Camino Del Mar Bridge Project

Transportation Impact Analysis Report

Prepared for:
City of Del Mar

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Prepared By:
STC Traffic, Inc.
5865 Avenida Encinas, Suite 142-B
Carlsbad, CA 92008
Contact: Jason Stack, TE
jason.stack@stctraffic.com

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1 INTRODUCTION

The Camino Del Mar Bridge project will replace the existing bridge located over the San Dieguito River within the City of Del Mar. STC Traffic Inc. conducted a transportation impact analysis for the existing and future year conditions, which is included in this transportation impact analysis report. Construction related impacts associated with the project were also evaluated.

1.1 Project Description

The Camino Del Mar bridge over the San Dieguito River is located within the City of Del Mar, west of Interstate 5, south of Via De La Valle and north of 29th Street. The new bridge structure is proposed to include one travel lane and one buffered bike lane in each direction. The new bridge is also proposed to include protected sidewalk on both sides of the bridge and a center median. This transportation impact analysis report evaluates the proposed lane configuration of the bridge for the future year 2040 traffic volume.

This transportation impact analysis report also evaluates the impacts during construction due to the potential diversion of traffic. Two construction scenarios are considered in this analysis; staged construction with reduced travel lanes and full closure. For the staged construction scenario, the bridge shall remain in service throughout the demolition and replacement period, with two-way traffic maintained at all times. As one side of the bridge is worked on, the traffic will be rerouted to the other side of the bridge with reduced width travel lanes and removal of the bike lanes. For the full closure construction scenario, traffic will be detoured to Via De La Valle, Jimmy Durante Boulevard, or Interstate 5. Impacts on all modes of travel: vehicle, bicycle and pedestrian were evaluated in this report. **Figure 1-1** illustrates the regional project location.

1.2 Proposed Bridge Configuration

The proposed bridge will widen the currently narrow travel lanes to 12 feet wide. Bike lanes with buffer will be striped in each direction. The new bridge will include a striped center median instead of a raised median as currently present. This will provide the flexibility to change the lane configuration in the future, if required. The proposed bridge will provide a wide sidewalk on the west side of the bridge. The new bridge will provide a 5 feet sidewalk on the east side of the bridge, which currently does not exist. After the construction of the bridge, the existing transit stops will remain unchanged.

1.3 Study Area

This transportation impact analysis report addresses potential operational impacts that could result from the project on the local circulation system. The study area contains intersections and roadway segments that could be impacted primarily due to the detoured traffic during construction. A total of six (6) study intersections and five (5) roadway segments were evaluated. **Figure 1-2** illustrates the project study area.

Intersections

1. Highway 101-Camino Del Mar / Via De La Valle
2. Camino Del Mar / Coast Boulevard
3. Camino Del Mar / L'Auberge Del Mar
4. Camino Del Mar / 15th Street
5. Jimmy Durante Boulevard / Via De La Valle
6. Jimmy Durante Boulevard / San Dieguito Drive

Roadway Segments

1. Camino Del Mar, from Via De La Valle to Coast Boulevard
2. Camino Del Mar, from Coast Boulevard to Jimmy Durante Boulevard
3. Jimmy Durante Boulevard, from Via De La Valle to South Fair Access
4. Jimmy Durante Boulevard, from South Fair Access to Camino Del Mar
5. Via De La Valle, from Highway 101 to Jimmy Durante Boulevard

1.4 Study Scenarios

The following study scenarios are evaluated in this transportation impact analysis report:

- **Existing Conditions:** This scenario reflects the conditions on the ground at the time the traffic volume data was obtained (April and May 2018).
- **Horizon Year 2040 Conditions:** This scenario reflects the Horizon Year 2040 roadway conditions with the bridge being fully built and operational.
- **Existing Plus Construction Conditions:** This scenario reflects the anticipated roadway conditions during the construction of the bridge due to detoured traffic.

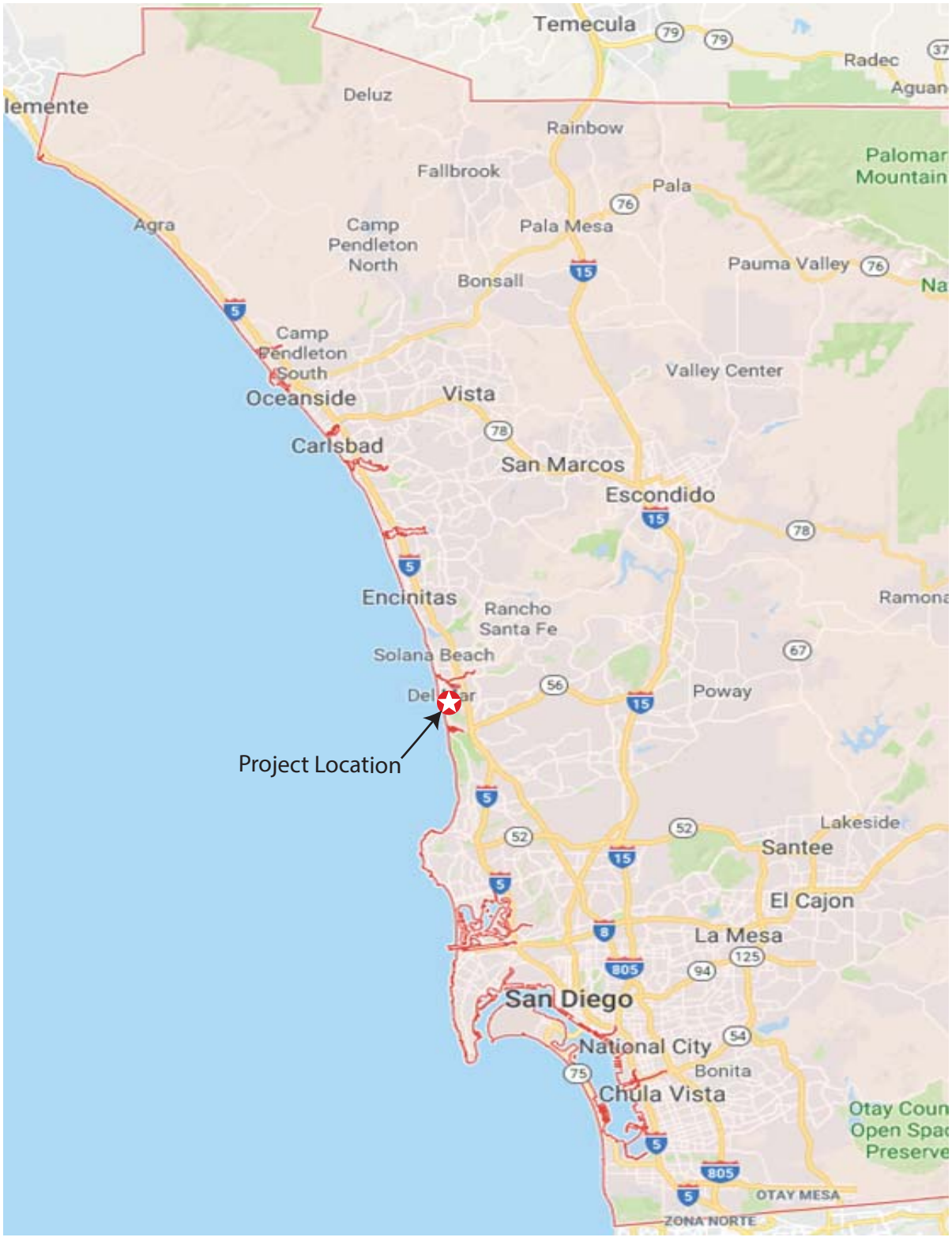

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Figure 1-1
Regional Project Location

Camino Del Mar Bridge

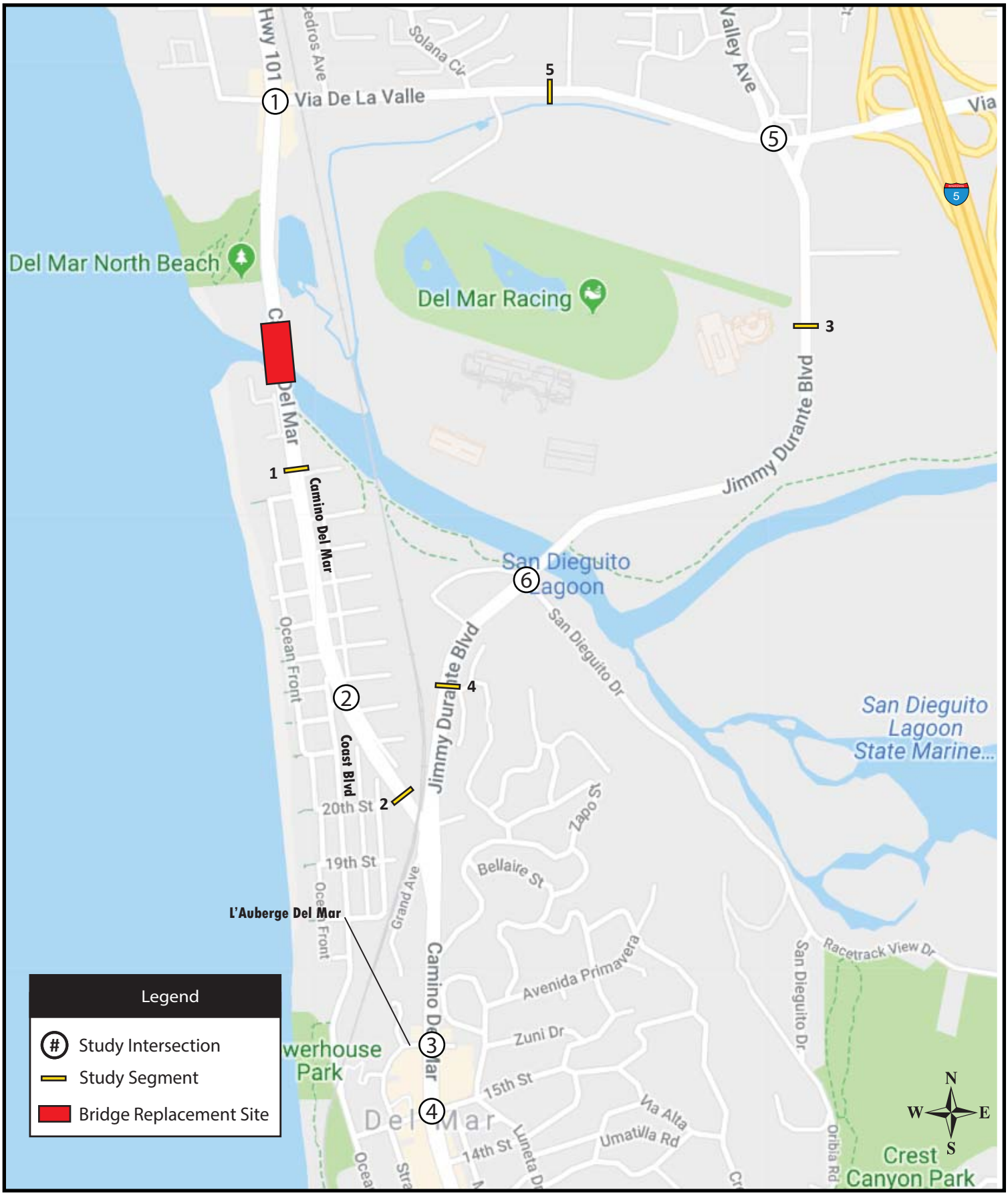

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Figure 1-2
Project Study Area

2 METHODOLOGY

This transportation impact analysis report was prepared consistent with the SANTEC/ITE regionally accepted *Traffic Impact Study Guidelines* (2000), with methodology concurrence provided by the City of Del Mar. The following section summarizes the analysis methodology applied to intersections and roadway segments for the study scenarios evaluated.

