.036	3.839	6.939
HCM Lane V/C Ratio	0.162	0.365	1.01	1.265	0
HCM Control Delay	12.9	13.9	53.2	156.3	11.9
HCM Lane LOS	B	B	F	F	N
HCM 95th-tile Q	0.5	1.5	13.5	30.9	0

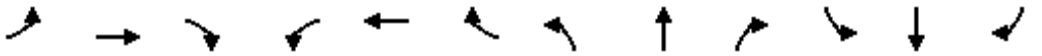
Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	689	15	78	784	16	55
Future Vol, veh/h	689	15	78	784	16	55
Conflicting Peds, #/hr	0	20	20	0	20	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	749	16	85	852	17	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	785	0	1819	797
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	1042	-
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	-	-	834	-	85	387
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	340	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	820	-	66	374
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	269	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	38.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	182	-	-	820	-
HCM Lane V/C Ratio	0.424	-	-	0.103	-
HCM Control Delay (s)	38.6	-	-	9.9	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.3	-



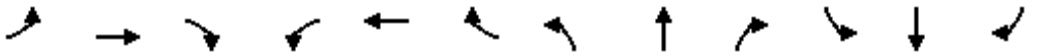
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	607	174	738	715	0	0	0	0	510	1	199
Future Volume (veh/h)	0	607	174	738	715	0	0	0	0	510	1	199
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	660	189	802	777	0				555	0	216
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	1133	324	899	2572	0				667	0	279
Arrive On Green	0.00	0.42	0.42	0.26	0.72	0.00				0.19	0.00	0.19
Sat Flow, veh/h	0	2796	773	3456	3647	0				3563	0	1490
Grp Volume(v), veh/h	0	434	415	802	777	0				555	0	216
Grp Sat Flow(s),veh/h/ln	0	1777	1699	1728	1777	0				1781	0	1490
Q Serve(g_s), s	0.0	16.9	16.9	20.1	7.0	0.0				13.5	0.0	12.4
Cycle Q Clear(g_c), s	0.0	16.9	16.9	20.1	7.0	0.0				13.5	0.0	12.4
Prop In Lane	0.00		0.46	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	745	712	899	2572	0				667	0	279
V/C Ratio(X)	0.00	0.58	0.58	0.89	0.30	0.00				0.83	0.00	0.77
Avail Cap(c_a), veh/h	0	745	712	998	2572	0				792	0	331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.62	0.62	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.1	20.1	32.1	4.4	0.0				35.2	0.0	34.8
Incr Delay (d2), s/veh	0.0	3.3	3.5	6.3	0.2	0.0				6.5	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	7.4	7.1	8.9	2.1	0.0				6.3	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.4	23.6	38.3	4.6	0.0				41.7	0.0	44.0
LnGrp LOS	A	C	C	D	A	A				D	A	D
Approach Vol, veh/h		849			1579						771	
Approach Delay, s/veh		23.5			21.7						42.4	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	27.4	41.7		20.9		69.1
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	26.0	32.0		20.0		62.0
Max Q Clear Time (g_c+I1), s	22.1	18.9		15.5		9.0
Green Ext Time (p_c), s	1.3	4.6		1.4		6.6

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

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	904	0	0	1178	417	264	1	677	0	0	0
Future Volume (veh/h)	190	904	0	0	1178	417	264	1	677	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		0.93			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	207	983	0	0	1280	453	287	1	736			
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	248	1977	0	0	1838	535	585	2	858			
Arrive On Green	0.14	0.56	0.00	0.00	0.36	0.36	0.33	0.33	0.33			
Sat Flow, veh/h	1781	3647	0	0	5274	1486	1775	6	2605			
Grp Volume(v), veh/h	207	983	0	0	1280	453	288	0	736			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1486	1782	0	1303			
Q Serve(g_s), s	7.9	11.9	0.0	0.0	15.0	19.6	9.1	0.0	18.5			
Cycle Q Clear(g_c), s	7.9	11.9	0.0	0.0	15.0	19.6	9.1	0.0	18.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	248	1977	0	0	1838	535	587	0	858			
V/C Ratio(X)	0.83	0.50	0.00	0.00	0.70	0.85	0.49	0.00	0.86			
Avail Cap(c_a), veh/h	254	1977	0	0	1838	535	662	0	968			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.3	9.5	0.0	0.0	19.1	20.6	18.8	0.0	21.9			
Incr Delay (d2), s/veh	14.5	0.6	0.0	0.0	2.2	15.2	0.6	0.0	7.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.2	4.1	0.0	0.0	5.8	8.5	3.6	0.0	6.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	10.1	0.0	0.0	21.3	35.8	19.4	0.0	29.1			
LnGrp LOS	D	B	A	A	C	D	B	A	C			
Approach Vol, veh/h		1190			1733			1024				
Approach Delay, s/veh		16.0			25.1			26.3				
Approach LOS		B			C			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		42.9			13.7	29.2		27.1				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		36.0			10.0	22.0		26.0				
Max Q Clear Time (g_c+I1), s		13.9			9.9	21.6		20.5				
Green Ext Time (p_c), s		7.5			0.0	0.3		2.6				
Intersection Summary												
HCM 6th Ctrl Delay			22.7									
HCM 6th LOS			C									

Appendix O

Excerpts from Ponto and Streetscape EIRs for Horizon Year Volumes

PONTO BEACHFRONT VILLAGE VISION PLAN
FINAL
ENVIRONMENTAL IMPACT REPORT

SCH#2007031141
EIR 05-05/GPA 05-04/LCPA 05-01/DI 05-01

APPENDIX VOLUME V
(APPENDIX G-1 OF 2 WITH TRAFFIC APPENDICES A-G)

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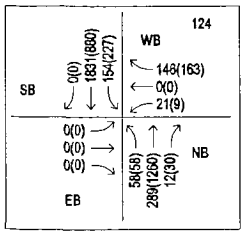
August 2007



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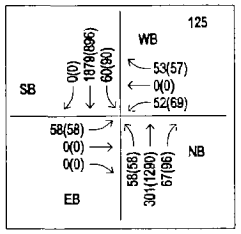
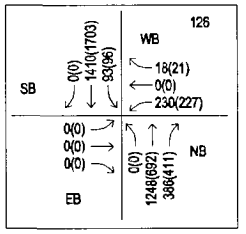


#25 Beach Way/
Carlsbad Blvd.



#26 Avenida Encinas/
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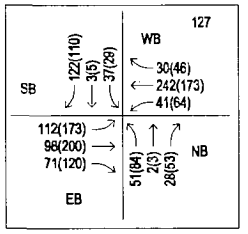
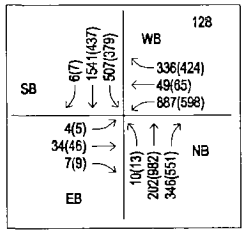
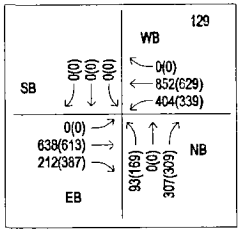


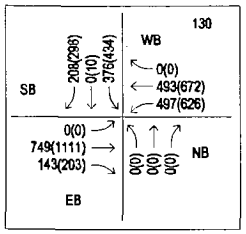
#27 Ponto Drive/
Avenida Encinas



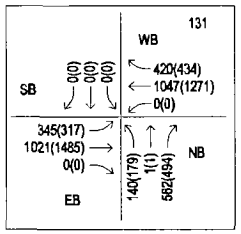
#28 La Costa Ave./
N. Coast Highway 101



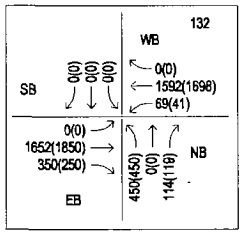
#29 La Costa Ave./
Vulcan Ave.



#30 La Costa Ave./
I-5 SB Ramps



#31 La Costa Ave./
I-5 NB Ramps



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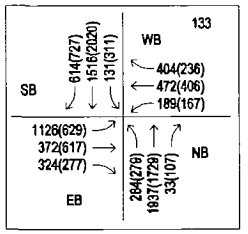
Pireaus St.



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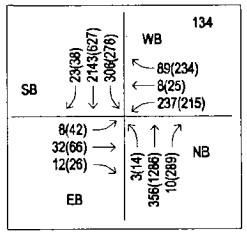
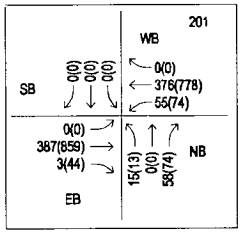
El Camino Real



#34 Leucadia Blvd./
N. Coast Highway 101



#35 La Costa Ave. /
Sheridan Rd.

NOT TO SCALE

RBF

Horizon Year 2030 With Vision Plan Peak Hour Volumes

25101951.001

EXHIBIT 20

VOLUME 1
FINAL ENVIRONMENTAL IMPACT REPORT

North Coast Highway 101 Streetscape Improvement Project

Case No.: 10-035 DR/CDP/EIR and 10-036 GPA/SPA/LCPA
State Clearinghouse (SCH) No. 2015091084

Lead Agency/Project Applicant:

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February 2018

Highway 101 Streetscape Project

TRAFFIC IMPACT ANALYSIS REPORT

Prepared for

City of Encinitas

505 S. Vulcan Avenue,
Encinitas, CA 92024

Prepared by

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November 29, 2016

JN 137350

FUTURE YEAR 2035 CONDITIONS

Future Year 2035 Traffic Volumes

Future year 2035 traffic volumes were calculated based on separate model runs performed for Alternative 1 and Alternative 2. Future Year 2035 traffic volumes are based on a SANDAG Series 12 model forecast that includes land use, roadway network configuration and geometry specific to the City of Encinitas's General Plan. La Costa Avenue was assumed to be a 4-lane Collector as designated in the City of Encinitas's General Plan Circulation Element. The planned improvements at the Encinitas Boulevard / I-5 interchange was included in the analysis of these alternatives. The future Year 2035 traffic model runs also assume the completion of the I-5 North Coast Corridor Managed Lanes Project. The model forecast plots are included in Appendix D.

The model forecast for Alternative 1 was conducted with 4 lanes on Carlsbad Boulevard north of La Costa Avenue and the model forecast for Alternative 2 included 2 lanes on Carlsbad Boulevard north of La Costa Avenue. Both the model runs were conducted with 2 lanes on Highway 101, between La Costa Avenue and Encinitas Boulevard and changes in intersection control at six intersections along Highway 101. The intersection locations that had a change in the type of control are as follows:

- La Costa Avenue changed from signal to roundabout
- Bishops Gate Road from side street stop to roundabout
- Grandview Street from side street stop to roundabout
- Jupiter Street from side street stop to roundabout
- El Portal Street from side street stop to roundabout
- Marcheta Street from all-way stop to side street stop

With the reduction in the number of travel lanes along Highway 101, both the model runs show a decrease in the forecast daily trips on Highway 101, south of La Costa Avenue, for future Year 2035 conditions when compared to the existing (Year 2015) daily trips. The models show an increase in forecast daily trips on La Costa Avenue and Vulcan Avenue when compared to the existing daily trips. Both the model runs show a resulting change in traffic pattern due to the proposed project with a relatively small amount of traffic being diverted to La Costa Avenue, Vulcan Avenue and I-5.

Comparing the daily trips along Highway 101 between the two lane configurations alternatives for Carlsbad Boulevard, the model run for Alternative 1 shows slightly higher daily trips compared to the model forecast for Alternative 2.

Future year 2035 daily volumes were used to post-process existing peak hour volumes to generate the intersection peak hour turning movement volumes for the future alternative conditions. With an understanding of the current peak hour directional distribution characteristics, the post processed traffic volumes were reviewed to ensure reasonable growth based on existing and Year 2035 daily traffic volumes.