2.1 Intersection Level of Service Analysis

In compliance with the SANTEC/ITE *Traffic Impact Study Guidelines*, intersections within the study area were evaluated using the *Highway Capacity Manual (HCM)* operation methodology for signalized and unsignalized intersections. The all-way-stop controlled intersection was evaluated using the HCM 2010 methodology. Due to limitations in the HCM 2010, the signalized intersections were evaluated using the 2000 HCM methodology. Operations of both signalized and unsignalized intersections were analyzed with Synchro 9 software, which uses the methodologies outlined in the 2000 and 2010 *Highway Capacity Manual (HCM)* to calculate delay and the associated levels of service. **Table 2-1**: provides the signalized and unsignalized intersection level of service descriptions and thresholds as described in the 2000 and 2010 HCM.

TABLE 2-1: SIGNALIZED AND UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Signalized Intersection Delay (sec)	Unsignalized Intersection Delay (sec)
A	Free flow	≤10	≤10
B	Stable Flow (slight Delay)	>10 and ≤20	>10 and ≤15
C	Stable Flow (acceptable Delay)	>20 and ≤35	>15 and ≤25
D	Approaching Unstable Flow (tolerable Delay)	>35 and ≤55	>25 and ≤35
E	Unstable Flow (intolerable Delay)	>55 and ≤80	>35 and ≤50
F	Forced Flow (jam condition)	>80	>50

Source: *2000 & 2010 Highway Capacity Manual.*

2.2 Roadway Segment Level of Service Analysis

The basis for analysis of roadway segment performance is provided by LOS standards and thresholds. The LOS analysis considerations include the functional classification of the roadway, maximum capacity, roadway geometrics, and Average Daily Traffic (ADT) volumes. The analysis results provide a quick overview of whether a segment is under, approaching, or over capacity.

A daily roadway segment analysis was conducted for all study area roadway segments using the volume-to-capacity (v/c) ratio methodology, in accordance with SANTEC/ITE *Traffic Impact Study Guidelines* (2000). **Table 2-2** presents the roadway segment capacity and LOS standards utilized by the City of Del Mar.

TABLE 2-2: ROADWAY SEGMENT CAPACITY & LOS CRITERIA

Roadway Classification	Lanes	LOS A	LOS B	LOS C	LOS D	LOS E
Collector	4	< 10,000	< 14,000	< 20,000	< 25,000	< 30,000
Collector	2	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000

Source: *SANTEC/ITE Guidelines for Traffic Impact Study in the San Diego Region, 2000*

2.3 Thresholds of Significance

Table 2-3 summarizes the thresholds of significance for intersections and segments as defined in the SANTEC/ITE *Traffic Impact Study Guidelines* (2000) and accepted by City of Del Mar for use in this project.

TABLE 2-3: THRESHOLDS OF SIGNIFICANCE

Facility	Without Project LOS	With Project LOS	Threshold of Significance	Impact Type
Intersection	LOS D	LOS E/F	Change from Acceptable to Deficient	Existing: Direct Impact Future: Cumulative Impact
	LOS E/F	LOS E/F	> 2.0 seconds of delay	Existing: Direct Impact Future: Cumulative Impact
Roadway Segment	LOS D	LOS E/F	Change from Acceptable to Deficient	Existing: Direct Impact Future: Cumulative Impact
	LOS E/F	LOS E/F	> 0.02 change in V/C	Existing: Direct Impact Future: Cumulative Impact

Source: *SANTEC/ITE Guidelines for Traffic Impact Study in the San Diego Region, 2000*

3 EXISTING CONDITIONS

The following section summarizes the existing conditions of the transportation system within the study area as well as the operational assessment of existing intersections and roadway segments. Existing conditions intersection geometries are provided in **Figure 3-1**. Pedestrian, bicycle and transit facilities within the study area are illustrated in **Figure 3-2**.

3.1 Roadway Network

The following paragraphs describe the conditions of the existing roadway network.

Camino Del Mar between Via De La Valle and Jimmy Durante Boulevard is a 2-Lane Collector with a center raised median through the study area, that generally runs in the north-south direction. The street name changes to Highway 101 north of Via De La Valle. The posted speed limit is 40 mph. Dedicated left turn lanes are provided at major driveways and cross streets. On-street parking is provided for most of the roadway in the residential neighborhood and adjacent to the beach.

Camino Del Mar between Jimmy Durante Boulevard and 15th Street is a 4-Lane Collector with a center raised median. Parking is permitted intermittently along the east side of the street between L'Auberge Del Mar and 15th Street. The posted speed limit between L'Auberge Del Mar and 15th Street is 25 mph.

Jimmy Durante Boulevard generally runs in the north-south direction and is a 4-Lane Collector with a center two-way-left-turn-lane (TWLTL) between Via De La Valle and the south gate of the Del Mar Fairgrounds. The posted speed limit is 45 mph. The number of lanes south of the south gate reduces to 2 lanes and the roadway is undivided. The street between San Dieguito Drive and Camino Del Mar is a 2- Lane Collector with raised median. The posted speed limit is 40 mph.

Via De La Valle between Jimmy Durante Boulevard and Camino Del Mar-Highway 101 is a 2-Lane Collector and runs in the east-west direction. Parking is permitted on both sides of the street. The posted speed limit is 45 mph.

15th Street runs in the east-west direction and is a 2-Lane Collector with a center raised median east of Camino Del Mar. The street west of Camino Del Mar is undivided and parking is permitted on both sides of the street.

3.2 Pedestrian Facilities

Sidewalks are provided along both sides of Camino Del Mar between Via De La Valle and Coast Boulevard except on the east side of the Camino Del Mar bridge. Marked crosswalks are provided on both the north and south ends of the bridge for connectivity. There is no sidewalk on Camino Del Mar between Coast Boulevard and Jimmy Durante Boulevard. Sidewalk are provided on the east side of Camino Del Mar between Jimmy Durante Boulevard and L'Auberge Del Mar. Sidewalk are provided on both sides along Camino Del Mar between L'Auberge Del Mar and 15th Street.

Along Jimmy Durante Boulevard a sidewalk is provided on both sides of the street between Via De La Valle and the underpass. Between the underpass and the gate south of the main entrance to the fairgrounds, a sidewalk is provided on the west side of the street. Sidewalk are provided on both sides between the gate south of the main entrance and San Dieguito Drive. Sidewalk is provided only on the east side between San Dieguito Drive and Camino Del Mar.

Along Via De La Valle, sidewalk are provided on both sides between Highway 101 – Camino Del Mar and Jimmy Durante Boulevard.

3.3 Bicycle Facilities

Class II bicycle lanes are provided in both directions along Camino Del Mar, Jimmy Durante Boulevard, and Via De La Valle. Buffered bike lanes are provided along portions of Camino Del Mar.

3.4 Local & Regional Transit Service

North County Transit District (NCTD) operates the local transit service within the City of Del Mar. NCTD's Route 101 serves bus stops along Camino Del Mar and currently travels along the stretch of Camino Del Mar between Via De La Valle and Jimmy Durante Boulevard. It provides daily service from Oceanside to the University Towne Center area in the City of San Diego. Service is provided Monday through Friday and on weekends and holidays. According to the NTCD website, the average headway is approximately 30 minutes from 5:00AM to 7:00PM daily with longer headways between 7:00PM and 10:00PM. No service along Camino Del Mar is provided between 10:00PM and 5:00AM.

There are two (2) bus stops on Highway 101 with one on either side of the street, north of Villa De La Valle. Along Camino Del Mar, there are four (4) bus stops with two (2) on either of the street between Via Del La Valle and Coast Boulevard. There are two (2) bus stops with one on either side of the street between L'Auberge Del Mar and 15th Street.

There are no bus route serving Via De La Valle and Jimmy Durante Boulevard within the project area.

3.5 Existing Intersection and Roadway Volumes

Traffic volumes at the study area intersections were collected in April and May 2018 for the AM peak period (7:00 AM to 9:00 AM) and PM peak period (4:00 PM to 6:00 PM) during typical weekday conditions with schools in session. Daily volumes on the study area roadway segments were collected in April 2018 over a 24-hour period in both directions of travel. The AM/PM peak hour intersection volumes and daily roadway segment volumes are illustrated in **Figure 3-3.** Traffic count data are included in **Appendix A**.

Camino Del Mar Bridge

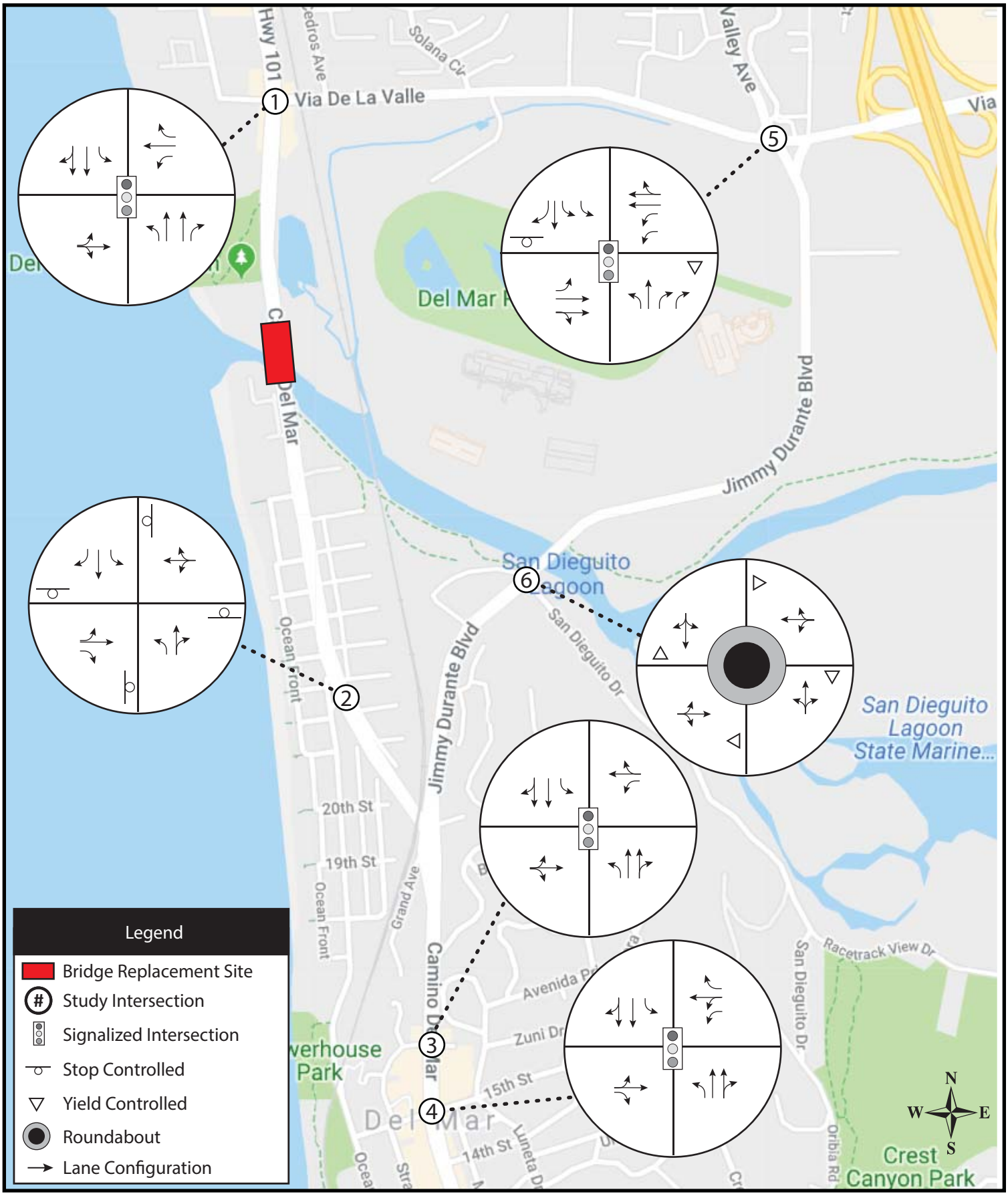

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Figure 3-1
Existing Intersection Geometrics

Camino Del Mar Bridge

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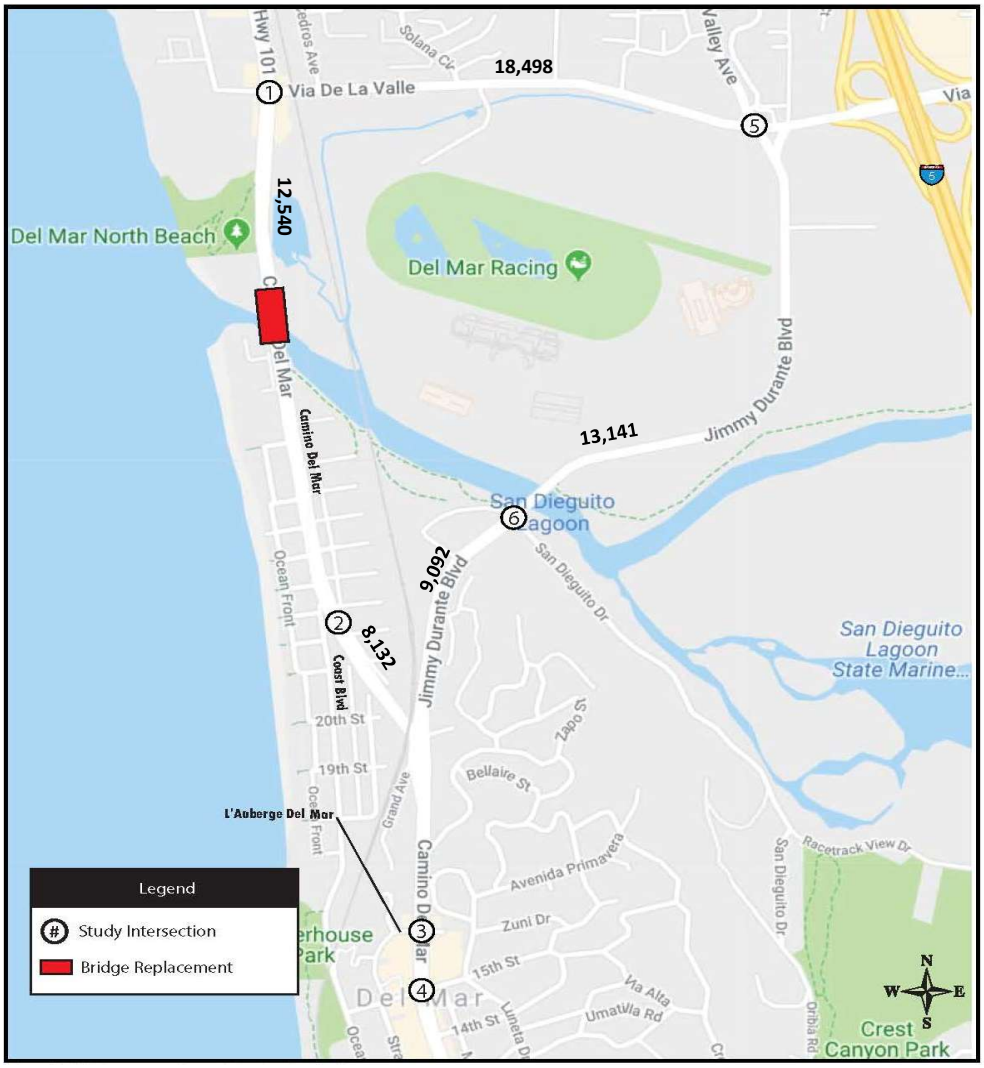
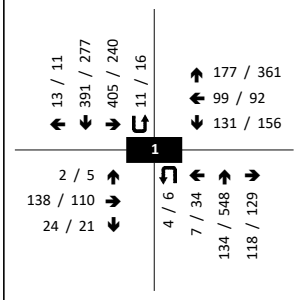
Figure 3-2
Existing Pedestrian, Bicycle and Transit Facilities

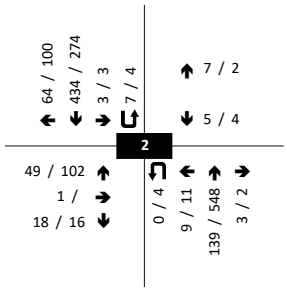
Camino Del Mar Bridge



Highway 101 / Camino Del Mar @ Via De La Valle / Border Ave



Camino Del Mar @ Court St / Coast Blvd



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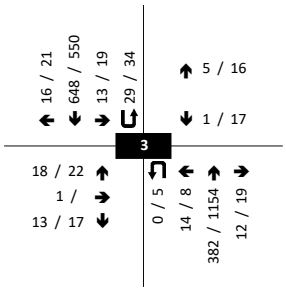
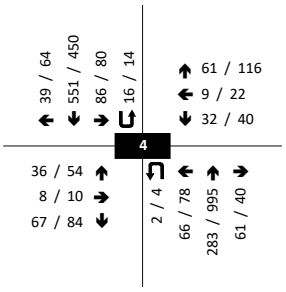
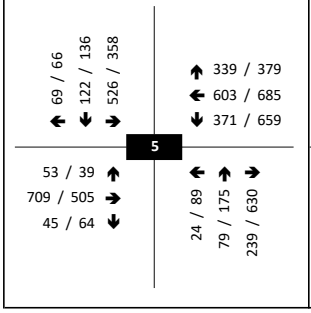


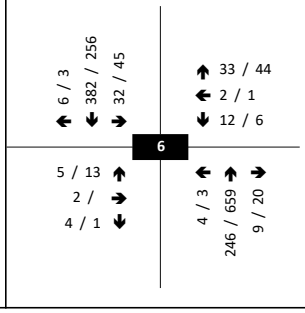
Camino Del Mar @ 15th St



Valley Ave / Jimmy Durante Blvd @ Via De La Valle



Jimmy Durante Blvd @ San Dieguito Dr



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xx / yy = AM / PM Peak-Hour Turning Movement Volumes

X,XXX = ADT Volume

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Exhibit 3-3

Existing Traffic Volumes

3.6 Intersection Analysis

Levels of service (LOS) were determined at the study area intersections for the AM and PM peak hours. The AM intersection analysis evaluates the LOS during the hour with the highest vehicular traffic between 7:00 AM and 9:00 AM. The PM intersection analysis evaluates the LOS during the hour with the highest vehicular traffic between 4:00 PM and 6:00 PM.

Signal timing data parameters including cycle lengths, splits, clearance intervals, etc. used in this analysis were based on the current signal timing sheets provided by the City and calibrated into the Synchro model. **Table 3-1** presents the existing conditions peak hour intersection operational analysis.

As shown in Table 3-1, the study intersections currently operate at an acceptable level of service (LOS) D or better during both the AM and PM peak hours, except for the intersection of Camino Del Mar / Coast Boulevard, which operates at unacceptable LOS E during the PM peak hour. HCM analysis worksheets are provided in **Appendix B.**

TABLE 3-1: EXISTING INTERSECTION PEAK HOUR LOS SUMMARY

Intersection		Traffic Control	Peak Hour	Existing Conditions	
				Delay[a] (sec)	LOS
1	Hwy 101 & Camino Del Mar / Via De La Valle	Signal [b]	AM	20.5	C
			PM	22.6	C
2	Camino Del Mar / Coast Blvd	AWSC [c]	AM	13.7	B
			PM	35.8	**E**
3	Camino Del Mar & L'Auberge Del Mar / Plaza Parking	Signal [b]	AM	6.5	A
			PM	11.5	B
4	Camino Del Mar / 15th St	Signal [b]	AM	16.7	B
			PM	24.4	C
5	Jimmy Durante Blvd / Via De La Valle	Signal [b]	AM	38.4	D
			PM	46.4	D
6	Jimmy Durante Blvd / San Dieguito Dr	Roundabout [c]	AM	6.9	A
			PM	11.0	B

Notes:

Signal: Traffic signal, AWSC: all-way stop control

(a) Delays are reported as the average control Delay for the entire intersection at signalized intersections and average Delay for all-way stop controlled and roundabout intersections.

(b) Delay and LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM).

(c) Delay and LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual (HCM).

3.7 Roadway Segment Analysis

Table 3-2 summarizes the daily operations of the study area roadway segments under Existing Conditions. As shown in Table 3-2, all the study roadway segments currently operate at an acceptable LOS D or better except for Via De La Valle which operate at unacceptable LOS F.

TABLE 3-2: EXISTING ROADWAY SEGMENT LOS SUMMARY

Segment	Lanes / Functional Classification	Daily Capacity	Existing Conditions		
			ADT	V/C Ratio	LOS
Camino Del Mar					
Via De La Valle to Coast Blvd.	2-Lane Collector	15,000	12,540	0.836	D
Coast Blvd to Jimmy Durante Blvd.	2-Lane Collector	15,000	8,312	0.554	C
Jimmy Durante Boulevard					
Via De La Valle to South Fair Access	4-Lane Collector	30,000	13,141	0.438	B
South Fair Access to Camino Del Mar	2-Lane Collector	15,000	9,092	0.606	C
Via De La Valle					
Hwy 101-Camino Del Mar to Jimmy Durante Blvd.	2-Lane Collector	15,000	18,498	1.233	**F**

V/C = Volume to Capacity Ratio

4 HORIZON YEAR 2040 CONDITIONS ANALYSIS

The following section summarizes the operating conditions of the study area intersections and roadway segments for the Horizon Year 2040 conditions with the Camino Del Mar bridge improvements.