Table 11
Year 2035 Intersection Conditions - AM Peak Hour

ID	Intersection	Year 2035 No Build			Control (With Project)	Year 2035 Alternative 1				Year 2035 Alternative 2				Year 2035 Alternative 1 With SMUP			
		Control	Delay	LOS		Delay	LOS	Δ Delay (sec)	Significant?	Delay	LOS	Δ Delay (sec)	Significant?	Delay	LOS	Δ Delay (sec)	Significant?
1	Hwy 101 / La Costa Ave.	Signal	25.8	C	R	5.3	A	-20.5	No	2.8	A	-23.0	No	5.6	A	-20.2	No
					Signal [1]	24.5	C	-1.3	No	24.4	C	-1.4	No	24.8	C	-1.0	No
2	Hwy 101 / New Road	SSS	6.3	A	R	34.8	D	28.5	No	28.3	D	22.0	No	34.9	D	28.6	No
3	Hwy 101 / Bishops Gate Rd.	SSS	6.1	A	R	33.8	D	27.7	No	27.5	D	21.4	No	34.2	D	28.1	No
4	Hwy 101 / Grandview St.	SSS	5.8	A	R	21.4	C	15.6	No	15.6	C	9.8	No	26.4	D	20.6	No
5	Hwy 101 / Jupiter St.	SSS	1.7	A	R	18.0	C	16.3	No	11.5	B	9.8	No	20.7	C	19.0	No
6	Hwy 101 / Leucadia Blvd.	Signal	69.5	E	Signal	70.8	E	1.3	No	68.3	E	-1.2	No	71.3	E	1.8	No
7	Hwy 101 / El Portal St.	SSS	1.6	A	R	18.9	C	17.3	No	14.7	B	13.1	No	26.2	D	24.6	No
8	Hwy 101 / Marcheta St.	AWS	158.5	F	SSS	17.9	C	-140.6	No	16.6	C	-141.9	No	23.1	C	-135.4	No
9	Hwy 101 / Encinitas Blvd.	Signal	35.6	D	Signal	35.4	D	-0.2	No	35.3	D	-0.3	No	36.2	D	0.6	No
10	Neptune Ave. / Grandview St.	SSS	3.9	A	SSS	3.9	A	0.0	No	3.9	A	0.0	No	3.9	A	0.0	No
11	Neptune Ave. / Jupiter St.	SSS	1.6	A	SSS	1.6	A	0.0	No	1.6	A	0.0	No	1.6	A	0.0	No
12	Neptune Ave. / Leucadia Blvd.	SSS	5.1	A	SSS	5.1	A	0.0	No	5.1	A	0.0	No	5.3	A	0.2	No
13	Neptune Ave. / N El Portal St.	SSS	2.7	A	SSS	2.7	A	0.0	No	2.7	A	0.0	No	2.7	A	0.0	No
14	La Costa Ave. / Vulcan Ave.	SSS	6.7	A	SSS	8.0	A	1.3	No	7.5	A	0.8	No	15.5	C	8.8	No
15	La Costa Ave. / Sheridan Rd.	SSS	2.0	A	SSS	2.1	A	0.1	No	2.1	A	0.1	No	2.2	A	0.2	No
16	La Costa Ave. / I-5 SB Ramps	Signal	52.3	D	Signal	54.4	D	2.1	No	54.3	D	2.0	No	54.7	D	2.4	No
17	La Costa Ave. / I-5 NB Ramps	Signal	29.1	C	Signal	30.1	C	1.0	No	30.7	C	1.6	No	30.7	C	1.6	No
18	Leucadia Blvd. / Vulcan Ave.	Signal	68.8	E	Signal	70.5	E	1.7	No	70.6	E	1.8	No	70.7	E	1.9	No
19	Leucadia Blvd. / Hygeia Ave.	AWS	24.4	C	AWS	25.0	C	0.6	No	25.0	C	0.6	No	25.7	D	1.3	No
20	Leucadia Blvd. / Hymettus Ave.	R	11.7	B	R	11.7	B	0.0	No	11.7	B	0.0	No	11.5	B	-0.2	No
21	Leucadia Blvd. / Orpheus Ave.	Signal	27.3	C	Signal	28.0	C	0.7	No	28.0	C	0.7	No	28.8	C	1.5	No
22	Leucadia Blvd. / I-5 SB Ramps	Signal	48.6	D	Signal	47.9	D	-0.7	No	49.0	D	0.4	No	42.6	D	-6.0	No
23	Leucadia Blvd. / I-5 NB Ramps	Signal	20.7	C	Signal	20.7	C	0.0	No	20.8	C	0.1	No	20.6	C	-0.1	No
24	Encinitas Blvd. / Vulcan Ave.	Signal	33.4	C	Signal	35.8	D	2.4	No	36.0	D	2.6	No	38.0	D	4.6	No
25	Encinitas Blvd. / I-5 SB Ramps	Signal	17.0	B	Signal	17.6	B	0.6	No	17.5	B	0.5	No	17.6	B	0.6	No
26	Encinitas Blvd. / I-5 NB Ramps	Signal	34.5	C	Signal	38.6	D	4.1	No	39.6	D	5.1	No	38.0	D	3.5	No
27	Vulcan Ave. / Orpheus Ave.	SSS	10.9	B	SSS	18.5	C	7.6	No	18.5	C	7.6	No	18.5	C	7.6	No

Note: Alternative 1 is 4-Lanes on Carlsbad Blvd north of La Costa Ave. Alternative 2 is 2-Lanes on Carlsbad Blvd north of La Costa Ave.

[1] - 4 Leg Intersection with Signal instead of roundabout (see Exhibit 35)

SSS - Side Street Stop

AWS - All-Way Stop

R - Roundabout

SMUP - Sustainable Mixed Use Places

Table 12
Year 2035 Intersection Conditions - PM Peak Hour

ID	Intersection	Year 2035 No Build			Control (With Project)	Year 2035 Alternative 1				Year 2035 Alternative 2				Year 2035 Alternative 1 With SMUP			
		Control	Delay	LOS		Delay	LOS	Δ Delay (sec)	Significant?	Delay	LOS	Δ Delay (sec)	Significant?	Delay	LOS	Δ Delay (sec)	Significant?
1	Hwy 101 / La Costa Ave.	Signal	28.4	C	R	10.4	B	-18.0	No	3.9	A	-24.5	No	12.1	B	-16.3	No
					Signal [1]	40.3	D	11.9	No	37.8	D	9.4	No	43.0	D	14.6	No
2	Hwy 101 / New Road	SSS	46.8	E	R	3.6	A	-43.2	No	3.6	A	-43.2	No	3.8	A	-43.0	No
3	Hwy 101 / Bishops Gate Rd.	SSS	2.1	A	R	2.8	A	0.7	No	2.8	A	0.7	No	2.9	A	0.8	No
4	Hwy 101 / Grandview St.	SSS	3.4	A	R	2.7	A	-0.7	No	2.7	A	-0.7	No	2.8	A	-0.6	No
5	Hwy 101 / Jupiter St.	SSS	1.1	A	R	2.6	A	1.5	No	2.6	A	1.5	No	2.7	A	1.6	No
6	Hwy 101 / Leucadia Blvd.	Signal	36.8	D	Signal	40.0	D	3.2	No	39.7	D	2.9	No	41.7	D	4.9	No
7	Hwy 101 / El Portal St.	SSS	1.1	A	R	3.1	A	2.0	No	3.1	A	2.0	No	3.1	A	2.0	No
8	Hwy 101 / Marcheta St.	AWS	46.4	E	SSS	22.8	C	-23.6	No	21.4	C	-25.0	No	22.0	C	-24.4	No
9	Hwy 101 / Encinitas Blvd.	Signal	38.4	D	Signal	38.1	D	-0.3	No	38.1	D	-0.3	No	38.6	D	0.2	No
10	Neptune Ave. / Grandview St.	SSS	4.9	A	SSS	4.9	A	0.0	No	4.9	A	0.0	No	4.7	A	-0.2	No
11	Neptune Ave. / Jupiter St.	SSS	1.7	A	SSS	1.7	A	0.0	No	1.7	A	0.0	No	1.9	A	0.2	No
12	Neptune Ave. / Leucadia Blvd.	SSS	4.0	A	SSS	4.0	A	0.0	No	4.0	A	0.0	No	4.6	A	0.6	No
13	Neptune Ave. / N El Portal St.	SSS	2.8	A	SSS	2.8	A	0.0	No	2.8	A	0.0	No	2.8	A	0.0	No
14	La Costa Ave. / Vulcan Ave.	SSS	5.6	A	SSS	6.5	A	0.9	No	6.4	A	0.8	No	3.9	A	-1.7	No
15	La Costa Ave. / Sheridan Rd.	SSS	1.3	A	SSS	1.4	A	0.1	No	1.4	A	0.1	No	0.9	A	-0.4	No
16	La Costa Ave. / I-5 SB Ramps	Signal	35.9	D	Signal	39.6	D	3.7	No	42.3	D	6.4	No	29.6	C	-6.3	No
17	La Costa Ave. / I-5 NB Ramps	Signal	43.7	D	Signal	52.4	D	8.7	No	53.7	D	10.0	No	22.1	C	-21.6	No
18	Leucadia Blvd. / Vulcan Ave.	Signal	47.9	D	Signal	54.1	D	6.2	No	54.0	D	6.1	No	54.6	D	6.7	No
19	Leucadia Blvd. / Hygeia Ave.	AWS	32.2	D	AWS	31.6	D	-0.6	No	31.6	D	-0.6	No	32.7	D	0.5	No
20	Leucadia Blvd. / Hymettus Ave.	R	12.9	B	R	14.7	B	1.8	No	14.7	B	1.8	No	14.0	B	1.1	No
21	Leucadia Blvd. / Orpheus Ave.	Signal	27.6	C	Signal	28.1	C	0.5	No	28.1	C	0.5	No	29.3	C	1.7	No
22	Leucadia Blvd. / I-5 SB Ramps	Signal	38.3	D	Signal	42.7	D	4.4	No	43.8	D	5.5	No	37.8	D	-0.5	No
23	Leucadia Blvd. / I-5 NB Ramps	Signal	30.9	C	Signal	30.6	C	-0.3	No	30.9	C	0.0	No	31.1	C	0.2	No
24	Encinitas Blvd. / Vulcan Ave.	Signal	37.1	D	Signal	39.6	D	2.5	No	39.6	D	2.5	No	40.0	D	2.9	No
25	Encinitas Blvd. / I-5 SB Ramps	Signal	38.5	D	Signal	39.2	D	0.7	No	39.2	D	0.7	No	30.0	C	-8.5	No
26	Encinitas Blvd. / I-5 NB Ramps	Signal	38.7	D	Signal	44.2	D	5.5	No	43.1	D	4.4	No	47.8	D	9.1	No
27	Vulcan Ave. / Orpheus Ave.	SSS	1.3	A	SSS	1.3	A	0.0	No	1.3	A	0.0	No	1.3	A	0.0	No

Note: Alternative 1is 4-Lanes on Carlsbad Blvd north of La Costa Ave. Alternative 2 is 2-Lanes on Carlsbad Blvd north of La Costa Ave.

1 - 4 Leg Intersection with Signal instead of roundabout (see Exhibit 35)

SSS - Side Street Stop

AWS - All-Way Stop

R- Roundabout

SMUP - Sustainable Mixed Use Places

Table 4
Existing Peak Hour Directional Roadway Segment Conditions

Roadway Segment	Direction	Lanes	Segment Capacity [1]	AM Peak Hour			PM Peak Hour		
				Peak Hour Volume	V/C	LOS	Peak Hour Volume	V/C	LOS
Highway 101									
Between La Costa Ave. and Grandview St.	Northbound	1-Lane	2,000	398	0.199	A	828	0.414	B
	Southbound	2-Lane	2,800	1,311	0.468	B	629	0.225	A
Between Grandview St. and Jupiter St.	Northbound	1-Lane	1,800	340	0.189	A	848	0.471	B
	Southbound	2-Lane	2,800	1,465	0.523	B	680	0.243	A
Between Jupiter St. and Leucadia Blvd.	Northbound	1-Lane	1,800	354	0.197	A	853	0.474	B
	Southbound	2-Lane	2,800	1,406	0.502	B	645	0.230	A
Between Leucadia Blvd. and El Portal St.	Northbound	2-Lane	3,600	296	0.082	A	864	0.240	A
	Southbound	2-Lane	2,800	1,392	0.497	B	630	0.225	A
Between El Portal St. and Marcheta St.	Northbound	2-Lane	3,600	274	0.076	A	925	0.257	A
	Southbound	2-Lane	2,800	1,266	0.452	B	614	0.219	A
Between Marcheta St. and Encinitas Blvd.	Northbound	2-Lane	3,600	371	0.103	A	978	0.272	A
	Southbound	2-Lane	2,800	1,286	0.459	B	667	0.238	A
La Costa Avenue									
Between Hwy 101 and Vulcan Ave.	Eastbound	1-Lane	1,800	496	0.276	A	459	0.255	A
	Westbound	1-Lane	1,800	512	0.284	A	521	0.289	A
Between Vulcan Ave. and Sheridan Rd.	Eastbound	1-Lane	1,800	600	0.333	A	603	0.335	A
	Westbound	1-Lane	1,800	733	0.407	A	600	0.333	A
Between Sheridan Rd. and I-5 Southbound Ramps	Eastbound	1-Lane	1,800	688	0.382	A	588	0.327	A
	Westbound	1-Lane	1,800	738	0.410	A	655	0.364	A

[1] - For Highway 101 Northbound; Base Saturation Flow = 2,000 v/h/l; 10% Turning Vehicle Friction Reduction
- For Highway 101 Southbound; Base Saturation Flow = 2,000 v/h/l; 20% Parking Friction Reduction; 10% Turning Vehicle Friction Reduction
- For La Costa Ave.; Base Saturation Flow = 2,000 v/h/l; 10% Turning Vehicle Friction Reduction

Table 5
Existing Ramp Meter Conditions

Location	Peak Hour	Meter Rate (veh/hr/ln)	Demand (veh/hr/ln)	Excess Demand (veh/hr/ln)	Delay (min/ln)	Queue (ft/ln)
La Costa Avenue / I-5 Ramp						
La Costa Ave. / I-5 NB On-Ramp	PM	744	481	0	0.0	0
La Costa Ave. / I-5 SB On-Ramp	AM	455	294	0	0.0	0
La Costa Ave. / I-5 SB On-Ramp	PM	455	318	0	0.0	0
Leucadia Boulevard / I-5 Ramp						
Leucadia Blvd. / I-5 NB On-Ramp	PM	453	595	142	19	3,550
Leucadia Blvd. / I-5 SB On-Ramp	AM	255	317	62	14.6	1,550
Leucadia Blvd. / I-5 SB On-Ramp	PM	257	252	0	0.0	0
Encinitas Boulevard / I-5 Ramp						
Encinitas Blvd. / I-5 NB On-Ramp	PM	414	574	160	23.2	4,000
Encinitas Blvd. / I-5 SB On-Ramp	AM	744	617	0	0.0	0
Encinitas Blvd. / I-5 SB On-Ramp	PM	744	495	0	0.0	0

Ramp meter delay greater than 15 minutes/lane is considered unacceptable

Table 13
Year 2035 Peak Hour Directional Roadway Segment Conditions - AM Peak Hour

Roadway Segment	Direction	Year 2035 No Build					Lanes (With Project)	Segment Capacity [2] (With Project)	Year 2035 Alternative 1			Year 2035 Alternative 2			Year 2035 Alternative 1 With SMUP		
		Lanes	Segment Capacity [1]	Peak Hour Volume	V/C	LOS			Peak Hour Volume	V/C	LOS	Peak Hour Volume	V/C	LOS	Peak Hour Volume	V/C	LOS
Highway 101																	
Between La Costa Ave. and Grandview St.	Northbound	1-Lane	2,000	440	0.220	A	1-Lane	1,900	390	0.205	A	380	0.200	A	420	0.221	A
	Southbound	2-Lane	2,800	1,700	0.607	B	1-Lane	1,800	1,580	0.878	D	1,550	0.861	D	1,580	0.878	D
Between Grandview St. and Jupiter St.	Northbound	1-Lane	1,800	400	0.222	A	1-Lane	1,800	340	0.189	A	330	0.183	A	320	0.178	A
	Southbound	2-Lane	2,800	1,710	0.611	B	1-Lane	1,800	1,590	0.883	D	1,550	0.861	D	1,590	0.883	D
Between Jupiter St. and Leucadia Blvd.	Northbound	1-Lane	1,800	330	0.183	A	1-Lane	1,800	320	0.178	A	310	0.172	A	320	0.178	A
	Southbound	2-Lane	2,800	1,830	0.654	C	2-Lane	3,400	1,700	0.500	B	1,680	0.494	B	1,830	0.538	B
Between Leucadia Blvd. and El Portal St.	Northbound	2-Lane	3,600	360	0.100	A	1-Lane	1,800	340	0.189	A	340	0.189	A	350	0.194	A
	Southbound	2-Lane	2,800	1,700	0.607	B	1-Lane	1,700	1,560	0.918	D	1,540	0.906	D	1,640	0.965	E
Between El Portal St. and Marcheta St.	Northbound	2-Lane	3,600	350	0.097	A	1-Lane	1,900	320	0.168	A	320	0.168	A	340	0.179	A
	Southbound	2-Lane	2,800	1,560	0.557	B	1-Lane	1,800	1,510	0.839	D	1,490	0.828	D	1,640	0.911	D
Between Marcheta St. and Encinitas Blvd.	Northbound	2-Lane	3,600	410	0.114	A	2-Lane	3,800	440	0.116	A	440	0.116	A	360	0.095	A
	Southbound	2-Lane	2,800	1,550	0.554	B	1-Lane	1,700	1,490	0.876	D	1,470	0.865	D	1,400	0.824	D
La Costa Avenue																	
Between Hwy 101 and Vulcan Ave.	Eastbound	2-Lane	3,600	590	0.164	A	2-Lane	3,600	660	0.183	A	650	0.181	A	700	0.194	A
	Westbound	2-Lane	3,600	590	0.164	A	2-Lane	3,600	650	0.181	A	650	0.181	A	680	0.189	A
Between Vulcan Ave. and Sheridan Rd.	Eastbound	2-Lane	3,600	700	0.194	A	2-Lane	3,600	770	0.214	A	760	0.211	A	790	0.219	A
	Westbound	2-Lane	3,600	820	0.228	A	2-Lane	3,600	870	0.242	A	860	0.239	A	850	0.236	A
Between Sheridan Rd. and I-5 Southbound Ramps	Eastbound	2-Lane	3,600	770	0.214	A	2-Lane	3,600	840	0.233	A	830	0.231	A	850	0.236	A
	Westbound	2-Lane	3,600	920	0.256	A	2-Lane	3,600	940	0.261	A	930	0.258	A	970	0.269	A

Note: Alternative 1is 4-Lanes on Carlsbad Blvd north of La Costa Ave. Alternative 2 is 2-Lanes on Carlsbad Blvd north of La Costa Ave

[1] - For Highway 101Northbound; Base Saturation Flow = 2,000 v/h/l; 10% Turning Vehicle Friction Reduction

- For Highway 101Southbound; Base Saturation Flow = 2,000 v/h/l; 20% Parking Friction Reduction; 10% Turning Vehicle Friction Reduction

- For La Costa Ave.; Base Saturation Flow = 2,000 v/h/l; 10% Turning Vehicle Friction Reduction

[2] - For Highway 101Northbound; Base Saturation Flow = 2,000 v/h/l; 5% Turning Vehicle Friction Reduction; Additional 5% Turning Vehicle Friction Reduction at Proposed Parking Areas

- For Highway 101Southbound; Base Saturation Flow = 2,000 v/h/l; 10% Parking Friction Reduction; 5% Turning Vehicle Friction Reduction

- For La Costa Ave.; Base Saturation Flow = 2,000 v/h/l; 10% Turning Vehicle Friction Reduction

Table 14
Year 2035 Peak Hour Directional Roadway Segment Conditions - PM Peak Hour

Roadway Segment	Direction	Year 2035 No Build					Lanes (With Project)	Segment Capacity [2] (With Project)	Year 2035 Alternative 1			Year 2035 Alternative 2			Year 2035 Alternative 1 With SMUP		
		Lanes	Segment Capacity [1]	Peak Hour Volume	V/C	LOS			Peak Hour Volume	V/C	LOS	Peak Hour Volume	V/C	LOS	Peak Hour Volume	V/C	LOS
Highway 101																	
Between La Costa Ave. and Grandview St	Northbound	1-Lane	2,000	1,100	0.550	B	1-Lane	1,900	980	0.516	B	970	0.511	B	1,020	0.537	B
	Southbound	2-Lane	2,800	900	0.321	A	1-Lane	1,800	750	0.417	B	740	0.411	B	740	0.411	B
Between Grandview St. and Jupiter St	Northbound	1-Lane	1,800	1,090	0.606	B	1-Lane	1,800	950	0.528	B	940	0.522	B	990	0.550	B
	Southbound	2-Lane	2,800	810	0.289	A	1-Lane	1,800	720	0.400	A	700	0.389	A	720	0.400	A
Between Jupiter St. and Leucadia Blvd.	Northbound	1-Lane	1,800	1,020	0.567	B	1-Lane	1,800	1,000	0.556	B	990	0.550	B	1,010	0.561	B
	Southbound	2-Lane	2,800	770	0.275	A	2-Lane	3,400	670	0.197	A	650	0.191	A	720	0.212	A
Between Leucadia Blvd. and El Portal St	Northbound	2-Lane	3,600	1,030	0.286	A	1-Lane	1,800	1,010	0.561	B	1,000	0.556	B	1,060	0.589	B
	Southbound	2-Lane	2,800	730	0.261	A	1-Lane	1,700	680	0.400	A	660	0.388	A	600	0.353	A
Between El Portal St. and Marcheta St	Northbound	2-Lane	3,600	1,040	0.289	A	1-Lane	1,900	1,020	0.537	B	1,000	0.526	B	1,050	0.553	B
	Southbound	2-Lane	2,800	640	0.229	A	1-Lane	1,800	580	0.322	A	570	0.317	A	600	0.333	A
Between Marcheta St. and Encinitas Blvd.	Northbound	2-Lane	3,600	1,080	0.300	A	2-Lane	3,800	1,060	0.279	A	1,050	0.276	A	980	0.258	A
	Southbound	2-Lane	2,800	660	0.236	A	1-Lane	1,700	630	0.371	A	630	0.371	A	590	0.347	A
La Costa Avenue																	
Between Hwy 101 and Vulcan Ave.	Eastbound	2-Lane	3,600	650	0.181	A	2-Lane	3,600	690	0.192	A	680	0.189	A	720	0.200	A
	Westbound	2-Lane	3,600	590	0.164	A	2-Lane	3,600	630	0.175	A	620	0.172	A	660	0.183	A
Between Vulcan Ave. and Sheridan Rd.	Eastbound	2-Lane	3,600	730	0.203	A	2-Lane	3,600	760	0.211	A	760	0.211	A	780	0.217	A
	Westbound	2-Lane	3,600	700	0.194	A	2-Lane	3,600	700	0.194	A	690	0.192	A	710	0.197	A
Between Sheridan Rd. and I-5 Southbound Ramps	Eastbound	2-Lane	3,600	740	0.206	A	2-Lane	3,600	770	0.214	A	770	0.214	A	790	0.219	A
	Westbound	2-Lane	3,600	780	0.217	A	2-Lane	3,600	780	0.217	A	790	0.219	A	780	0.217	A

Note: Alternative 1is 4-Lanes on Carlsbad Blvd north of La Costa Ave. Alternative 2 is 2-Lanes on Carlsbad Blvd north of La Costa Ave.

[1] - For Highway 101Northbound; Base Saturation Flow = 2,000 v/h/l; 10% Turning Vehicle Friction Reduction

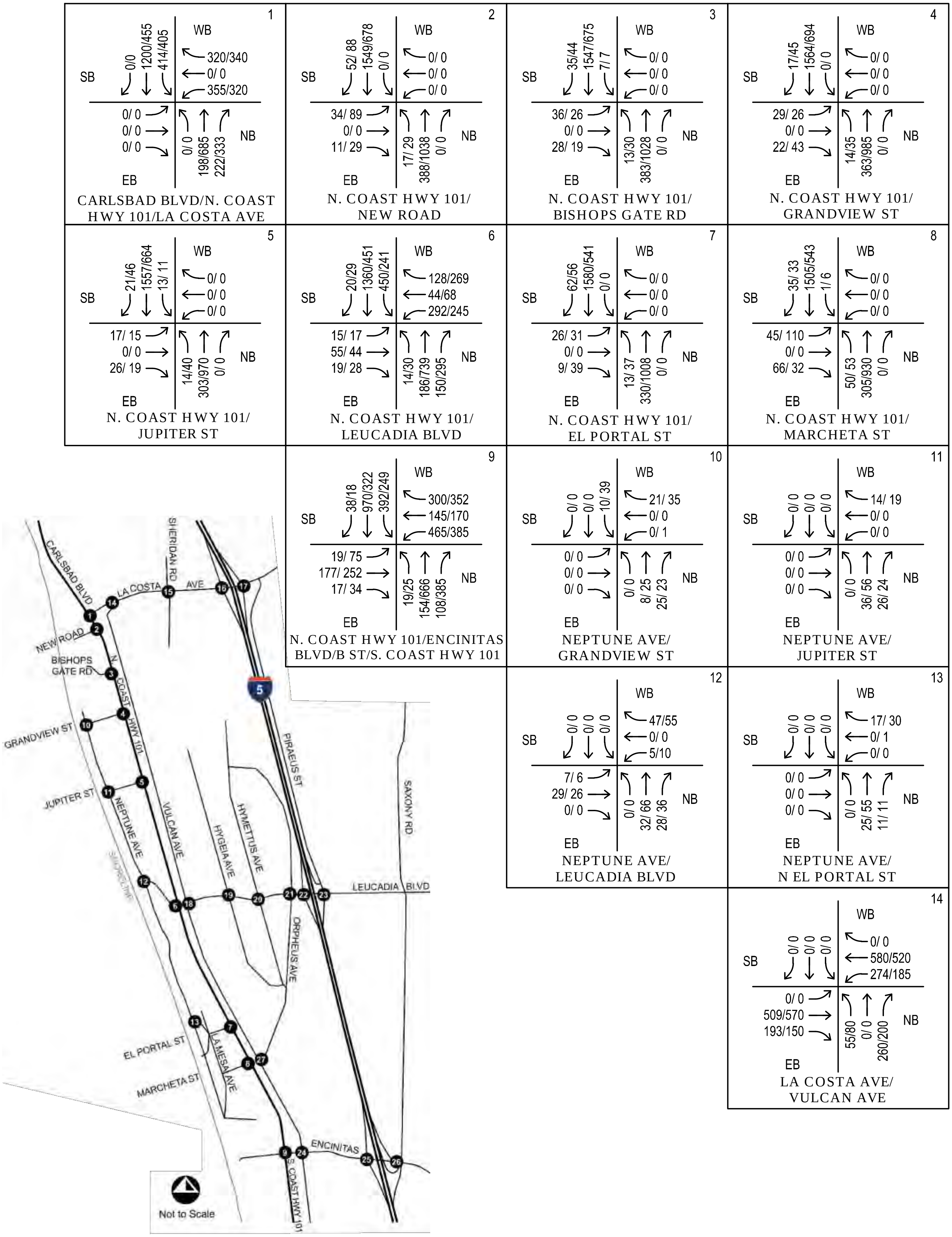
- For Highway 101Southbound; Base Saturation Flow = 2,000 v/h/l; 20% Parking Friction Reduction; 10% Turning Vehicle Friction Reduction

- For La Costa Ave.; Base Saturation Flow = 2,000 v/h/l; 10% Turning Vehicle Friction Reduction

[2] - For Highway 101Northbound; Base Saturation Flow = 2,000 v/h/l; 5% Turning Vehicle Friction Reduction; Additional 5% Turning Vehicle Friction Reduction at Proposed Parking Areas

- For Highway 101Southbound; Base Saturation Flow = 2,000 v/h/l; 10% Parking Friction Reduction; 5% Turning Vehicle Friction Reduction

- For La Costa Ave.; Base Saturation Flow = 2,000 v/h/l; 10% Turning Vehicle Friction Reduction