4.1 Roadway Network and Geometry

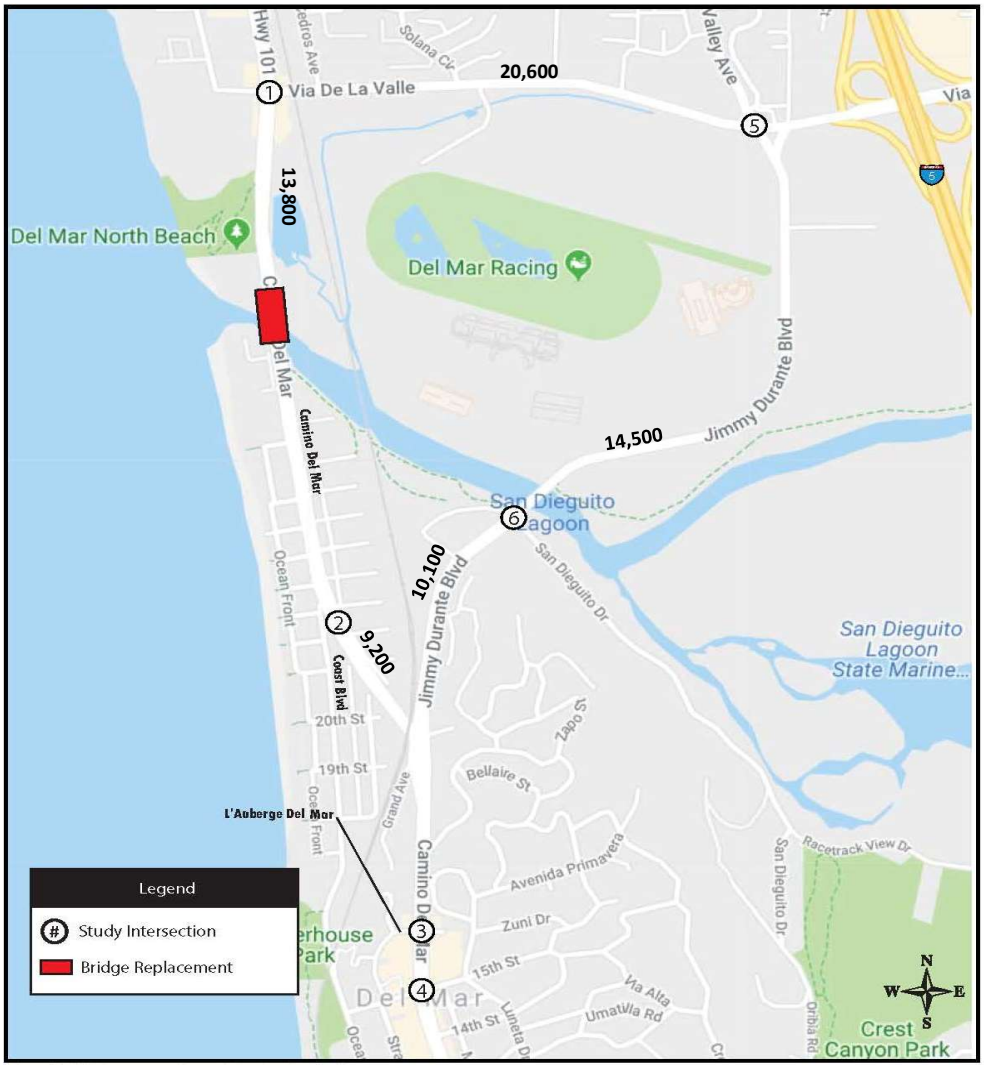
No changes to the roadway network was assumed for the Horizon Year 2040 conditions. No changes to the intersection and roadway segment geometries was assumed for the Horizon Year 2040 conditions. The proposed bridge project will retain the number of lanes currently provided on the existing Camino Del Mar bridge. The project will not increase vehicular capacity on the bridge.

4.2 Forecast Year 2040 Traffic Volumes

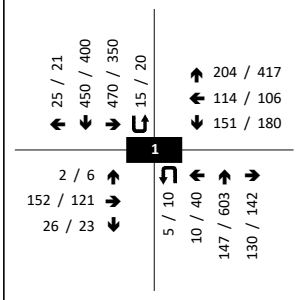
Horizon Year 2040 volumes were determined based on the SANDAG Series 12 regional traffic model. A more current version (Series 13) traffic model was available. The Series 13 model reported lower ADT volumes within the study area compared to the Series 12 model. To be conservative, the volumes reported in the Series 12 model were used. The model accounts for the future growth in the City of Del Mar as well as the surrounding communities. The Series 12 Year 2050 model assumes the existing two-lane capacity for the Camino Del Mar south of Via De La Valle.

The Year 2040 ADT volume was obtained by interpolating between the base Year 2008 model ADT and future Year 2050 model ADT. The Horizon Year 2040 ADT were then post-processed to develop the peak hour intersection volumes. The Horizon Year 2040 baseline peak hour intersection volumes were developed using the forecast growth between the existing and year 2040 volumes. The SANDAG Series 12 model and growth calculations are included in **Appendix C**. The Horizon Year 2040 conditions peak hour and roadway segment volumes are presented in **Figure 4-1.**

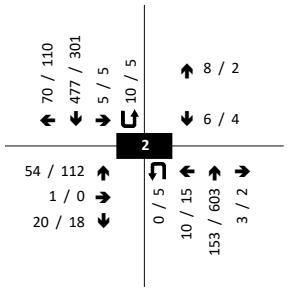
Camino Del Mar Bridge



Highway 101 / Camino Del Mar @ Via De La Valle / Border Ave



Camino Del Mar @ Court St / Coast Blvd



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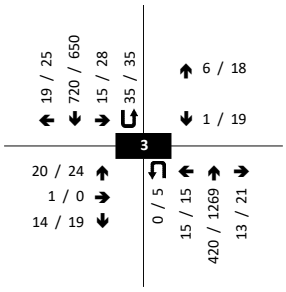
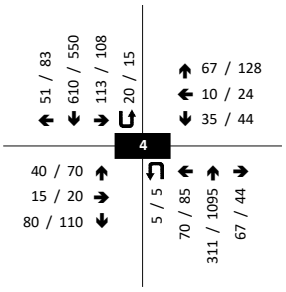
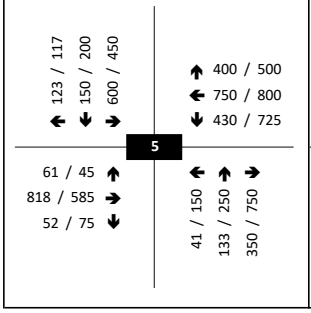


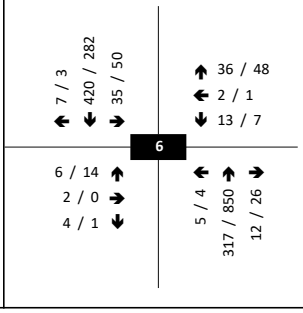
Camino Del Mar @ 15th St



Valley Ave / Jimmy Durante Blvd @ Via De La Valle



Jimmy Durante Blvd @ San Dieguito Dr



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xx / yy = AM / PM Peak-Hour Turning Movement Volumes

X,XXX = ADT Volume

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Exhibit 4-1

Horizon Year 2040 Traffic Volumes

4.3 Intersection Analysis

Levels of service (LOS) were determined at the study area intersections for the AM and PM peak hours for the Horizon Year 2040 conditions and are presented in **Table 4-1.** Level of service analysis worksheets are provided in **Appendix D.**

TABLE 4-1: HORIZON YEAR 2040 CONDITIONS PEAK-HOUR INTERSECTION LOS SUMMARY

Intersection		Traffic Control	Peak Hour	Horizon Year 2040 Conditions	
				Delay[a] (sec)	LOS
1	Hwy 101 & Camino Del Mar / Via De La Valle	Signal [b]	AM	25.8	C
			PM	26.5	C
2	Camino Del Mar / Coast Blvd	AWSC [c]	AM	15.8	C
			PM	56.9	**F**
3	Camino Del Mar & L'Auberge Del Mar / Plaza Parking	Signal [b]	AM	6.6	A
			PM	16.0	B
4	Camino Del Mar / 15th St	Signal [b]	AM	17.9	B
			PM	27.2	C
5	Jimmy Durante Blvd / Via De La Valle	Signal [b]	AM	54.5	D
			PM	60.1	**E**
6	Jimmy Durante Blvd / San Dieguito Dr	Roundabout [c]	AM	7.6	A
			PM	20.2	C

Notes:

Signal: Traffic signal, AWSC: all-way stop control

(a) Delays are reported as the average control Delay for the entire intersection at signalized intersections and average Delay for all-way stop controlled and roundabout intersections.

(b) Delay and LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM).

(c) Delay and LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual (HCM).

As shown in the Table 4-1, all the study intersections operate at LOS D or better for both the AM and PM peak hour under the Horizon Year 2040 conditions, except for the following intersection:

2. Camino Del Mar / Coast Boulevard – LOS F (PM peak hour)
5. Jimmy Durante Blvd / San Dieguito Dr – LOS E (PM peak hour)

These intersections are forecast to operate at a deficient LOS by year 2040 without or with the proposed project. Construction of the bridge has no direct or cumulative impacts to these intersections.

4.4 Roadway Segment Analysis

Table 4-2 summarizes the daily operations of the study area roadway segments under Horizon Year 2040 Conditions.

TABLE 4-2: HORIZON YEAR 2040 CONDITIONS DAILY ROADWAY SEGMENT LOS SUMMARY

Segment	Lanes / Functional Classification	Daily Capacity	Year 2040 Conditions		
			ADT	V/C Ratio	LOS
Camino Del Mar					
Via De La Valle to Coast Blvd.	2-Lane Collector	15,000	13,800	0.920	**E**
Coast Blvd to Jimmy Durante Blvd.	2-Lane Collector	15,000	9,200	0.613	C
Jimmy Durante Boulevard					
Via De La Valle to South Fair Access	4-Lane Collector	30,000	14,500	0.483	C
South Fair Access to Camino Del Mar	2-Lane Collector	15,000	10,100	0.673	D
Via De La Valle					
Hwy 101-Camino Del Mar to Jimmy Durante Blvd.	2-Lane Collector	15,000	20,600	1.373	**F**

V/C = Volume to Capacity Ratio

As shown in Table 4-2, all the study roadway segments operate at acceptable LOS D or better except for the following segments:

- Camino Del Mar between Via De La Valle and Coast Blvd. – LOS E
- Via De La Valle between Hwy 101-Camino Del Mar and Jimmy Durante Blvd. – LOS F

It should be noted that these segments operate at deficient LOS without or with the proposed bridge project.

The maximum capacity to maintain LOS D or better operating conditions on the bridge is 13,000 vehicles per day. As shown in Table 4-2, the future forecast volumes along Camino Del Mar across the bridge exceed the available capacity by 800 vehicles per day. Providing four lanes across the bridge is constrained on the southbound approach as Camino Del Mar is two lanes with a raised median south of the bridge. However, northbound Camino Del Mar widens approaching Via De La Valle. The PM peak period conditions shows the northbound movement is the peak direction and is higher than the volume in the AM peak. Since the bridge is proposing a striped median, it may be feasible to restripe the bridge in the future to provide two northbound lanes and one southbound lane, resulting in a capacity of approximately 20,000 vehicles per day at LOS D. This restripe would mitigate forecast LOS E conditions on the bridge.

5 CONSTRUCTION CONDITIONS ANALYSIS

The Construction Conditions analysis summarizes the study area intersection and roadway segment operating conditions during the demolition and reconstruction of the Camino Del Mar bridge. Following are two construction scenarios that were evaluated in this transportation impact analysis report:

- **Staged Construction Scenario:** This bridge construction scenario would occur in three stages while maintaining one lane of traffic in each direction during construction. Stage 1 construction would close the existing west half of the bridge and reroute the traffic to the east half of the existing bridge. The existing median would be retained as a sidewalk for pedestrian use. Bicycle lanes would be removed and "Share the Road" signs would be installed. Stage 2 construction would close the east half of the existing bridge and reroute the traffic to the west half of the new bridge. The newly constructed west half of the bridge would consist of a pedestrian / bicyclist shared path. During Stage 2 construction, bicyclists would share the road with the vehicular traffic in both directions. Stage 3 construction would close the median of the new bridge and traffic will be maintained in both directions. This stage would maintain one vehicle and one buffered bike lane in each direction. Sidewalk would also be open on both sides of the bridge during Stage 3 construction. During all the three stages of construction, the bus route serving Camino Del Mar between Via De La Valle and Jimmy Durante Boulevard would not be affected. The staged construction scenario is anticipated to take approximately 24 months. **Figure 5-1** through **Figure 5-3** illustrates the conceptual traffic control plan for the three construction stages.

- **Full Bridge Closure (Long-Term Closure) Construction Scenario:** This bridge construction scenario would close the entire segment of the bridge to all modes of travel (vehicle, bus, bicyclists and pedestrians). Under this construction scenario all traffic would be detoured to Via De La Valle, Jimmy Durante Boulevard and Interstate 5. The full bridge closure construction scenario is anticipated to take approximately 12 months. During this construction scenario, the businesses and residences between the south end of the bridge and Jimmy Durante Boulevard would use Camino Del Mar and Jimmy Durante Boulevard to head north. During this construction scenario, beach and restaurant access between Via De La Valle and the bridge would be maintained from Camino Del Mar. A turn around would be provided north and south of the bridge construction site for vehicles to take a U-turn. **Figure 5-4** illustrates the conceptual detour map for the full bridge closure construction scenario.