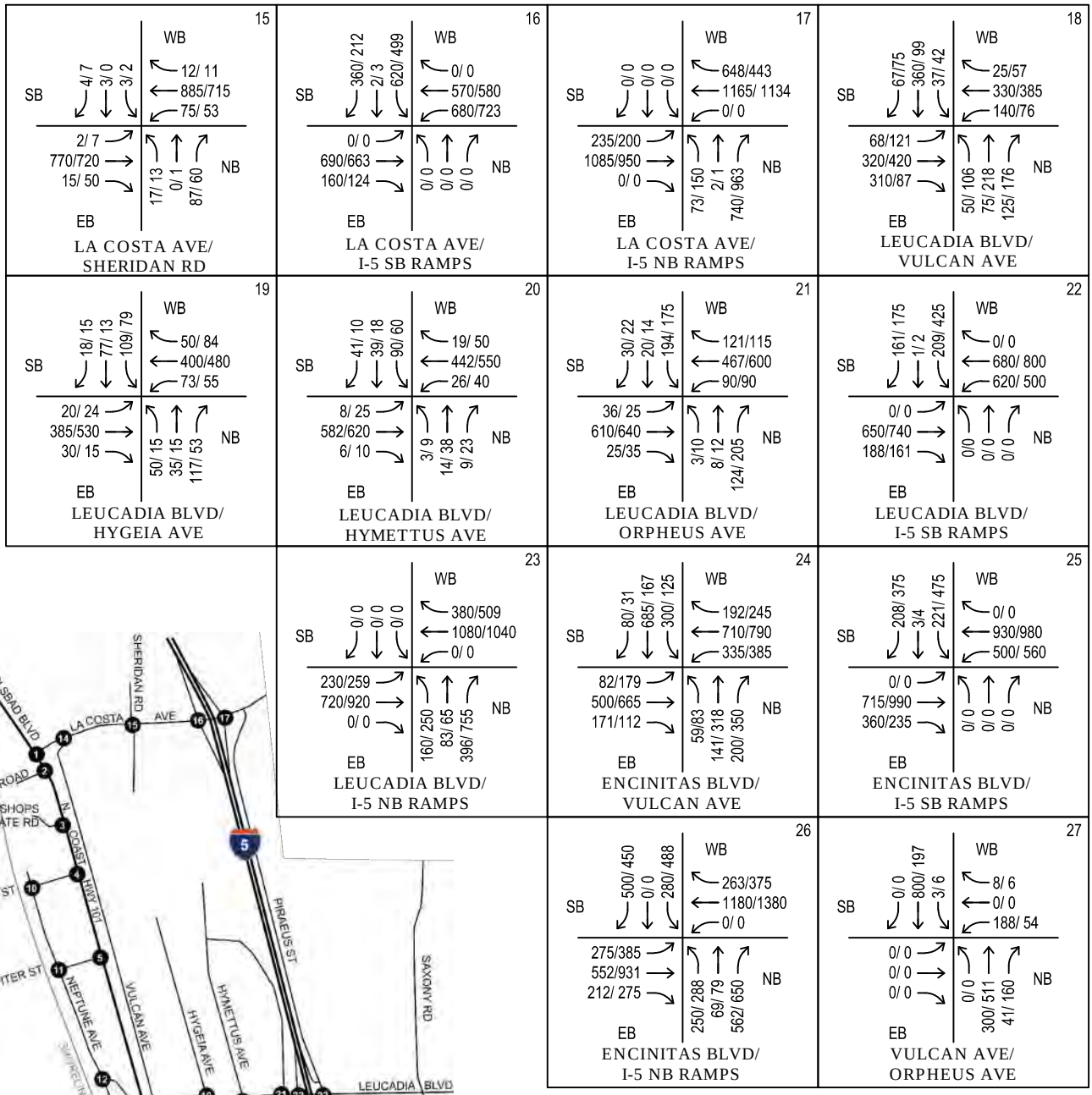


Michael Baker INTERNATIONAL

Year 2035 Alternative 1 With SMUP Peak Hour Intersection Volumes - Area 1

JN 137350

Exhibit 32


15
WB
SB
4/ 7
3/ 0
3/ 2
12/ 11
885/715
75/ 53
2/ 7
770/720
15/ 50
17/ 13
0/ 1
87/ 60
NB
EB
LA COSTA AVE/
SHERIDAN RD
16
WB
SB
360/ 212
2/ 3
620/ 499
0/ 0
570/580
680/723
0/ 0
690/663
160/124
0/ 0
0/ 0
0/ 0
NB
EB
LA COSTA AVE/
I-5 SB RAMPS
17
WB
SB
0/ 0
0/ 0
0/ 0
648/443
1165/ 1134
0/ 0
235/200
1085/950
0/ 0
73/ 150
2/ 1
740/ 963
NB
EB
LA COSTA AVE/
I-5 NB RAMPS
18
WB
SB
67/75
360/ 99
37/ 42
25/57
330/385
140/76
68/121
320/420
310/87
50/ 106
75/ 218
125/ 176
NB
EB
LEUCADIA BLVD/
VULCAN AVE
19
WB
SB
18/ 15
77/ 13
109/ 79
50/ 84
400/480
73/ 55
20/ 24
385/530
30/ 15
50/ 15
35/ 15
117/ 53
NB
EB
LEUCADIA BLVD/
HYGEIA AVE
20
WB
SB
41/ 10
39/ 18
90/ 60
19/ 50
442/550
26/ 40
8/ 25
582/620
6/ 10
3/ 9
14/ 38
9/ 23
NB
EB
LEUCADIA BLVD/
HYMETTUS AVE
21
WB
SB
30/ 22
20/ 14
194/ 175
121/115
467/600
90/90
36/ 25
610/640
25/35
3/10
8/ 12
124/ 205
NB
EB
LEUCADIA BLVD/
ORPHEUS AVE
22
WB
SB
161/ 175
1/ 2
209/ 425
0/ 0
680/ 800
620/ 500
0/ 0
650/740
188/161
0/0
0/ 0
0/ 0
NB
EB
LEUCADIA BLVD/
I-5 SB RAMPS
23
WB
SB
0/ 0
0/ 0
0/ 0
380/509
1080/1040
0/ 0
230/259
720/920
0/ 0
160/ 250
83/ 65
396/ 755
NB
EB
LEUCADIA BLVD/
I-5 NB RAMPS
24
WB
SB
80/ 31
685/ 167
300/ 125
192/245
710/790
335/385
82/179
500/665
171/112
59/83
141/ 318
200/ 350
NB
EB
ENCINITAS BLVD/
VULCAN AVE
25
WB
SB
208/ 375
3/4
221/ 475
0/ 0
930/980
500/ 560
0/ 0
715/990
360/235
0/ 0
0/ 0
0/ 0
NB
EB
ENCINITAS BLVD/
I-5 SB RAMPS
26
WB
SB
500/ 450
0/ 0
280/ 488
263/375
1180/1380
0/ 0
275/385
552/931
212/ 275
250/ 288
69/ 79
562/ 650
NB
EB
ENCINITAS BLVD/
I-5 NB RAMPS
27
WB
SB
0/ 0
800/ 197
3/ 6
8/ 6
0/ 0
188/ 54
0/ 0
0/ 0
0/ 0
0/ 0
300/ 511
41/ 160
NB
EB
VULCAN AVE/
ORPHEUS AVE


CARLSBAD BLVD
SHERIDAN RD
LA COSTA AVE
NEW ROAD
BISHOPS GATE RD
N. COAST HWY 101
GRANDVIEW ST
JUPITER ST
NEPTUNE AVE
VULCAN AVE
HYGEIA AVE
HYMETTUS AVE
PIRAEUS ST
SAXONY RD
LEUCADIA BLVD
ORPHEUS AVE
EL PORTAL ST
LA MESA AVE
MARCHETA ST
ENCINITAS
S. COAST HWY 101
Not to Scale

Year 2035 Alternative 1
With SMUP Roadway Segment Daily Traffic

Exhibit 34

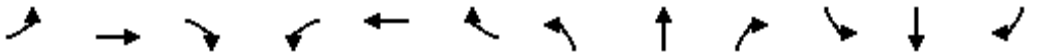
Appendix P

Horizon Year 2035 Intersection LOS Calculations

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	242	0	0	0	98	1482
Future Volume (vph)	242	0	0	0	98	1482
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				1.00	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				1770	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	263	0	0	0	107	1611
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	263	0	0	0	107	1611
Confl. Peds. (#/hr)		30			30	
Confl. Bikes (#/hr)		30		30		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	14.6				6.1	46.6
Effective Green, g (s)	14.6				6.1	46.6
Actuated g/C Ratio	0.18				0.07	0.57
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	613				132	2018
v/s Ratio Prot	c0.08				0.06	c0.46
v/s Ratio Perm						
v/c Ratio	0.43				0.81	0.80
Uniform Delay, d1	29.8				37.2	13.8
Progression Factor	0.07				1.00	1.00
Incremental Delay, d2	0.5				30.0	2.3
Delay (s)	2.4				67.3	16.1
Level of Service	A				E	B
Approach Delay (s)	2.4		0.0			19.3
Approach LOS	A		A			B

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	81.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



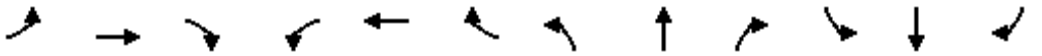
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	87	0	0	242	19	0	1312	406	0	0	0
Future Volume (vph)	11	87	0	0	242	19	0	1312	406	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.99			1.00	0.87			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		0.99			1.00			1.00	1.00			
Satd. Flow (prot)		1852			3480			3539	1379			
Flt Permitted		0.99			1.00			1.00	1.00			
Satd. Flow (perm)		1852			3480			3539	1379			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	95	0	0	263	21	0	1426	441	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	258	0	0	0
Lane Group Flow (vph)	0	107	0	0	277	0	0	1426	183	0	0	0
Confl. Peds. (#/hr)			20			20			20			
Confl. Bikes (#/hr)			30			30			30			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		8.5			14.6			36.5	14.6			
Effective Green, g (s)		8.5			14.6			36.5	14.6			
Actuated g/C Ratio		0.10			0.18			0.45	0.18			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		192			621			1581	246			
v/s Ratio Prot		c0.06			0.08			c0.40				
v/s Ratio Perm									c0.13			
v/c Ratio		0.56			0.45			0.90	0.74			
Uniform Delay, d1		34.8			29.9			20.9	31.8			
Progression Factor		1.43			1.00			1.00	1.00			
Incremental Delay, d2		1.9			0.5			8.7	11.5			
Delay (s)		51.8			30.5			29.7	43.3			
Level of Service		D			C			C	D			
Approach Delay (s)		51.8			30.5			32.9			0.0	
Approach LOS		D			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	81.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

3: N Coast Hwy & Hotel Access/La Costa Ave

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	34	7	355	49	320	10	198	222	414	1200	6
Future Volume (veh/h)	4	34	7	355	49	320	10	198	222	414	1200	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.70	1.00		0.93	1.00		0.89	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	37	8	386	53	348	11	215	241	450	1304	7
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	12	114	75	332	46	310	19	825	328	497	1777	744
Arrive On Green	0.07	0.07	0.07	0.21	0.21	0.21	0.01	0.23	0.23	0.28	0.50	0.50
Sat Flow, veh/h	182	1680	1105	1575	216	1474	1781	3554	1414	1781	3554	1488
Grp Volume(v), veh/h	41	0	8	439	0	348	11	215	241	450	1304	7
Grp Sat Flow(s),veh/h/ln	1861	0	1105	1792	0	1474	1781	1777	1414	1781	1777	1488
Q Serve(g_s), s	1.6	0.0	0.5	16.0	0.0	16.0	0.5	3.8	12.0	18.5	22.0	0.2
Cycle Q Clear(g_c), s	1.6	0.0	0.5	16.0	0.0	16.0	0.5	3.8	12.0	18.5	22.0	0.2
Prop In Lane	0.10		1.00	0.88		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	0	75	377	0	310	19	825	328	497	1777	744
V/C Ratio(X)	0.32	0.00	0.11	1.16	0.00	1.12	0.57	0.26	0.73	0.91	0.73	0.01
Avail Cap(c_a), veh/h	392	0	233	377	0	310	94	825	328	586	1777	744
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	0.0	33.2	30.0	0.0	30.0	37.4	23.9	27.0	26.4	15.0	9.5
Incr Delay (d2), s/veh	1.5	0.0	0.6	99.1	0.0	88.0	23.3	0.8	13.6	16.1	2.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.1	17.0	0.0	13.0	0.3	1.6	5.1	9.7	8.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	33.9	129.1	0.0	118.0	60.7	24.6	40.7	42.5	17.7	9.6
LnGrp LOS	D	A	C	F	A	F	E	C	D	D	B	A
Approach Vol, veh/h		49			787			467			1761	
Approach Delay, s/veh		35.0			124.2			33.8			24.0	
Approach LOS		C			F			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.2	21.6		9.2	4.8	42.0		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	25.0	17.0		16.0	4.0	38.0		16.0				
Max Q Clear Time (g_c+I1), s	20.5	14.0		3.6	2.5	24.0		18.0				
Green Ext Time (p_c), s	0.7	0.7		0.1	0.0	8.0		0.0				

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	64	13	383	1554	35
Future Vol, veh/h	0	64	13	383	1554	35
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	54	11	323	1292	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1347	1341	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	185	514	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	179	505	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.5	0.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	505	-	179	-	-
HCM Lane V/C Ratio	0.022	-	0.301	-	-
HCM Control Delay (s)	12.3	-	33.5	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Intersection	
Intersection Delay, s/veh	26.3
Intersection LOS	D

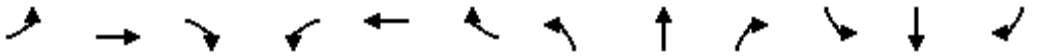
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	44	321	1312
Demand Flow Rate, veh/h	45	327	1338
Vehicles Circulating, veh/h	1324	25	12
Vehicles Exiting, veh/h	26	1343	340
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	9.3	4.6	32.2
Approach LOS	A	A	D

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	45	327	1338
Cap Entry Lane, veh/h	461	1390	1406
Entry HV Adj Factor	0.978	0.981	0.981
Flow Entry, veh/h	44	321	1312
Cap Entry, veh/h	451	1360	1375
V/C Ratio	0.098	0.236	0.954
Control Delay, s/veh	9.3	4.6	32.2
LOS	A	A	D
95th %tile Queue, veh	0	1	19

Intersection	
Intersection Delay, s/veh	21.0
Intersection LOS	C

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	33	250	1244
Demand Flow Rate, veh/h	33	255	1269
Vehicles Circulating, veh/h	1252	13	11
Vehicles Exiting, veh/h	28	1272	257
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	8.2	4.1	24.7
Approach LOS	A	A	C

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	33	255	1269
Cap Entry Lane, veh/h	490	1405	1407
Entry HV Adj Factor	1.000	0.981	0.981
Flow Entry, veh/h	33	250	1244
Cap Entry, veh/h	490	1374	1376
V/C Ratio	0.067	0.182	0.904
Control Delay, s/veh	8.2	4.1	24.7
LOS	A	A	C
95th %tile Queue, veh	0	1	15



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	55	19	292	44	128	14	186	150	450	1360	20
Future Volume (veh/h)	15	55	19	292	44	128	14	186	150	450	1360	20
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		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	60	21	252	139	139	15	202	163	489	1478	22
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	22	81	28	352	163	163	25	785	332	533	1812	27
Arrive On Green	0.07	0.07	0.07	0.20	0.20	0.20	0.01	0.22	0.22	0.30	0.51	0.51
Sat Flow, veh/h	289	1084	380	1781	824	824	1781	3554	1500	1781	3580	53
Grp Volume(v), veh/h	97	0	0	252	0	278	15	202	163	489	733	767
Grp Sat Flow(s),veh/h/ln	1753	0	0	1781	0	1648	1781	1777	1500	1781	1777	1857
Q Serve(g_s), s	4.2	0.0	0.0	10.2	0.0	12.5	0.6	3.6	7.3	20.4	26.7	26.8
Cycle Q Clear(g_c), s	4.2	0.0	0.0	10.2	0.0	12.5	0.6	3.6	7.3	20.4	26.7	26.8
Prop In Lane	0.16		0.22	1.00		0.50	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	131	0	0	352	0	325	25	785	332	533	899	940
V/C Ratio(X)	0.74	0.00	0.00	0.72	0.00	0.85	0.59	0.26	0.49	0.92	0.81	0.82
Avail Cap(c_a), veh/h	569	0	0	370	0	342	92	785	332	601	899	940
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	34.9	0.0	0.0	28.9	0.0	29.9	37.8	24.8	26.2	26.1	16.0	16.0
Incr Delay (d2), s/veh	7.9	0.0	0.0	6.2	0.0	18.0	19.9	0.8	5.1	17.9	8.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	4.8	0.0	6.4	0.4	1.6	3.0	10.8	11.6	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	0.0	0.0	35.1	0.0	47.9	57.7	25.6	31.4	44.0	24.0	23.8
LnGrp LOS	D	A	A	D	A	D	E	C	C	D	C	C
Approach Vol, veh/h		97			530			380			1989	
Approach Delay, s/veh		42.8			41.8			29.3			28.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.1	21.0		9.8	5.1	43.0		19.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	26.0	17.0		25.0	4.0	39.0		16.0				
Max Q Clear Time (g_c+I1), s	22.4	9.3		6.2	2.6	28.8		14.5				
Green Ext Time (p_c), s	0.6	1.1		0.4	0.0	6.9		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		31.7
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	187.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	509	193	274	580	0	55	0	260	0	0	0
Future Vol, veh/h	0	509	193	274	580	0	55	0	260	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	553	210	298	630	0	60	0	283	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	146.4	283.9	18.7	0
HCM LOS	F	F	C	-

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	32%	0%
Vol Thru, %	0%	0%	73%	68%	100%
Vol Right, %	0%	100%	27%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	260	702	854	0
LT Vol	55	0	0	274	0
Through Vol	0	0	509	580	0
RT Vol	0	260	193	0	0
Lane Flow Rate	60	283	763	928	0
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.135	0.544	1.243	1.572	0
Departure Headway (Hd)	9.245	7.993	6.685	6.557	10.628
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	390	455	549	566	0
Service Time	6.945	5.693	4.685	4.557	8.628
HCM Lane V/C Ratio	0.154	0.622	1.39	1.64	0
HCM Control Delay	13.4	19.8	146.4	283.9	13.6
HCM Lane LOS	B	C	F	F	N
HCM 95th-tile Q	0.5	3.2	26	46.3	0

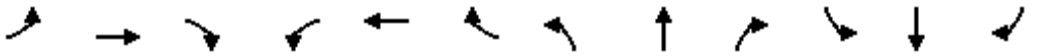
Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	770	15	75	885	17	87
Future Vol, veh/h	770	15	75	885	17	87
Conflicting Peds, #/hr	0	20	20	0	20	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	837	16	82	962	18	95

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	873	0	2011	885
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	1146	-
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	-	-	773	-	65	344
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	303	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	760	-	48	333
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	405	-
Stage 2	-	-	-	-	229	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	61.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	169	-	-	760	-
HCM Lane V/C Ratio	0.669	-	-	0.107	-
HCM Control Delay (s)	61.2	-	-	10.3	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	3.9	-	-	0.4	-



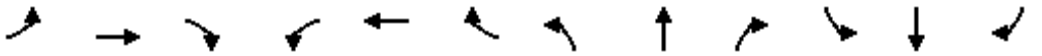
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	690	160	680	570	0	0	0	0	620	2	360
Future Volume (veh/h)	0	690	160	680	570	0	0	0	0	620	2	360
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	750	174	739	620	0				675	0	391
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	1025	238	793	2256	0				984	0	418
Arrive On Green	0.00	0.36	0.36	0.38	1.00	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	2933	659	3456	3647	0				3563	0	1514
Grp Volume(v), veh/h	0	469	455	739	620	0				675	0	391
Grp Sat Flow(s),veh/h/ln	0	1777	1722	1728	1777	0				1781	0	1514
Q Serve(g_s), s	0.0	20.6	20.6	18.5	0.0	0.0				15.2	0.0	22.7
Cycle Q Clear(g_c), s	0.0	20.6	20.6	18.5	0.0	0.0				15.2	0.0	22.7
Prop In Lane	0.00		0.38	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	641	621	793	2256	0				984	0	418
V/C Ratio(X)	0.00	0.73	0.73	0.93	0.27	0.00				0.69	0.00	0.94
Avail Cap(c_a), veh/h	0	641	621	806	2256	0				990	0	421
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.76	0.76	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.0	25.0	27.1	0.0	0.0				29.1	0.0	31.8
Incr Delay (d2), s/veh	0.0	7.2	7.4	14.0	0.2	0.0				2.0	0.0	28.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.6	9.4	7.6	0.1	0.0				6.6	0.0	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.2	32.4	41.1	0.2	0.0				31.1	0.0	59.9
LnGrp LOS	A	C	C	D	A	A				C	A	E
Approach Vol, veh/h		924			1359						1066	
Approach Delay, s/veh		32.3			22.4						41.7	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.7	36.5		28.9		61.1
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	21.0	32.0		25.0		57.0
Max Q Clear Time (g_c+I1), s	20.5	22.6		24.7		2.0
Green Ext Time (p_c), s	0.2	4.1		0.2		5.0

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

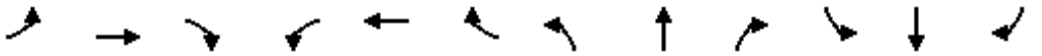


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	1085	0	0	1165	648	73	2	740	0	0	0
Future Volume (veh/h)	235	1085	0	0	1165	648	73	2	740	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		0.92			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	255	1179	0	0	1266	704	79	2	804			
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	289	2290	0	0	2236	656	464	12	687			
Arrive On Green	0.32	1.00	0.00	0.00	0.44	0.44	0.27	0.27	0.27			
Sat Flow, veh/h	1781	3647	0	0	5274	1498	1739	44	2575			
Grp Volume(v), veh/h	255	1179	0	0	1266	704	81	0	804			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1498	1783	0	1288			
Q Serve(g_s), s	12.2	0.0	0.0	0.0	16.7	39.4	3.1	0.0	24.0			
Cycle Q Clear(g_c), s	12.2	0.0	0.0	0.0	16.7	39.4	3.1	0.0	24.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	289	2290	0	0	2236	656	476	0	687			
V/C Ratio(X)	0.88	0.51	0.00	0.00	0.57	1.07	0.17	0.00	1.17			
Avail Cap(c_a), veh/h	416	2290	0	0	2236	656	476	0	687			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.60	0.60	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.6	0.0	0.0	0.0	18.9	25.3	25.4	0.0	33.0			
Incr Delay (d2), s/veh	9.4	0.5	0.0	0.0	1.0	56.4	0.2	0.0	91.8			
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	5.0	0.2	0.0	0.0	6.5	23.3	1.3	0.0	16.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	0.5	0.0	0.0	20.0	81.7	25.5	0.0	124.8			
LnGrp LOS	D	A	A	A	B	F	C	A	F			
Approach Vol, veh/h		1434			1970			885				
Approach Delay, s/veh		7.4			42.0			115.7				
Approach LOS		A			D			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			18.6	43.4		28.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		58.0			21.0	33.0		24.0				
Max Q Clear Time (g_c+I1), s		2.0			14.2	41.4		26.0				
Green Ext Time (p_c), s		12.3			0.4	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			45.6									
HCM 6th LOS			D									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	239	0	0	0	101	1790
Future Volume (vph)	239	0	0	0	101	1790
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				1.00	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				1770	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	260	0	0	0	110	1946
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	260	0	0	0	110	1946
Confl. Peds. (#/hr)		15			15	
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	14.2				8.5	57.6
Effective Green, g (s)	14.2				8.5	57.6
Actuated g/C Ratio	0.15				0.09	0.62
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	524				161	2194
v/s Ratio Prot	c0.08				0.06	c0.55
v/s Ratio Perm						
v/c Ratio	0.50				0.68	0.89
Uniform Delay, d1	36.1				40.9	14.9
Progression Factor	0.06				1.00	1.00
Incremental Delay, d2	0.7				11.3	4.8
Delay (s)	2.9				52.2	19.7
Level of Service	A				D	B
Approach Delay (s)	2.9		0.0			21.4
Approach LOS	A		A			C

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	92.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



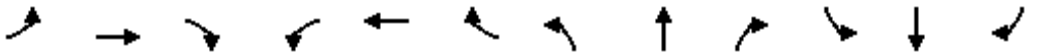
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	90	0	0	239	22	0	938	432	0	0	0
Future Volume (vph)	11	90	0	0	239	22	0	938	432	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	0.91			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		0.99			1.00			1.00	1.00			
Satd. Flow (prot)		1853			3479			3539	1447			
Flt Permitted		0.99			1.00			1.00	1.00			
Satd. Flow (perm)		1853			3479			3539	1447			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	98	0	0	260	24	0	1020	470	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	350	0	0	0
Lane Group Flow (vph)	0	110	0	0	277	0	0	1020	120	0	0	0
Confl. Peds. (#/hr)			15			15			15			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		9.1			14.2			45.1	14.2			
Effective Green, g (s)		9.1			14.2			45.1	14.2			
Actuated g/C Ratio		0.10			0.15			0.49	0.15			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		181			531			1718	221			
v/s Ratio Prot		c0.06			0.08			c0.29				
v/s Ratio Perm									c0.08			
v/c Ratio		0.61			0.52			0.59	0.54			
Uniform Delay, d1		40.2			36.2			17.3	36.4			
Progression Factor		1.50			1.00			1.00	1.00			
Incremental Delay, d2		5.1			0.9			1.5	2.7			
Delay (s)		65.2			37.2			18.8	39.1			
Level of Service		E			D			B	D			
Approach Delay (s)		65.2			37.2			25.2			0.0	
Approach LOS		E			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	92.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

3: N Coast Hwy & Hotel Access/La Costa Ave

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	46	9	320	65	340	13	685	333	405	455	7
Future Volume (veh/h)	5	46	9	320	65	340	13	685	333	405	455	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.78	1.00		0.94	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	50	10	348	71	370	14	745	362	440	495	8
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	13	126	92	299	61	299	24	1023	423	423	1820	771
Arrive On Green	0.07	0.07	0.07	0.20	0.20	0.20	0.01	0.29	0.29	0.24	0.51	0.51
Sat Flow, veh/h	169	1693	1241	1491	304	1494	1781	3554	1470	1781	3554	1506
Grp Volume(v), veh/h	55	0	10	419	0	370	14	745	362	440	495	8
Grp Sat Flow(s),veh/h/ln	1862	0	1241	1796	0	1494	1781	1777	1470	1781	1777	1506
Q Serve(g_s), s	2.3	0.0	0.6	16.0	0.0	16.0	0.6	15.1	18.6	19.0	6.3	0.2
Cycle Q Clear(g_c), s	2.3	0.0	0.6	16.0	0.0	16.0	0.6	15.1	18.6	19.0	6.3	0.2
Prop In Lane	0.09		1.00	0.83		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	0	92	359	0	299	24	1023	423	423	1820	771
V/C Ratio(X)	0.40	0.00	0.11	1.17	0.00	1.24	0.59	0.73	0.86	1.04	0.27	0.01
Avail Cap(c_a), veh/h	373	0	248	359	0	299	89	1023	423	423	1820	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	34.5	32.0	0.0	32.0	39.2	25.7	26.9	30.5	11.1	9.6
Incr Delay (d2), s/veh	1.9	0.0	0.5	100.6	0.0	132.0	20.9	4.6	19.4	54.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.2	16.7	0.0	16.5	0.4	6.7	8.5	14.2	2.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.0	35.0	132.6	0.0	163.9	60.1	30.2	46.3	84.7	11.4	9.6
LnGrp LOS	D	A	D	F	A	F	E	C	D	F	B	A
Approach Vol, veh/h		65			789			1121			943	
Approach Delay, s/veh		36.8			147.3			35.8			45.6	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.0	27.0		9.9	5.1	44.9		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	19.0	23.0		16.0	4.0	38.0		16.0				
Max Q Clear Time (g_c+I1), s	21.0	20.6		4.3	2.6	8.3		18.0				
Green Ext Time (p_c), s	0.0	1.5		0.2	0.0	3.6		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			69.1									
HCM 6th LOS			E									

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	45	30	1028	682	44
Future Vol, veh/h	0	45	30	1028	682	44
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	32	1082	718	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	761	774	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	405	842	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	398	835	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.3	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	835	-	398	-	-
HCM Lane V/C Ratio	0.038	-	0.119	-	-
HCM Control Delay (s)	9.5	-	15.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

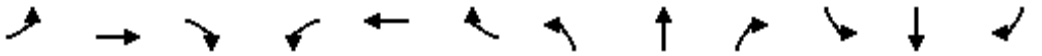
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	64	938	679
Demand Flow Rate, veh/h	65	957	693
Vehicles Circulating, veh/h	651	24	33
Vehicles Exiting, veh/h	75	692	948
Ped Vol Crossing Leg, #/h	10	10	10
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	5.3	11.7	7.8
Approach LOS	A	B	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	65	957	693
Cap Entry Lane, veh/h	817	1391	1381
Entry HV Adj Factor	0.985	0.980	0.980
Flow Entry, veh/h	64	938	679
Cap Entry, veh/h	803	1362	1352
V/C Ratio	0.080	0.689	0.503
Control Delay, s/veh	5.3	11.7	7.8
LOS	A	B	A
95th %tile Queue, veh	0	6	3