5.1 Traffic Volumes

This section summarizes the assumptions to derive traffic volumes for each of the two bridge construction scenarios. Based on the existing volumes along Camino Del Mar and Jimmy Durante Boulevard, it was observed that the peak direction during the AM peak hour is in the southbound direction and in the northbound direction during the PM peak hour. Along Via De La Valle, the peak direction in the AM peak hour was observed to be in the eastbound direction and in the westbound direction during the PM peak hour.

- **Staged Construction Scenario:** For this construction scenario, traffic in both directions would be maintained during all the three stages of construction. To avoid delays due to construction, it is assumed that some traffic in the southbound direction during the AM peak hour (peak direction traffic) and both direction during the PM peak hour would divert to Interstate 5 and Jimmy Durante Boulevard. With stop-controlled intersections south of the bridge at 27th Street / Camino Del Mar and Coast Boulevard-Court Street / Camino Del mar, traffic traveling in the northbound direction will be metered causing less delay through the construction zone. With low northbound traffic volumes, the construction delay would likely be negligible, and diversion would result in an increased travel time. Hence diversion for northbound traffic was not considered during the AM peak hour for this construction

scenario. Based on the existing travel pattern along Camino Del Mar, a substantial amount of traffic is traveling along Highway 101 - Camino Del Mar between Lomas Santa Fe Drive and Del Mar Heights Road, as an alternate route to Interstate 5. To be conservative, for the analysis it was assumed that 20% of the southbound traffic during both AM and PM peak hour, and 30% of the northbound traffic during PM peak hour would be diverted to either Interstate 5 or Jimmy Durante Boulevard as a result of construction delay. **Figure 5-5** shows the diversion of traffic for the staged construction scenario. **Figure 5-6** shows the traffic volumes for the staged construction scenario.

- **Full Bridge Closure (Long-Term Closure) Construction Scenario:** For this construction scenario, as Camino Del Mar south of Via De La Valle would be fully closed, traffic will be detoured to Via De La Valle, Jimmy Durante Boulevard and Interstate 5. Since the intersection of Jimmy Durante Boulevard / Via De La Valle is currently operating at LOS D and Via De La Valle between Camino Del Mar and Jimmy Durante Boulevard is currently operating at LOS F, it is assumed that the majority of detoured traffic would be diverted onto Interstate 5 from interchanges outside of the study area. During the AM peak hour, it is assumed the 40% of traffic in both directions would be diverted onto Interstate 5. During the PM peak hour, it is assumed that 60% of the northbound traffic and 50% of the southbound traffic would be diverted onto Interstate 5. The remaining traffic, during both the peak hours, is assumed to divert either onto Via De La Valle and Jimmy Durante Boulevard or the Interstate 5 through Via De La Valle interchange. **Figure 5-7** shows the diversion of traffic for the full closure construction scenario. **Figure 5-8** shows the traffic volume at the study area during the full closure construction scenario.

5.2 Roadway Geometry

Apart from the bridge segment on Camino Del Mar, no changes to the intersection and roadway segment geometry were assumed for either of the construction scenarios.

Camino Del Mar Bridge

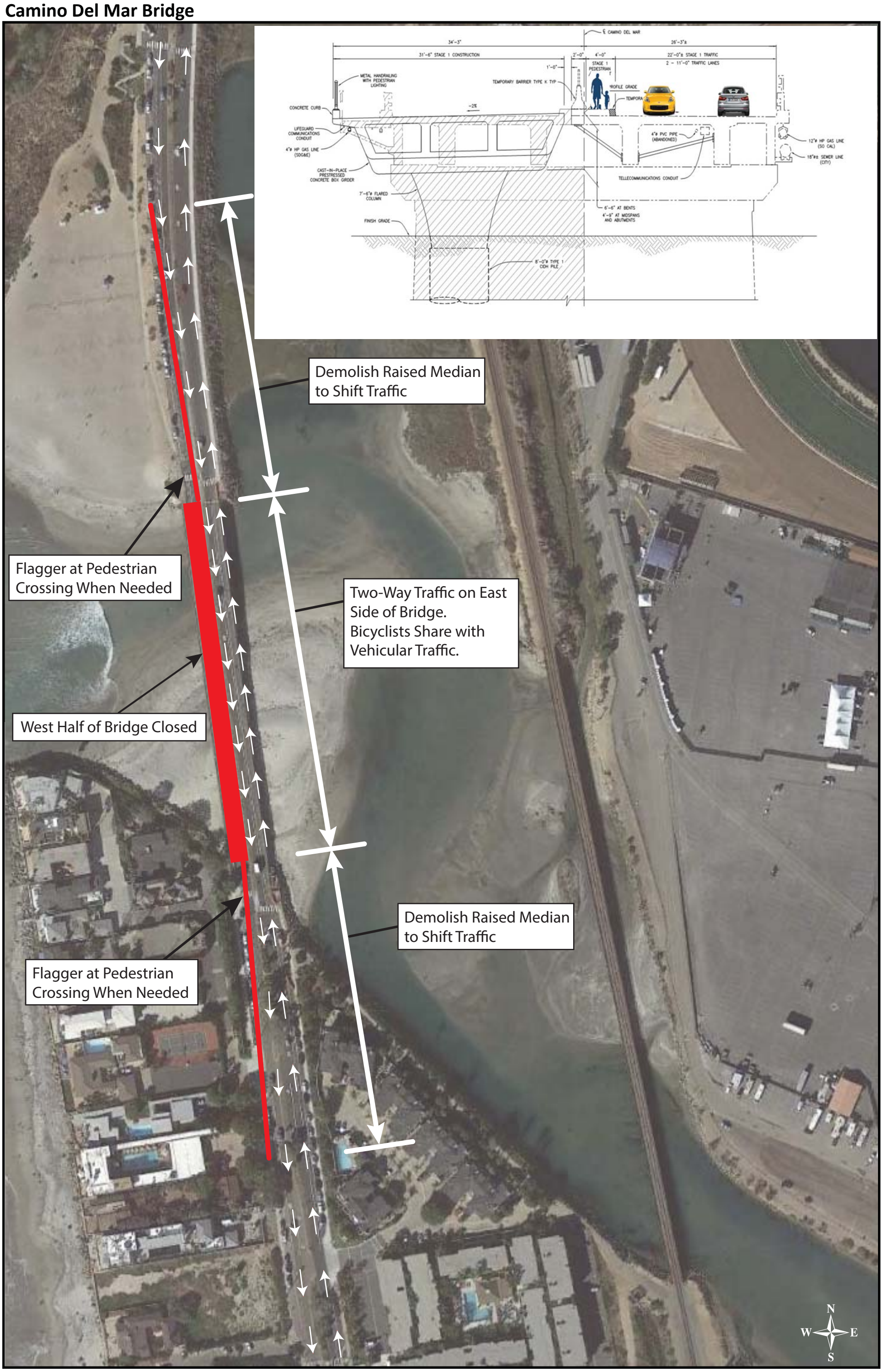

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Figure 5-1
West Half Bridge Construction Stage Trafic Control Plan Concept

Camino Del Mar Bridge

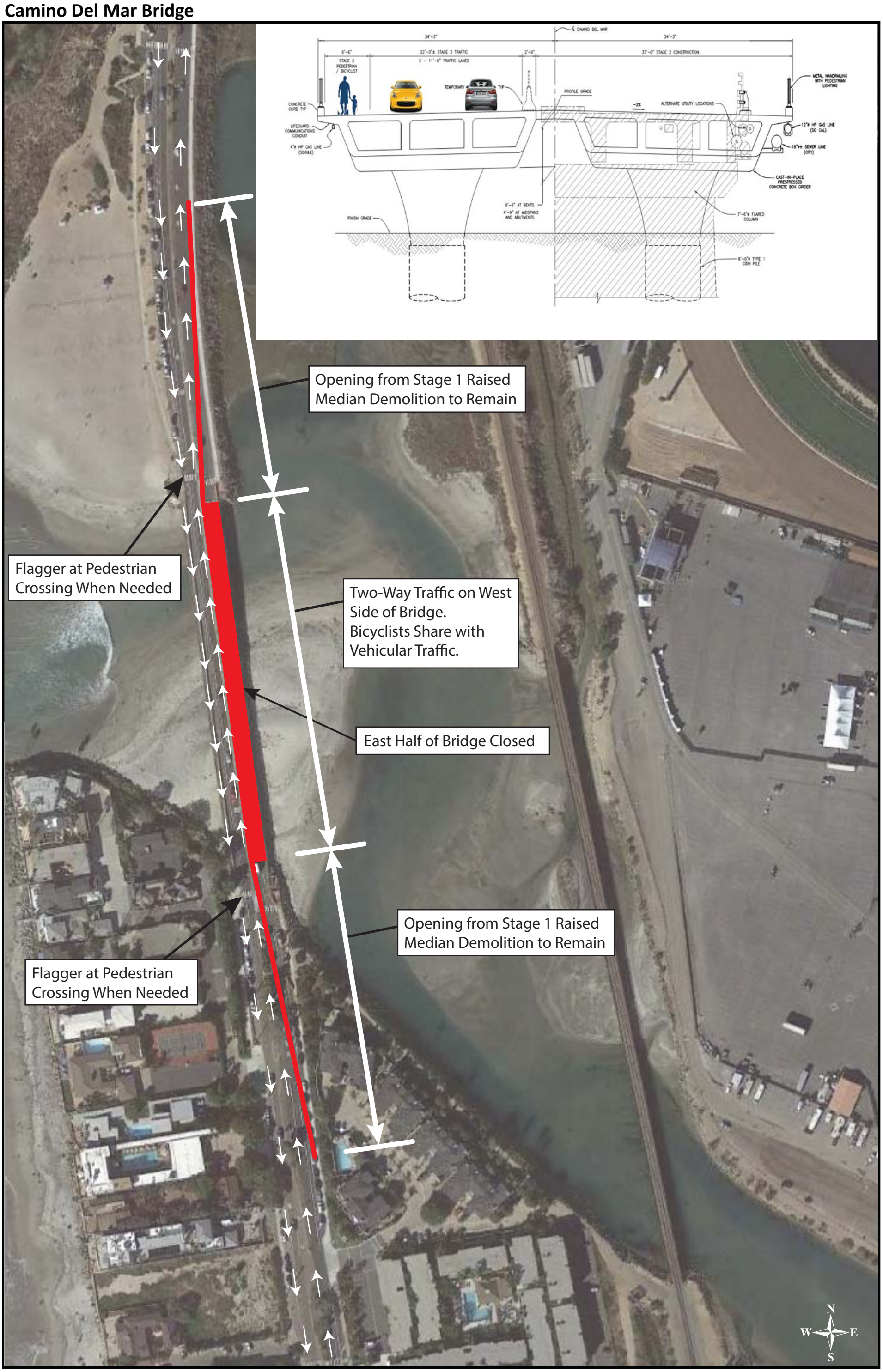

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Figure 5-2
East Half Bridge Construction Stage Traffic Control Plan Concept