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	31	929	653
Demand Flow Rate, veh/h	31	948	666
Vehicles Circulating, veh/h	623	14	38
Vehicles Exiting, veh/h	81	640	924
Ped Vol Crossing Leg, #/h	10	10	10
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	4.7	11.3	7.6
Approach LOS	A	B	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	31	948	666
Cap Entry Lane, veh/h	836	1403	1375
Entry HV Adj Factor	1.000	0.980	0.980
Flow Entry, veh/h	31	929	653
Cap Entry, veh/h	835	1374	1346
V/C Ratio	0.037	0.676	0.485
Control Delay, s/veh	4.7	11.3	7.6
LOS	A	B	A
95th %tile Queue, veh	0	6	3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	44	28	245	68	269	30	739	295	241	451	29
Future Volume (veh/h)	17	44	28	245	68	269	30	739	295	241	451	29
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		0.94	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	48	30	266	74	292	33	803	321	262	490	32
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	24	64	40	454	80	316	46	1086	466	302	1515	99
Arrive On Green	0.07	0.07	0.07	0.25	0.25	0.25	0.03	0.31	0.31	0.17	0.45	0.45
Sat Flow, veh/h	322	860	537	1781	314	1241	1781	3554	1525	1781	3370	219
Grp Volume(v), veh/h	96	0	0	266	0	366	33	803	321	262	258	264
Grp Sat Flow(s),veh/h/ln	1719	0	0	1781	0	1555	1781	1777	1525	1781	1777	1813
Q Serve(g_s), s	4.5	0.0	0.0	10.7	0.0	18.8	1.5	16.6	15.1	11.7	7.6	7.7
Cycle Q Clear(g_c), s	4.5	0.0	0.0	10.7	0.0	18.8	1.5	16.6	15.1	11.7	7.6	7.7
Prop In Lane	0.19		0.31	1.00		0.80	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	128	0	0	454	0	397	46	1086	466	302	798	815
V/C Ratio(X)	0.75	0.00	0.00	0.59	0.00	0.92	0.72	0.74	0.69	0.87	0.32	0.32
Avail Cap(c_a), veh/h	463	0	0	457	0	399	131	1086	466	349	798	815
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	37.1	0.0	0.0	26.7	0.0	29.7	39.5	25.5	25.0	33.1	14.5	14.5
Incr Delay (d2), s/veh	8.6	0.0	0.0	1.9	0.0	26.7	18.8	4.5	8.1	18.3	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	4.6	0.0	9.7	0.9	7.4	6.3	6.4	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	0.0	0.0	28.6	0.0	56.4	58.3	30.0	33.1	51.4	15.6	15.6
LnGrp LOS	D	A	A	C	A	E	E	C	C	D	B	B
Approach Vol, veh/h		96			632			1157			784	
Approach Delay, s/veh		45.7			44.7			31.6			27.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.9	29.0		10.1	6.1	40.7		24.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	16.0	25.0		22.0	6.0	35.0		21.0				
Max Q Clear Time (g_c+I1), s	13.7	18.6		6.5	3.5	9.7		20.8				
Green Ext Time (p_c), s	0.2	3.5		0.4	0.0	3.3		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		34.0	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	133.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	570	150	185	520	0	80	0	200	0	0	0
Future Vol, veh/h	0	570	150	185	520	0	80	0	200	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	620	163	201	565	0	87	0	217	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	154.3	159.8	15.2	0
HCM LOS	F	F	C	-

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	26%	0%
Vol Thru, %	0%	0%	79%	74%	100%
Vol Right, %	0%	100%	21%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	200	720	705	0
LT Vol	80	0	0	185	0
Through Vol	0	0	570	520	0
RT Vol	0	200	150	0	0
Lane Flow Rate	87	217	783	766	0
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.196	0.419	1.268	1.28	0
Departure Headway (Hd)	8.945	7.698	6.22	6.389	9.811
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	403	472	587	575	0
Service Time	6.645	5.398	4.22	4.389	7.811
HCM Lane V/C Ratio	0.216	0.46	1.334	1.332	0
HCM Control Delay	13.8	15.8	154.3	159.8	12.8
HCM Lane LOS	B	C	F	F	N
HCM 95th-tile Q	0.7	2	28.9	29	0

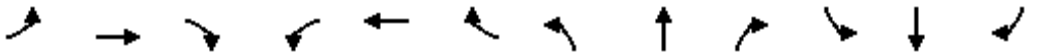
Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	720	50	53	715	13	60
Future Vol, veh/h	720	50	53	715	13	60
Conflicting Peds, #/hr	0	20	20	0	20	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	783	54	58	777	14	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	857	0	1743	850
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	913	-
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	-	-	783	-	95	360
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	391	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	770	-	80	348
Mov Cap-2 Maneuver	-	-	-	-	80	-
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	334	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	30.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	218	-	-	770	-
HCM Lane V/C Ratio	0.364	-	-	0.075	-
HCM Control Delay (s)	30.7	-	-	10.1	0
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	1.6	-	-	0.2	-



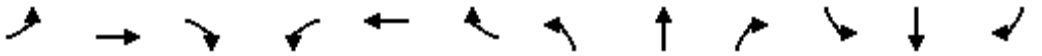
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	663	124	723	580	0	0	0	0	499	3	212
Future Volume (veh/h)	0	663	124	723	580	0	0	0	0	499	3	212
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	721	135	786	630	0				544	0	230
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	1259	236	886	2576	0				664	0	278
Arrive On Green	0.00	0.42	0.42	0.26	0.72	0.00				0.19	0.00	0.19
Sat Flow, veh/h	0	3062	556	3456	3647	0				3563	0	1489
Grp Volume(v), veh/h	0	431	425	786	630	0				544	0	230
Grp Sat Flow(s),veh/h/ln	0	1777	1748	1728	1777	0				1781	0	1489
Q Serve(g_s), s	0.0	16.6	16.6	19.7	5.3	0.0				13.2	0.0	13.4
Cycle Q Clear(g_c), s	0.0	16.6	16.6	19.7	5.3	0.0				13.2	0.0	13.4
Prop In Lane	0.00		0.32	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	753	741	886	2576	0				664	0	278
V/C Ratio(X)	0.00	0.57	0.57	0.89	0.24	0.00				0.82	0.00	0.83
Avail Cap(c_a), veh/h	0	753	741	998	2576	0				792	0	331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.55	0.55	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.7	19.7	32.2	4.1	0.0				35.2	0.0	35.2
Incr Delay (d2), s/veh	0.0	3.2	3.2	5.3	0.1	0.0				5.8	0.0	13.9
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	7.2	7.1	8.6	1.6	0.0				6.1	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.9	22.9	37.5	4.3	0.0				41.0	0.0	49.1
LnGrp LOS	A	C	C	D	A	A				D	A	D
Approach Vol, veh/h		856			1416						774	
Approach Delay, s/veh		22.9			22.7						43.4	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.1	42.2		20.8		69.2						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	26.0	32.0		20.0		62.0						
Max Q Clear Time (g_c+I1), s	21.7	18.6		15.4		7.3						
Green Ext Time (p_c), s	1.4	4.7		1.4		5.1						

Intersection Summary	
HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	950	0	0	1134	443	150	1	963	0	0	0
Future Volume (veh/h)	200	950	0	0	1134	443	150	1	963	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.94			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	217	1033	0	0	1233	482	163	1	1047			
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	1828	0	0	1605	464	658	4	973			
Arrive On Green	0.14	0.51	0.00	0.00	0.31	0.31	0.37	0.37	0.37			
Sat Flow, veh/h	1781	3647	0	0	5274	1477	1771	11	2620			
Grp Volume(v), veh/h	217	1033	0	0	1233	482	164	0	1047			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1477	1782	0	1310			
Q Serve(g_s), s	8.3	13.9	0.0	0.0	15.3	22.0	4.5	0.0	26.0			
Cycle Q Clear(g_c), s	8.3	13.9	0.0	0.0	15.3	22.0	4.5	0.0	26.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	254	1828	0	0	1605	464	662	0	973			
V/C Ratio(X)	0.85	0.57	0.00	0.00	0.77	1.04	0.25	0.00	1.08			
Avail Cap(c_a), veh/h	254	1828	0	0	1605	464	662	0	973			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.68	0.68	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.3	11.6	0.0	0.0	21.7	24.0	15.2	0.0	22.0			
Incr Delay (d2), s/veh	17.0	0.9	0.0	0.0	3.6	52.1	0.2	0.0	51.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.6	5.0	0.0	0.0	6.2	13.8	1.7	0.0	14.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	12.5	0.0	0.0	25.3	76.1	15.4	0.0	73.6			
LnGrp LOS	D	B	A	A	C	F	B	A	F			
Approach Vol, veh/h		1250			1715			1211				
Approach Delay, s/veh		18.4			39.6			65.7				
Approach LOS		B			D			E				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		40.0			14.0	26.0		30.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		36.0			10.0	22.0		26.0				
Max Q Clear Time (g_c+I1), s		15.9			10.3	24.0		28.0				
Green Ext Time (p_c), s		7.6			0.0	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			40.8									
HCM 6th LOS			D									

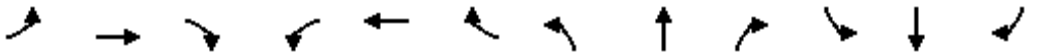
Appendix Q

Horizon Year 2035 + Project Intersection LOS Calculations

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	244	0	0	0	98	1486
Future Volume (vph)	244	0	0	0	98	1486
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				1.00	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				1770	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	265	0	0	0	107	1615
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	265	0	0	0	107	1615
Confl. Peds. (#/hr)		30			30	
Confl. Bikes (#/hr)		30		30		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	14.7				6.1	46.6
Effective Green, g (s)	14.7				6.1	46.6
Actuated g/C Ratio	0.18				0.07	0.57
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	616				131	2016
v/s Ratio Prot	c0.08				0.06	c0.46
v/s Ratio Perm						
v/c Ratio	0.43				0.82	0.80
Uniform Delay, d1	29.8				37.3	13.9
Progression Factor	0.07				1.00	1.00
Incremental Delay, d2	0.4				31.0	2.4
Delay (s)	2.4				68.3	16.3
Level of Service	A				E	B
Approach Delay (s)	2.4		0.0			19.5
Approach LOS	A		A			B

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

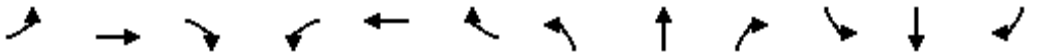
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	87	0	0	244	19	0	1320	409	0	0	0
Future Volume (vph)	11	87	0	0	244	19	0	1320	409	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.99			1.00	0.87			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		0.99			1.00			1.00	1.00			
Satd. Flow (prot)		1852			3480			3539	1379			
Flt Permitted		0.99			1.00			1.00	1.00			
Satd. Flow (perm)		1852			3480			3539	1379			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	95	0	0	265	21	0	1435	445	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	258	0	0	0
Lane Group Flow (vph)	0	107	0	0	279	0	0	1435	187	0	0	0
Confl. Peds. (#/hr)			20			20			20			
Confl. Bikes (#/hr)			30			30			30			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		8.5			14.7			36.5	14.7			
Effective Green, g (s)		8.5			14.7			36.5	14.7			
Actuated g/C Ratio		0.10			0.18			0.45	0.18			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		192			625			1579	247			
v/s Ratio Prot		c0.06			0.08			c0.41				
v/s Ratio Perm									c0.14			
v/c Ratio		0.56			0.45			0.91	0.76			
Uniform Delay, d1		34.9			29.9			21.1	31.8			
Progression Factor		1.43			1.00			1.00	1.00			
Incremental Delay, d2		1.9			0.5			9.3	12.3			
Delay (s)		51.9			30.4			30.4	44.2			
Level of Service		D			C			C	D			
Approach Delay (s)		51.9			30.4			33.6			0.0	
Approach LOS		D			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	34	7	369	49	320	10	209	247	414	1206	6
Future Volume (veh/h)	4	34	7	369	49	320	10	209	247	414	1206	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.70	1.00		0.93	1.00		0.89	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	37	8	401	53	348	11	227	268	450	1311	7
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	12	115	76	338	45	315	19	800	317	498	1754	734
Arrive On Green	0.07	0.07	0.07	0.21	0.21	0.21	0.01	0.23	0.23	0.28	0.49	0.49
Sat Flow, veh/h	182	1680	1107	1582	209	1475	1781	3554	1410	1781	3554	1487
Grp Volume(v), veh/h	41	0	8	454	0	348	11	227	268	450	1311	7
Grp Sat Flow(s),veh/h/ln	1861	0	1107	1791	0	1475	1781	1777	1410	1781	1777	1487
Q Serve(g_s), s	1.6	0.0	0.5	16.0	0.0	16.0	0.5	4.0	13.6	18.3	22.2	0.2
Cycle Q Clear(g_c), s	1.6	0.0	0.5	16.0	0.0	16.0	0.5	4.0	13.6	18.3	22.2	0.2
Prop In Lane	0.10		1.00	0.88		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	0	76	382	0	315	19	800	317	498	1754	734
V/C Ratio(X)	0.32	0.00	0.11	1.19	0.00	1.11	0.57	0.28	0.84	0.90	0.75	0.01
Avail Cap(c_a), veh/h	422	0	251	382	0	315	95	800	317	594	1754	734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	0.0	32.8	29.5	0.0	29.5	36.9	24.0	27.8	26.0	15.2	9.7
Incr Delay (d2), s/veh	1.4	0.0	0.6	107.6	0.0	81.9	23.2	0.9	23.2	15.5	3.0	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	0.7	0.0	0.1	18.0	0.0	12.6	0.3	1.7	6.4	9.4	8.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	33.4	137.1	0.0	111.4	60.1	24.9	51.0	41.5	18.2	9.7
LnGrp LOS	C	A	C	F	A	F	E	C	D	D	B	A
Approach Vol, veh/h		49			802			506			1768	
Approach Delay, s/veh		34.5			126.0			39.5			24.1	
Approach LOS		C			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.9	20.9		9.1	4.8	41.0		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	25.0	16.0		17.0	4.0	37.0		16.0				
Max Q Clear Time (g_c+I1), s	20.3	15.6		3.6	2.5	24.2		18.0				
Green Ext Time (p_c), s	0.7	0.1		0.1	0.0	7.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		52.9	
HCM 6th LOS		D	

Notes

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

Intersection	
Intersection Delay, s/veh	33.2
Intersection LOS	D

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	75	392	1323
Demand Flow Rate, veh/h	76	399	1350
Vehicles Circulating, veh/h	1316	53	18
Vehicles Exiting, veh/h	52	1339	434
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	13.9	5.6	42.5
Approach LOS	B	A	E

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	76	399	1350
Cap Entry Lane, veh/h	361	1307	1355
Entry HV Adj Factor	0.987	0.981	0.980
Flow Entry, veh/h	75	392	1323
Cap Entry, veh/h	356	1279	1324
V/C Ratio	0.211	0.306	0.999
Control Delay, s/veh	13.9	5.6	42.5
LOS	B	A	E
95th %tile Queue, veh	1	1	22

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	64	13	394	1573	35
Future Vol, veh/h	0	64	13	394	1573	35
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	54	11	332	1308	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1363	1357	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	181	507	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	175	499	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	34.5	0.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	499	-	175	-	-
HCM Lane V/C Ratio	0.022	-	0.308	-	-
HCM Control Delay (s)	12.4	-	34.5	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Intersection	
Intersection Delay, s/veh	28.0
Intersection LOS	D

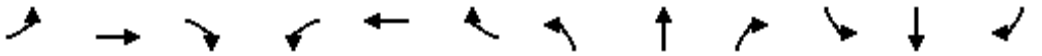
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	44	330	1328
Demand Flow Rate, veh/h	45	336	1354
Vehicles Circulating, veh/h	1340	25	12
Vehicles Exiting, veh/h	26	1359	349
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	9.5	4.7	34.4
Approach LOS	A	A	D

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	45	336	1354
Cap Entry Lane, veh/h	455	1390	1406
Entry HV Adj Factor	0.978	0.981	0.981
Flow Entry, veh/h	44	330	1328
Cap Entry, veh/h	444	1360	1375
V/C Ratio	0.099	0.242	0.966
Control Delay, s/veh	9.5	4.7	34.4
LOS	A	A	D
95th %tile Queue, veh	0	1	20

Intersection	
Intersection Delay, s/veh	22.0
Intersection LOS	C

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	33	258	1258
Demand Flow Rate, veh/h	33	263	1283
Vehicles Circulating, veh/h	1266	13	11
Vehicles Exiting, veh/h	28	1286	265
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	1.000	0.997	0.997
Approach Delay, s/veh	8.3	4.2	26.0
Approach LOS	A	A	D

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	33	263	1283
Cap Entry Lane, veh/h	484	1405	1407
Entry HV Adj Factor	1.000	0.981	0.981
Flow Entry, veh/h	33	258	1258
Cap Entry, veh/h	484	1374	1376
V/C Ratio	0.068	0.188	0.914
Control Delay, s/veh	8.3	4.2	26.0
LOS	A	A	D
95th %tile Queue, veh	0	1	16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	55	19	292	44	133	14	192	150	458	1369	21
Future Volume (veh/h)	15	55	19	292	44	133	14	192	150	458	1369	21
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		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	60	21	255	135	145	15	209	163	498	1488	23
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	22	81	28	352	156	168	25	777	328	540	1816	28
Arrive On Green	0.07	0.07	0.07	0.20	0.20	0.20	0.01	0.22	0.22	0.30	0.51	0.51
Sat Flow, veh/h	289	1084	380	1781	791	850	1781	3554	1500	1781	3578	55
Grp Volume(v), veh/h	97	0	0	255	0	280	15	209	163	498	738	773
Grp Sat Flow(s),veh/h/ln	1753	0	0	1781	0	1642	1781	1777	1500	1781	1777	1856
Q Serve(g_s), s	4.2	0.0	0.0	10.4	0.0	12.8	0.7	3.8	7.4	21.0	27.2	27.3
Cycle Q Clear(g_c), s	4.2	0.0	0.0	10.4	0.0	12.8	0.7	3.8	7.4	21.0	27.2	27.3
Prop In Lane	0.16		0.22	1.00		0.52	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	131	0	0	352	0	325	25	777	328	540	902	942
V/C Ratio(X)	0.74	0.00	0.00	0.72	0.00	0.86	0.59	0.27	0.50	0.92	0.82	0.82
Avail Cap(c_a), veh/h	564	0	0	366	0	338	92	777	328	596	902	942
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	35.2	0.0	0.0	29.2	0.0	30.2	38.1	25.2	26.6	26.2	16.1	16.2
Incr Delay (d2), s/veh	7.9	0.0	0.0	6.7	0.0	19.4	20.0	0.9	5.3	19.0	8.2	7.9
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	2.0	0.0	0.0	4.9	0.0	6.6	0.4	1.6	3.0	11.2	11.8	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	0.0	35.9	0.0	49.6	58.1	26.1	31.9	45.2	24.3	24.1
LnGrp LOS	D	A	A	D	A	D	E	C	C	D	C	C
Approach Vol, veh/h		97			535			387			2009	
Approach Delay, s/veh		43.2			43.1			29.8			29.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.6	21.0		9.8	5.1	43.5		19.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	26.0	17.0		25.0	4.0	39.0		16.0				
Max Q Clear Time (g_c+I1), s	23.0	9.4		6.2	2.7	29.3		14.8				
Green Ext Time (p_c), s	0.6	1.1		0.4	0.0	6.7		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		32.3
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	200.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	533	194	274	594	0	55	0	260	0	0	0
Future Vol, veh/h	0	533	194	274	594	0	55	0	260	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	579	211	298	646	0	60	0	283	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	165.7	295.8	18.9	0
HCM LOS	F	F	C	-

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	32%	0%
Vol Thru, %	0%	0%	73%	68%	100%
Vol Right, %	0%	100%	27%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	260	727	868	0
LT Vol	55	0	0	274	0
Through Vol	0	0	533	594	0
RT Vol	0	260	194	0	0
Lane Flow Rate	60	283	790	943	0
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.135	0.544	1.291	1.599	0
Departure Headway (Hd)	9.317	8.064	6.72	6.609	10.783
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	387	449	545	557	0
Service Time	7.017	5.764	4.72	4.609	8.783
HCM Lane V/C Ratio	0.155	0.63	1.45	1.693	0
HCM Control Delay	13.5	20	165.7	295.8	13.8
HCM Lane LOS	B	C	F	F	N
HCM 95th-tile Q	0.5	3.2	28.6	47.6	0

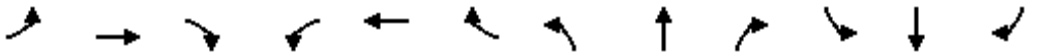
Intersection	
Int Delay, s/veh	4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	792	17	75	897	19	87
Future Vol, veh/h	792	17	75	897	19	87
Conflicting Peds, #/hr	0	20	20	0	20	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	861	18	82	975	21	95

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	899	0	2049	910
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	1159	-
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	-	-	756	-	61	333
Stage 1	-	-	-	-	401	-
Stage 2	-	-	-	-	299	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	743	-	45	322
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	223	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	78.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	153	-	-	743	-
HCM Lane V/C Ratio	0.753	-	-	0.11	-
HCM Control Delay (s)	78.1	-	-	10.4	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	4.6	-	-	0.4	-



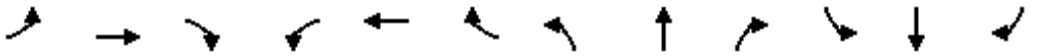
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	704	168	680	576	0	0	0	0	620	2	366
Future Volume (veh/h)	0	704	168	680	576	0	0	0	0	620	2	366
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	765	183	739	626	0				675	0	398
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	1013	242	793	2251	0				990	0	421
Arrive On Green	0.00	0.36	0.36	0.38	1.00	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	2914	675	3456	3647	0				3563	0	1514
Grp Volume(v), veh/h	0	482	466	739	626	0				675	0	398
Grp Sat Flow(s),veh/h/ln	0	1777	1718	1728	1777	0				1781	0	1514
Q Serve(g_s), s	0.0	21.5	21.5	18.5	0.0	0.0				15.2	0.0	23.2
Cycle Q Clear(g_c), s	0.0	21.5	21.5	18.5	0.0	0.0				15.2	0.0	23.2
Prop In Lane	0.00		0.39	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	638	617	793	2251	0				990	0	421
V/C Ratio(X)	0.00	0.75	0.75	0.93	0.28	0.00				0.68	0.00	0.95
Avail Cap(c_a), veh/h	0	638	617	806	2251	0				990	0	421
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.75	0.75	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.3	25.3	27.1	0.0	0.0				29.0	0.0	31.8
Incr Delay (d2), s/veh	0.0	8.1	8.4	13.9	0.2	0.0				1.9	0.0	30.5
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	10.1	9.8	7.6	0.1	0.0				6.6	0.0	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	33.4	33.7	40.9	0.2	0.0				30.9	0.0	62.4
LnGrp LOS	A	C	C	D	A	A				C	A	E
Approach Vol, veh/h		948			1365						1073	
Approach Delay, s/veh		33.6			22.3						42.6	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.7	36.3		29.0		61.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	21.0	32.0		25.0		57.0
Max Q Clear Time (g_c+I1), s	20.5	23.5		25.2		2.0
Green Ext Time (p_c), s	0.2	3.9		0.0		5.0

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

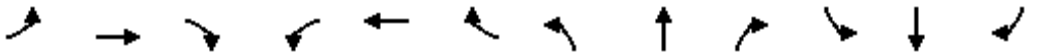


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	1088	0	0	1167	648	77	2	740	0	0	0
Future Volume (veh/h)	246	1088	0	0	1167	648	77	2	740	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		0.92			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	267	1183	0	0	1268	704	84	2	804			
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	300	2290	0	0	2203	646	464	11	687			
Arrive On Green	0.34	1.00	0.00	0.00	0.43	0.43	0.27	0.27	0.27			
Sat Flow, veh/h	1781	3647	0	0	5274	1497	1742	41	2575			
Grp Volume(v), veh/h	267	1183	0	0	1268	704	86	0	804			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1497	1783	0	1288			
Q Serve(g_s), s	12.8	0.0	0.0	0.0	16.9	38.8	3.3	0.0	24.0			
Cycle Q Clear(g_c), s	12.8	0.0	0.0	0.0	16.9	38.8	3.3	0.0	24.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	300	2290	0	0	2203	646	476	0	687			
V/C Ratio(X)	0.89	0.52	0.00	0.00	0.58	1.09	0.18	0.00	1.17			
Avail Cap(c_a), veh/h	416	2290	0	0	2203	646	476	0	687			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.58	0.58	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.0	0.0	0.0	0.0	19.4	25.6	25.4	0.0	33.0			
Incr Delay (d2), s/veh	10.2	0.5	0.0	0.0	1.1	62.3	0.2	0.0	91.8			
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	5.2	0.2	0.0	0.0	6.6	24.0	1.4	0.0	16.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.2	0.5	0.0	0.0	20.5	87.9	25.6	0.0	124.8			
LnGrp LOS	D	A	A	A	C	F	C	A	F			
Approach Vol, veh/h		1450			1972			890				
Approach Delay, s/veh		7.6			44.5			115.2				
Approach LOS		A			D			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			19.2	42.8		28.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		58.0			21.0	33.0		24.0				
Max Q Clear Time (g_c+I1), s		2.0			14.8	40.8		26.0				
Green Ext Time (p_c), s		12.4			0.4	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.7									
HCM 6th LOS			D									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	243	0	0	0	101	1801
Future Volume (vph)	243	0	0	0	101	1801
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0
Lane Util. Factor	0.97				1.00	0.95
Frpb, ped/bikes	1.00				1.00	1.00
Flpb, ped/bikes	1.00				1.00	1.00
Frt	1.00				1.00	1.00
Flt Protected	0.95				0.95	1.00
Satd. Flow (prot)	3433				1770	3539
Flt Permitted	0.95				0.95	1.00
Satd. Flow (perm)	3433				1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	0	0	0	110	1958
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	264	0	0	0	110	1958
Confl. Peds. (#/hr)		15			15	
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot				Prot	NA
Protected Phases	8				1	6
Permitted Phases						
Actuated Green, G (s)	14.3				8.5	57.6
Effective Green, g (s)	14.3				8.5	57.6
Actuated g/C Ratio	0.15				0.09	0.62
Clearance Time (s)	4.0				4.0	4.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	527				161	2191
v/s Ratio Prot	c0.08				0.06	c0.55
v/s Ratio Perm						
v/c Ratio	0.50				0.68	0.89
Uniform Delay, d1	36.1				40.9	15.1
Progression Factor	0.06				1.00	1.00
Incremental Delay, d2	0.7				11.3	5.1
Delay (s)	2.8				52.3	20.2
Level of Service	A				D	C
Approach Delay (s)	2.8		0.0			21.9
Approach LOS	A		A			C