Camino Del Mar Bridge

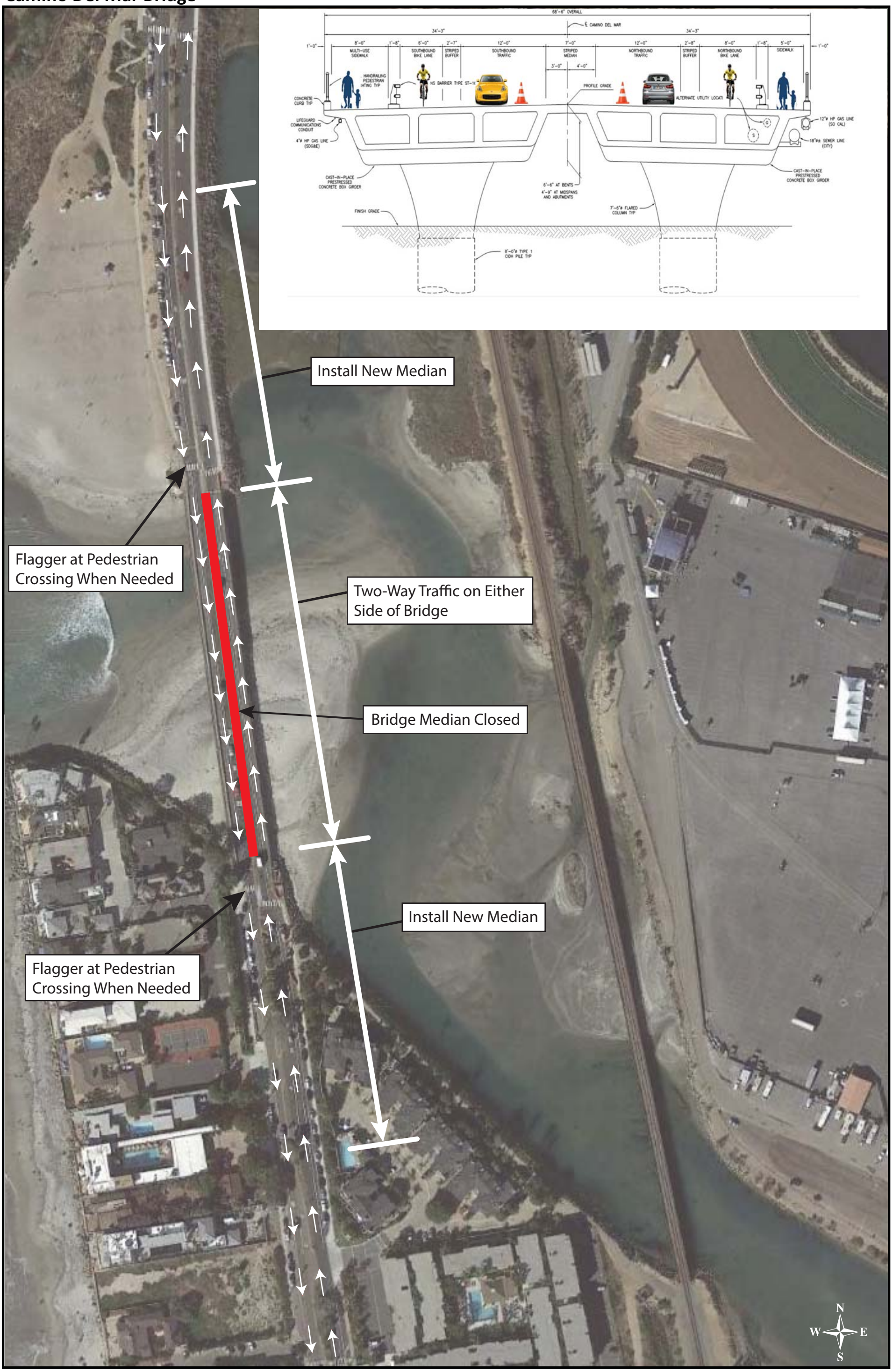

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Figure 5-3
Bridge Median Construction Stage Traffic Control Plan Concept

Camino Del Mar Bridge

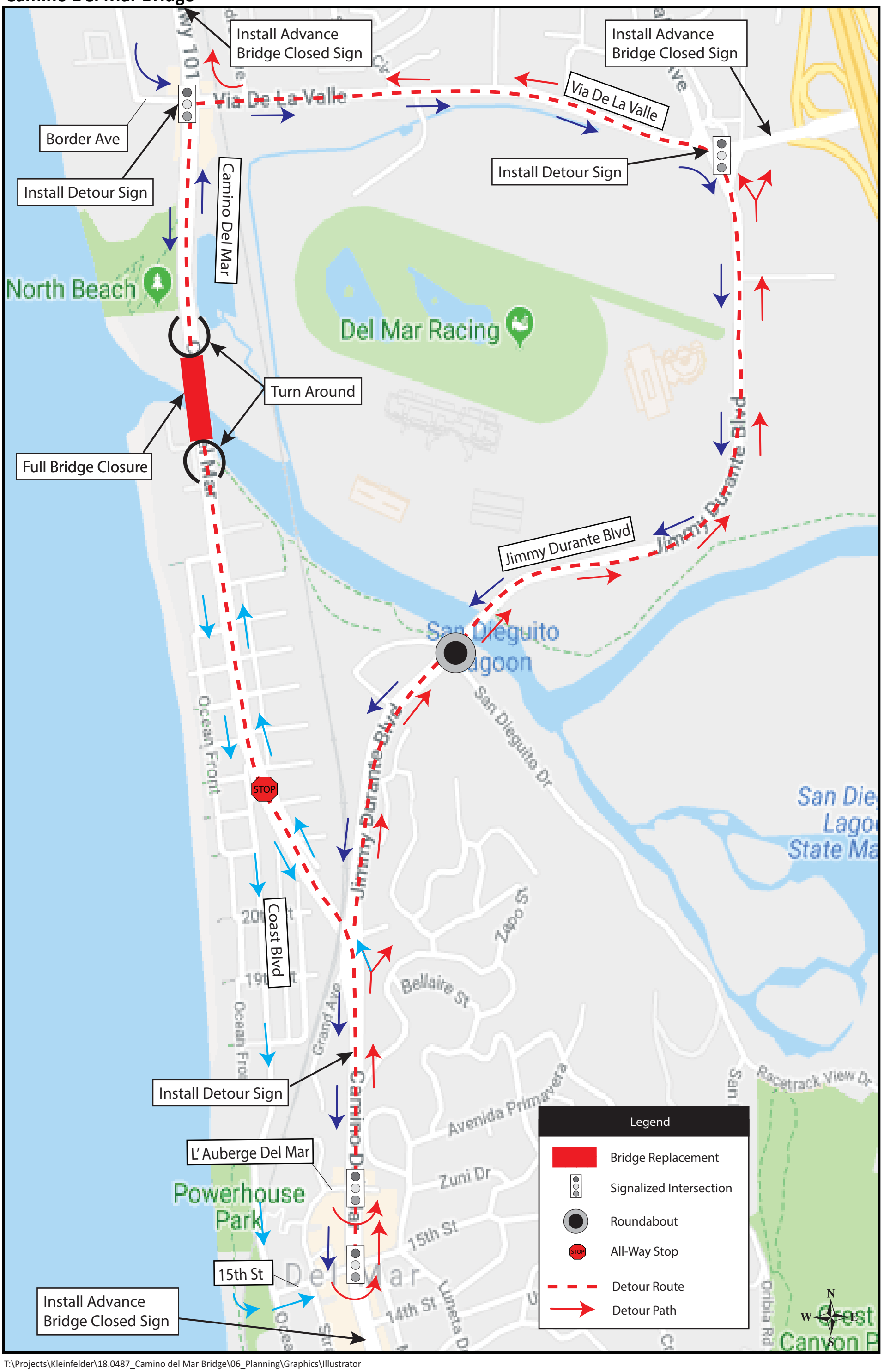

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Figure 5-4
Full Bridge Closure Construction Scenario Detour Map Concept

Camino Del Mar Bridge

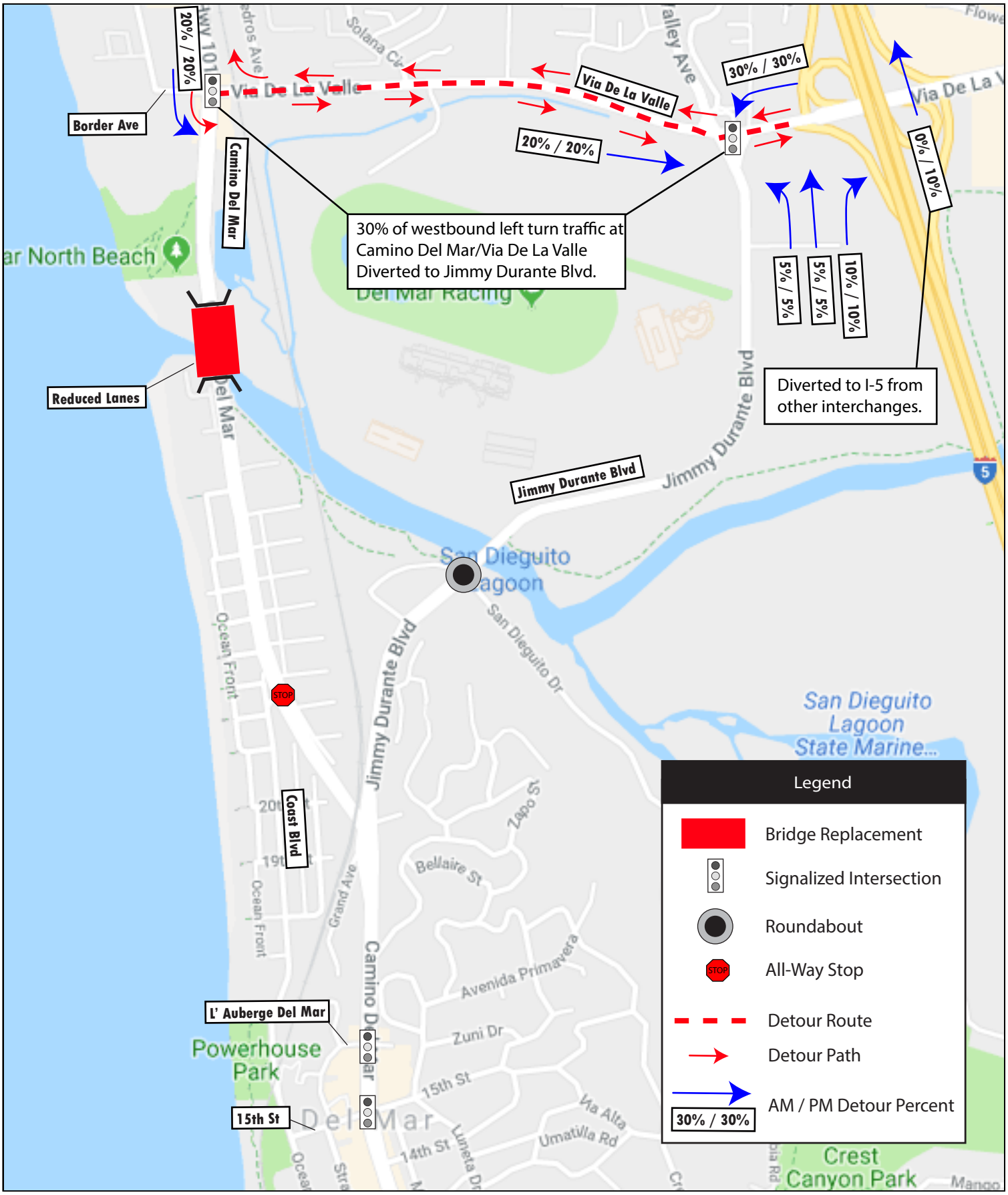

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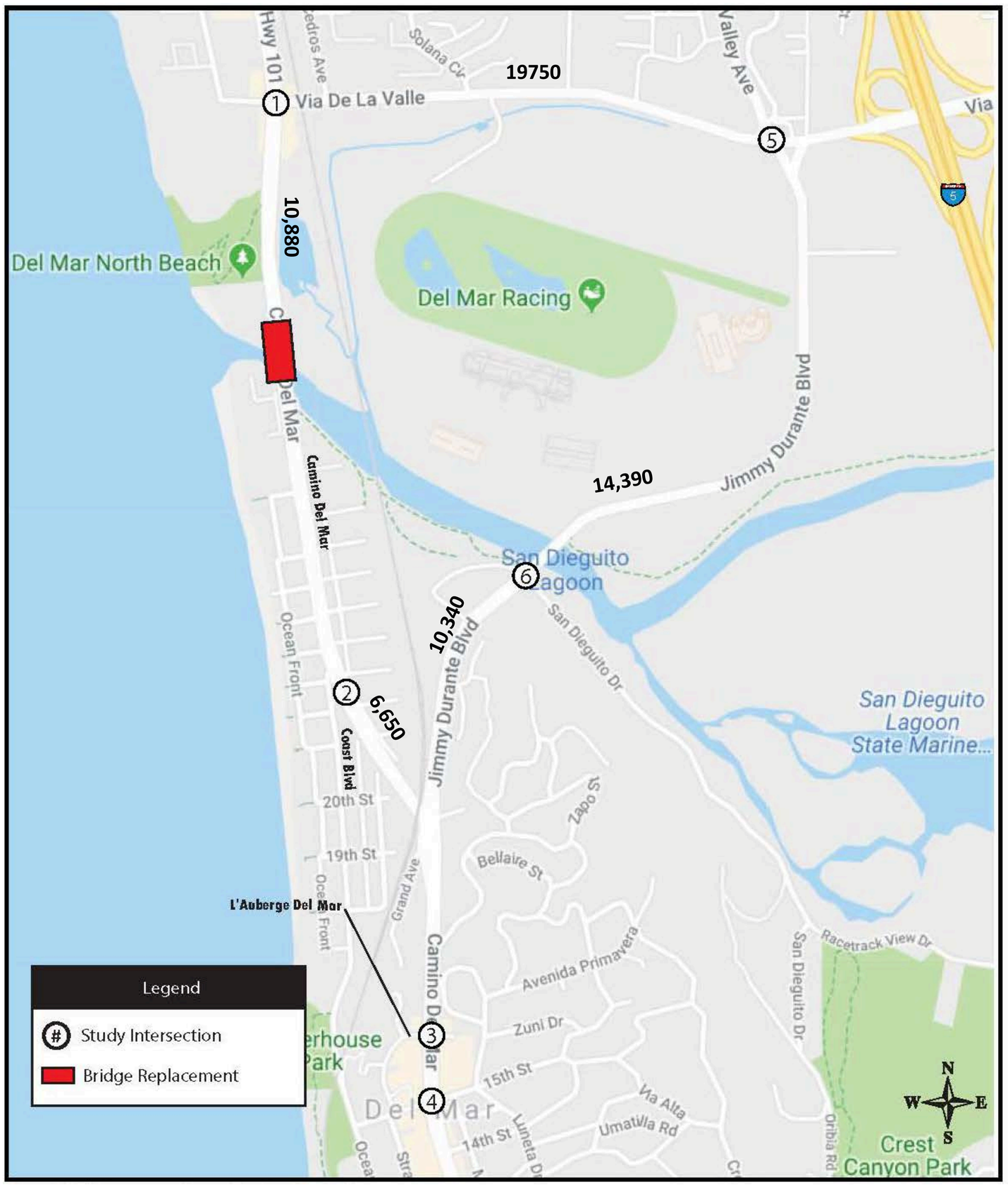
Figure 5-5
Potential Traffic DIversion for Staged Construction Scenario

Camino Del Mar Bridge



Highway 101 / Camino Del Mar @ Via De La Valle / Border Ave

13 / 11 ←	177 / 388 ↑	
313 / 222 ↓	99 / 92 ←	
483 / 295 →	66 / 78 ↓	
11 / 16 ↱		
2 / 5 ↑	4 / 6 ↰	7 / 34 ←
138 / 110 →		134 / 384 ↑
24 / 21 ↓		118 / 129 →

Camino Del Mar @ Court St / Coast Blvd

64 / 100 ←	7 / 2 ↑	
291 / 141 ↓	5 / 4 ←	
3 / 3 →		
7 / 4 ↱		
49 / 102 ↑	/ 4 ↰	9 / 11 ←
1 / 0 →		139 / 384 ↑
18 / 16 ↓		3 / 2 →

#REF!

16 / 21 ←	5 / 16 ↑	
570 / 495 ↓	1 / 17 ←	
13 / 19 →		
29 / 34 ↱		
18 / 22 ↑	/ 5 ↰	14 / 8 ←
1 / 0 →		382 / 1099 ↑
13 / 17 ↓		12 / 19 →

Camino Del Mar @ 15th St

39 / 64 ←	61 / 116 ↑	
473 / 395 ↓	9 / 22 ←	
86 / 80 →	32 / 40 ↓	
16 / 14 ↱		
36 / 54 ↑	/ 4 ↰	68 / 78 ←
8 / 10 →		283 / 940 ↑
67 / 84 ↓		61 / 40 →

Valley Ave / Jimmy Durante Blvd @ Via De La Valle

69 / 66 ←	339 / 379 ↑	
122 / 136 ↓	564 / 638 ←	
526 / 358 →	410 / 706 ↓	
53 / 39 ↑	24 / 116 ←	
787 / 560 →	79 / 202 ↑	
71 / 95 ↓	239 / 685 →	

Jimmy Durante Blvd @ San Dieguito Dr

6 / 3 ←	33 / 44 ↑	
447 / 334 ↓	2 / 1 ←	
32 / 45 →	12 / 6 ↓	
5 / 13 ↑	4 / 3 ←	
2 / 0 →	246 / 769 ↑	
4 / 1 ↓	9 / 20 →	