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

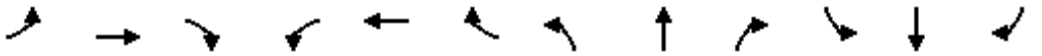
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	90	0	0	243	22	0	945	435	0	0	0
Future Volume (vph)	11	90	0	0	243	22	0	945	435	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0			
Lane Util. Factor		1.00			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	0.91			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.99			1.00	0.85			
Flt Protected		0.99			1.00			1.00	1.00			
Satd. Flow (prot)		1853			3480			3539	1448			
Flt Permitted		0.99			1.00			1.00	1.00			
Satd. Flow (perm)		1853			3480			3539	1448			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	98	0	0	264	24	0	1027	473	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	349	0	0	0
Lane Group Flow (vph)	0	110	0	0	281	0	0	1027	124	0	0	0
Confl. Peds. (#/hr)			15			15			15			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Split	NA			NA			NA	custom			
Protected Phases	7	7			8			2				
Permitted Phases									8			
Actuated Green, G (s)		9.1			14.3			45.1	14.3			
Effective Green, g (s)		9.1			14.3			45.1	14.3			
Actuated g/C Ratio		0.10			0.15			0.48	0.15			
Clearance Time (s)		4.0			4.0			4.0	4.0			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		181			535			1716	222			
v/s Ratio Prot		c0.06			0.08			c0.29				
v/s Ratio Perm									c0.09			
v/c Ratio		0.61			0.53			0.60	0.56			
Uniform Delay, d1		40.2			36.2			17.4	36.4			
Progression Factor		1.50			1.00			1.00	1.00			
Incremental Delay, d2		5.1			0.9			1.6	3.2			
Delay (s)		65.3			37.2			18.9	39.6			
Level of Service		E			D			B	D			
Approach Delay (s)		65.3			37.2			25.5			0.0	
Approach LOS		E			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	46	9	354	65	340	13	695	355	405	470	7
Future Volume (veh/h)	5	46	9	354	65	340	13	695	355	405	470	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.78	1.00		0.95	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	50	10	385	71	370	14	755	386	440	511	8
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	13	126	92	322	59	319	24	889	365	468	1775	752
Arrive On Green	0.07	0.07	0.07	0.21	0.21	0.21	0.01	0.25	0.25	0.26	0.50	0.50
Sat Flow, veh/h	169	1693	1241	1515	279	1499	1781	3554	1457	1781	3554	1505
Grp Volume(v), veh/h	55	0	10	456	0	370	14	755	386	440	511	8
Grp Sat Flow(s),veh/h/ln	1862	0	1241	1795	0	1499	1781	1777	1457	1781	1777	1505
Q Serve(g_s), s	2.3	0.0	0.6	17.0	0.0	17.0	0.6	16.2	20.0	19.3	6.7	0.2
Cycle Q Clear(g_c), s	2.3	0.0	0.6	17.0	0.0	17.0	0.6	16.2	20.0	19.3	6.7	0.2
Prop In Lane	0.09		1.00	0.84		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	0	92	382	0	319	24	889	365	468	1775	752
V/C Ratio(X)	0.40	0.00	0.11	1.19	0.00	1.16	0.59	0.85	1.06	0.94	0.29	0.01
Avail Cap(c_a), veh/h	373	0	248	382	0	319	89	889	365	468	1775	752
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	34.5	31.5	0.0	31.5	39.2	28.5	30.0	28.8	11.7	10.1
Incr Delay (d2), s/veh	1.9	0.0	0.5	110.5	0.0	101.5	20.9	9.9	63.4	27.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.2	18.8	0.0	14.9	0.4	7.8	13.1	11.4	2.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.0	35.0	142.0	0.0	132.9	60.1	38.5	93.3	56.1	12.1	10.1
LnGrp LOS	D	A	D	F	A	F	E	D	F	E	B	B
Approach Vol, veh/h		65			826			1155			959	
Approach Delay, s/veh		36.8			137.9			57.1			32.3	
Approach LOS		D			F			E			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	24.0		9.9	5.1	43.9		21.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	21.0	20.0		16.0	4.0	37.0		17.0				
Max Q Clear Time (g_c+I1), s	21.3	22.0		4.3	2.6	8.7		19.0				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	3.7		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			70.9									
HCM 6th LOS			E									

Intersection			
Intersection Delay, s/veh	20.2		
Intersection LOS	C		

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	83	1161	926
Demand Flow Rate, veh/h	85	1184	944
Vehicles Circulating, veh/h	869	55	41
Vehicles Exiting, veh/h	116	899	1198
Ped Vol Crossing Leg, #/h	20	20	20
Ped Cap Adj	0.997	0.997	0.997
Approach Delay, s/veh	8.4	26.7	13.0
Approach LOS	A	D	B

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	85	1184	944
Cap Entry Lane, veh/h	569	1305	1323
Entry HV Adj Factor	0.976	0.980	0.981
Flow Entry, veh/h	83	1161	926
Cap Entry, veh/h	554	1275	1294
V/C Ratio	0.150	0.910	0.715
Control Delay, s/veh	8.4	26.7	13.0
LOS	A	D	B
95th %tile Queue, veh	1	15	7

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	45	30	1054	699	44
Future Vol, veh/h	0	45	30	1054	699	44
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	32	1109	736	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	779	792	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	396	829	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	389	822	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.5	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	822	-	389	-	-
HCM Lane V/C Ratio	0.038	-	0.122	-	-
HCM Control Delay (s)	9.6	-	15.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

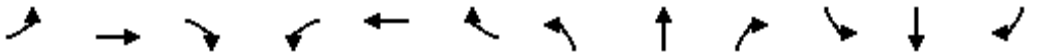
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	64	962	695
Demand Flow Rate, veh/h	65	982	709
Vehicles Circulating, veh/h	667	24	33
Vehicles Exiting, veh/h	75	708	973
Ped Vol Crossing Leg, #/h	10	10	10
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	5.3	12.3	8.0
Approach LOS	A	B	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	65	982	709
Cap Entry Lane, veh/h	805	1391	1381
Entry HV Adj Factor	0.985	0.980	0.980
Flow Entry, veh/h	64	962	695
Cap Entry, veh/h	792	1362	1352
V/C Ratio	0.081	0.707	0.514
Control Delay, s/veh	5.3	12.3	8.0
LOS	A	B	A
95th %tile Queue, veh	0	6	3

Intersection	
Intersection Delay, s/veh	10.0
Intersection LOS	B

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	32	952	669
Demand Flow Rate, veh/h	32	971	683
Vehicles Circulating, veh/h	640	15	38
Vehicles Exiting, veh/h	81	657	948
Ped Vol Crossing Leg, #/h	10	10	10
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	4.7	11.8	7.8
Approach LOS	A	B	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	32	971	683
Cap Entry Lane, veh/h	824	1402	1375
Entry HV Adj Factor	1.000	0.980	0.980
Flow Entry, veh/h	32	952	669
Cap Entry, veh/h	823	1372	1346
V/C Ratio	0.039	0.693	0.497
Control Delay, s/veh	4.7	11.8	7.8
LOS	A	B	A
95th %tile Queue, veh	0	6	3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	44	28	245	68	279	30	753	295	248	461	29
Future Volume (veh/h)	18	44	28	245	68	279	30	753	295	248	461	29
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		0.94	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	48	30	266	74	303	33	818	321	270	501	32
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	27	64	40	453	78	318	46	1076	462	309	1521	97
Arrive On Green	0.08	0.08	0.08	0.25	0.25	0.25	0.03	0.30	0.30	0.17	0.45	0.45
Sat Flow, veh/h	351	843	527	1781	305	1248	1781	3554	1524	1781	3376	215
Grp Volume(v), veh/h	98	0	0	266	0	377	33	818	321	270	263	270
Grp Sat Flow(s),veh/h/ln	1721	0	0	1781	0	1553	1781	1777	1524	1781	1777	1814
Q Serve(g_s), s	4.6	0.0	0.0	10.8	0.0	19.7	1.5	17.2	15.4	12.2	7.9	7.9
Cycle Q Clear(g_c), s	4.6	0.0	0.0	10.8	0.0	19.7	1.5	17.2	15.4	12.2	7.9	7.9
Prop In Lane	0.20		0.31	1.00		0.80	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	130	0	0	453	0	395	46	1076	462	309	800	817
V/C Ratio(X)	0.75	0.00	0.00	0.59	0.00	0.95	0.72	0.76	0.70	0.87	0.33	0.33
Avail Cap(c_a), veh/h	459	0	0	453	0	395	129	1076	462	345	800	817
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	37.4	0.0	0.0	27.0	0.0	30.3	39.9	26.1	25.4	33.2	14.6	14.6
Incr Delay (d2), s/veh	8.4	0.0	0.0	2.0	0.0	33.6	19.0	5.1	8.4	19.7	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	4.7	0.0	10.8	0.9	7.7	6.4	6.8	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	0.0	0.0	29.0	0.0	63.9	58.9	31.1	33.8	53.0	15.7	15.7
LnGrp LOS	D	A	A	C	A	E	E	C	C	D	B	B
Approach Vol, veh/h		98			643			1172			803	
Approach Delay, s/veh		45.8			49.4			32.7			28.3	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.3	29.0		10.2	6.1	41.2		25.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	16.0	25.0		22.0	6.0	35.0		21.0				
Max Q Clear Time (g_c+I1), s	14.2	19.2		6.6	3.5	9.9		21.7				
Green Ext Time (p_c), s	0.2	3.2		0.4	0.0	3.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		35.8	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	144.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	592	150	185	553	0	81	0	200	0	0	0
Future Vol, veh/h	0	592	150	185	553	0	81	0	200	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	643	163	201	601	0	88	0	217	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	162.2	175.4	15.3	0
HCM LOS	F	F	C	-

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	25%	0%
Vol Thru, %	0%	0%	80%	75%	100%
Vol Right, %	0%	100%	20%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	200	742	738	0
LT Vol	81	0	0	185	0
Through Vol	0	0	592	553	0
RT Vol	0	200	150	0	0
Lane Flow Rate	88	217	807	802	0
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.199	0.419	1.287	1.318	0
Departure Headway (Hd)	9.008	7.759	6.269	6.411	9.93
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	401	467	589	578	0
Service Time	6.708	5.459	4.269	4.411	7.93
HCM Lane V/C Ratio	0.219	0.465	1.37	1.388	0
HCM Control Delay	13.9	15.9	162.2	175.4	12.9
HCM Lane LOS	B	C	F	F	N
HCM 95th-tile Q	0.7	2	29.9	31.2	0

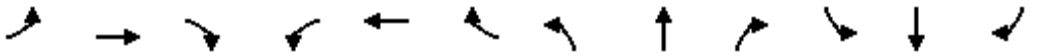
Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	740	52	53	745	16	60
Future Vol, veh/h	740	52	53	745	16	60
Conflicting Peds, #/hr	0	20	20	0	20	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	804	57	58	810	17	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	881	0	1799	873
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	946	-
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	-	-	767	-	88	349
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	377	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	754	-	73	337
Mov Cap-2 Maneuver	-	-	-	-	73	-
Stage 1	-	-	-	-	411	-
Stage 2	-	-	-	-	319	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	37.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	191	-	-	754	-
HCM Lane V/C Ratio	0.433	-	-	0.076	-
HCM Control Delay (s)	37.5	-	-	10.2	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	2	-	-	0.2	-



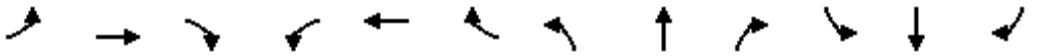
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	675	132	723	595	0	0	0	0	499	3	227
Future Volume (veh/h)	0	675	132	723	595	0	0	0	0	499	3	227
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	734	143	786	647	0				544	0	247
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	1223	238	886	2545	0				695	0	291
Arrive On Green	0.00	0.42	0.42	0.26	0.72	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	3040	574	3456	3647	0				3563	0	1493
Grp Volume(v), veh/h	0	443	434	786	647	0				544	0	247
Grp Sat Flow(s),veh/h/ln	0	1777	1743	1728	1777	0				1781	0	1493
Q Serve(g_s), s	0.0	17.5	17.5	19.7	5.7	0.0				13.1	0.0	14.4
Cycle Q Clear(g_c), s	0.0	17.5	17.5	19.7	5.7	0.0				13.1	0.0	14.4
Prop In Lane	0.00		0.33	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	738	724	886	2545	0				695	0	291
V/C Ratio(X)	0.00	0.60	0.60	0.89	0.25	0.00				0.78	0.00	0.85
Avail Cap(c_a), veh/h	0	738	724	998	2545	0				792	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	0.54	0.54	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.5	20.5	32.2	4.4	0.0				34.4	0.0	34.9
Incr Delay (d2), s/veh	0.0	3.6	3.7	5.2	0.1	0.0				4.5	0.0	16.7
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	7.7	7.5	8.6	1.7	0.0				6.0	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.1	24.2	37.4	4.6	0.0				39.0	0.0	51.6
LnGrp LOS	A	C	C	D	A	A				D	A	D
Approach Vol, veh/h		877			1433						791	
Approach Delay, s/veh		24.1			22.6						42.9	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	27.1	41.4		21.6		68.4
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	26.0	32.0		20.0		62.0
Max Q Clear Time (g_c+I1), s	21.7	19.5		16.4		7.7
Green Ext Time (p_c), s	1.4	4.6		1.2		5.2

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	952	0	0	1138	443	161	1	963	0	0	0
Future Volume (veh/h)	210	952	0	0	1138	443	161	1	963	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.94			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	228	1035	0	0	1237	482	175	1	1047			
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	1828	0	0	1605	464	658	4	973			
Arrive On Green	0.14	0.51	0.00	0.00	0.31	0.31	0.37	0.37	0.37			
Sat Flow, veh/h	1781	3647	0	0	5274	1477	1772	10	2620			
Grp Volume(v), veh/h	228	1035	0	0	1237	482	176	0	1047			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1477	1782	0	1310			
Q Serve(g_s), s	8.8	14.0	0.0	0.0	15.3	22.0	4.8	0.0	26.0			
Cycle Q Clear(g_c), s	8.8	14.0	0.0	0.0	15.3	22.0	4.8	0.0	26.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	254	1828	0	0	1605	464	662	0	973			
V/C Ratio(X)	0.90	0.57	0.00	0.00	0.77	1.04	0.27	0.00	1.08			
Avail Cap(c_a), veh/h	254	1828	0	0	1605	464	662	0	973			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.5	11.7	0.0	0.0	21.7	24.0	15.3	0.0	22.0			
Incr Delay (d2), s/veh	22.9	0.9	0.0	0.0	3.6	52.1	0.2	0.0	51.6			
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	5.2	5.0	0.0	0.0	6.2	13.8	1.9	0.0	14.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	12.5	0.0	0.0	25.4	76.1	15.6	0.0	73.6			
LnGrp LOS	D	B	A	A	C	F	B	A	F			
Approach Vol, veh/h		1263			1719			1223				
Approach Delay, s/veh		19.7			39.6			65.2				
Approach LOS		B			D			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		40.0			14.0	26.0		30.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		36.0			10.0	22.0		26.0				
Max Q Clear Time (g_c+I1), s		16.0			10.8	24.0		28.0				
Green Ext Time (p_c), s		7.6			0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			41.1									
HCM 6th LOS			D									