LEGEND

xx / yy = AM / PM Peak-Hour Turning Movement Volumes

X,XXX = ADT Volume

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Figure 5-6

Staged Construction Scenario Traffic Volumes

Camino Del Mar Bridge

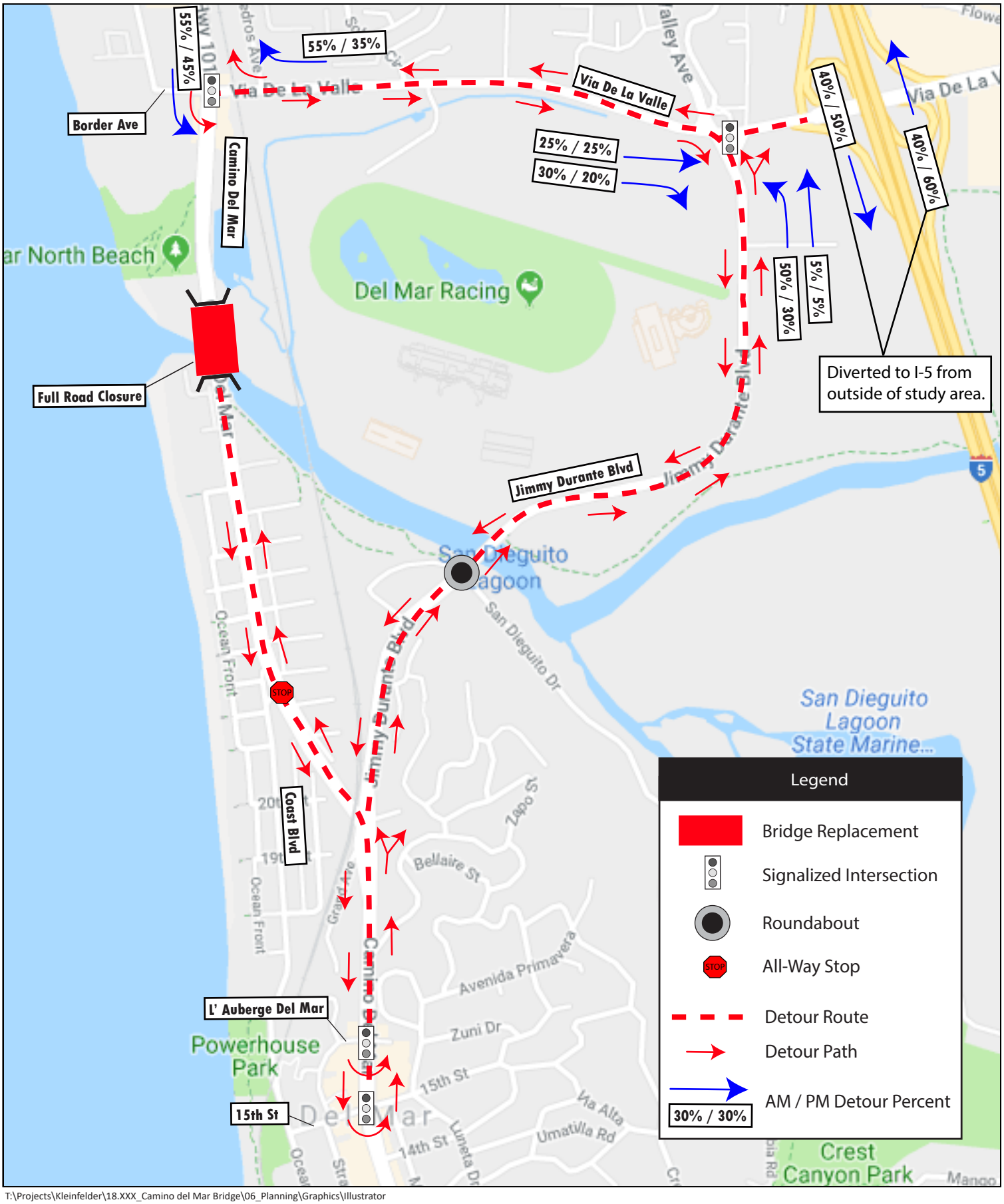

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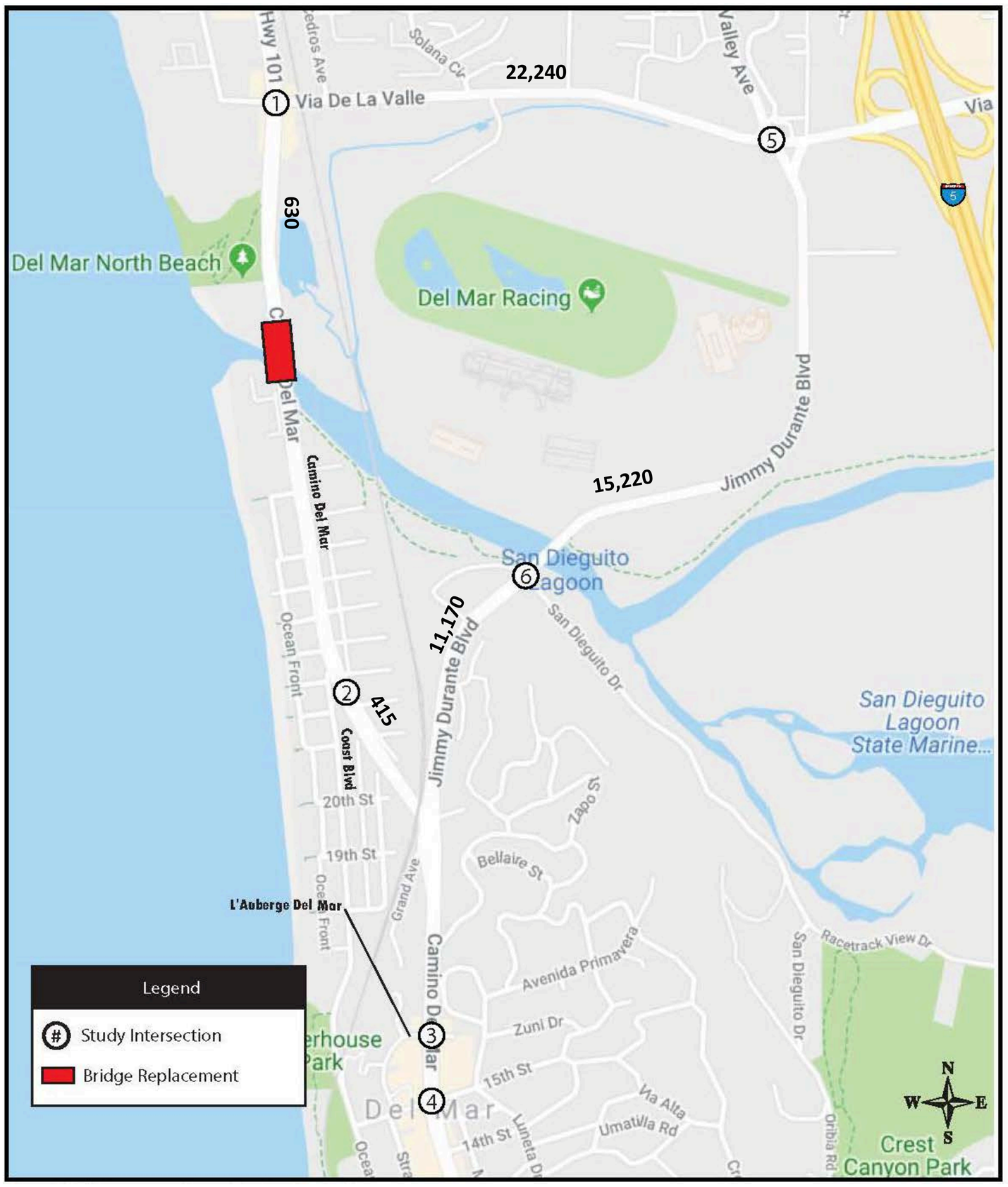
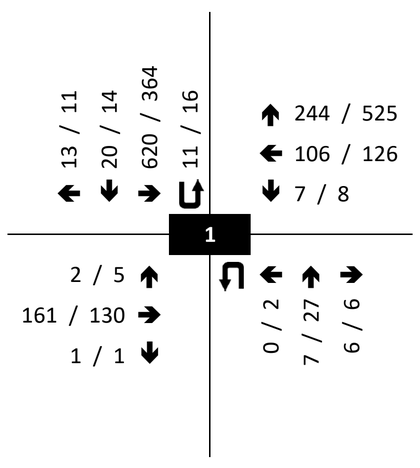
Figure 5-7
Potential Traffic DIversion for Full Closure Construction Scenario

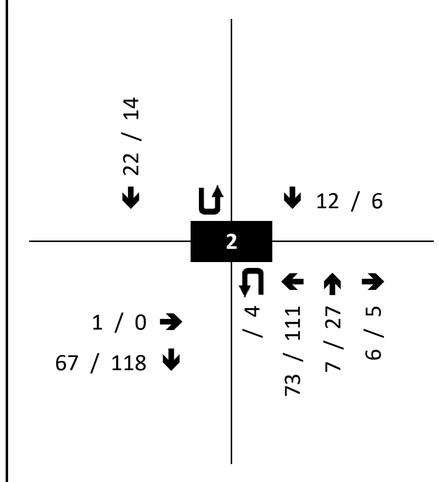
Camino Del Mar Bridge



Highway 101 / Camino Del Mar @ Via De La Valle / Border Ave



Camino Del Mar @ Court St / Coast Blvd



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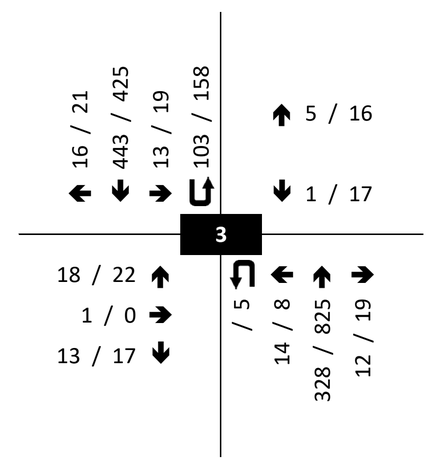
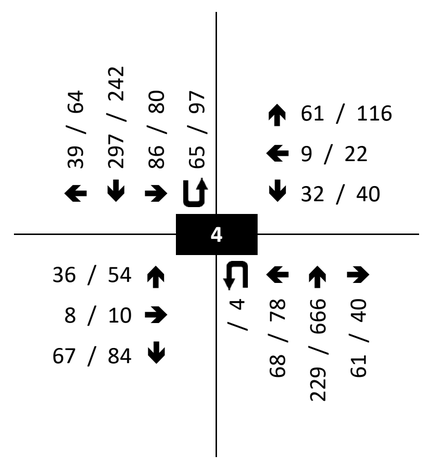
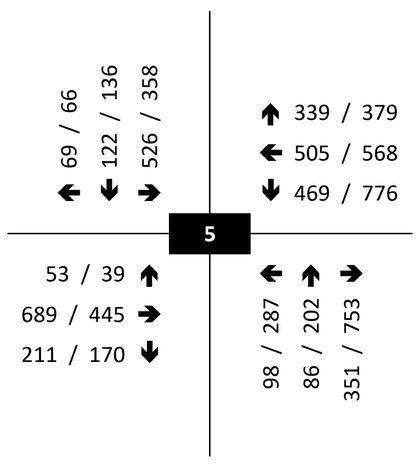


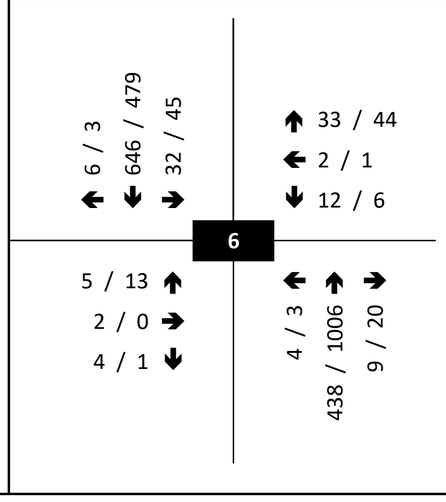
Camino Del Mar @ 15th St



Valley Ave / Jimmy Durante Blvd @ Via De La Valle



Jimmy Durante Blvd @ San Dieguito Dr



LEGEND

xx / yy = AM / PM Peak-Hour Turning Movement Volumes

X,XXX = ADT Volume

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Figure 5-8

Full Closure Construction Scenario Traffic Volumes

5.3 Intersection Analysis

Levels of service (LOS) were determined at the study area intersections for the AM and PM peak hours for the two construction conditions scenarios. **Table 5-1** presents the operational analysis for the staged construction (No Closure) scenario and **Table 5-2** presents the operational analysis for the full closure construction scenario. Level of service analysis worksheets for the Staged Construction (No Closure) Scenario are provided in **Appendix E.** Level of service analysis worksheets for the Full Closure Construction Scenario are provided in **Appendix F.**

TABLE 5-1: STAGED CONSTRUCTION (NO CLOSURE) SCENARIO PEAK HOUR LOS SUMMARY

Intersection		Traffic Control	Peak Hour	Existing Conditions		Staged Construction (No Closure) Scenario		Significant Impact?	
				Delay[a] (sec)	LOS	Delay[a] (sec)	LOS	Δ Delay (sec)	Impact?
1	Hwy 101 & Camino Del Mar / Via De La Valle	Signal [b]	AM	20.5	C	23.3	C	2.8	No
			PM	22.6	C	20.6	C	-2.0	No
2	Camino Del Mar / Coast Blvd	AWSC [c]	AM	13.7	B	10.3	B	-3.4	No
			PM	35.8	**E**	13.8	B	-22.0	No
3	Camino Del Mar & L'Auberge Del Mar / Plaza Parking	Signal [b]	AM	6.5	A	6.3	A	-0.2	No
			PM	11.5	B	11.2	B	-0.3	No
4	Camino Del Mar / 15th St	Signal [b]	AM	16.7	B	16.7	B	0.0	No
			PM	24.4	C	24.6	C	0.2	No
5	Jimmy Durante Blvd / Via De La Valle	Signal [b]	AM	38.4	D	40.7	D	2.3	No
			PM	46.4	D	49.0	D	2.6	No
6	Jimmy Durante Blvd / San Dieguito Dr	Roundabout [c]	AM	6.9	A	7.5	A	0.6	No
			PM	11.0	B	14.4	B	3.4	No

Notes:

Signal: Traffic signal, AWSC: all-way stop control

(a) Delays are reported as the average control Delay for the entire intersection at signalized intersections and average Delay for all-way stop controlled and roundabout intersections.

(b) Delay and LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM).

(c) Delay and LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual (HCM).

As shown in Table 5-1, all the study intersections continue to operate at LOS D or better for both the AM and PM peak hour for the staged construction (No Closure) scenario. The staged construction (No Closure) scenario would not cause any significant impact at the study intersections

TABLE 5-2: FULL CLOSURE CONSTRUCTION SCENARIO PEAK HOUR LOS SUMMARY

Intersection		Traffic Control	Peak Hour	Existing Conditions		Full Closure Construction Scenario		Significant Impact?	
				Delay[a] (sec)	LOS	Delay[a] (sec)	LOS	Δ Delay (sec)	Impact?
1	Hwy 101 & Camino Del Mar / Via De La Valle	Signal [b]	AM	20.5	C	18.3	B	-2.2	No
			PM	22.6	C	16.1	B	-6.5	No
2	Camino Del Mar / Coast Blvd	AWSC [c]	AM	13.7	B	8.0	A	-5.7	No
			PM	35.8	**E**	8.4	A	-27.4	No
3	Camino Del Mar & L'Auberge Del Mar / Plaza Parking	Signal [b]	AM	6.5	A	7.4	A	0.9	No
			PM	11.5	B	16.3	B	4.8	No
4	Camino Del Mar / 15th St	Signal [b]	AM	16.7	B	17.4	B	0.7	No
			PM	24.4	C	29.0	C	4.6	No
5	Jimmy Durante Blvd / Via De La Valle	Signal [b]	AM	38.4	D	44.5	D	6.1	No
			PM	46.4	D	54.8	D	8.4	No
6	Jimmy Durante Blvd / San Dieguito Dr	Roundabout [c]	AM	6.9	A	11.2	B	4.3	No
			PM	11.0	B	36.4	**E**	25.4	**Yes**

Notes:

Signal: Traffic signal, AWSC: all-way stop control

(a) Delays are reported as the average control Delay for the entire intersection at signalized intersections and average Delay for all-way stop controlled and roundabout intersections.

(b) Delay and LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM).

(c) Delay and LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual (HCM).

As shown in Table 5-2, all the study intersections continue to operate at LOS D or better for both the AM and PM peak hour for the full closure construction scenario, except for the intersection at Jimmy Durante Boulevard / San Dieguito Drive, which operate at an unacceptable LOS E during the PM peak hour. The full closure construction scenario causing a significant impact at the intersection of Jimmy Durante Boulevard / San Dieguito Drive.

5.4 Roadway Segment Analysis

Table 5-3 summarizes the daily operations of the study area roadway segments for the staged construction (No Closure) scenario and, **Table 5-4** summarizes the daily operations of the study area roadway segments for the full closure construction scenario.

TABLE 5-3: STAGED CONSTRUCTION (NO CLOSURE) SCENARIO DAILY ROADWAY SEGMENT LOS SUMMARY

Segment	Functional Classification/ Lanes	Daily Capacity	Existing Conditions			Staged Construction (No Closure) Scenario			Change in V/C	Significant
			ADT	V/C Ratio	LOS	ADT	V/C Ratio	LOS		
Camino Del Mar										
Via De La Valle to Coast Blvd.	2-Lane Collector	15,000	12,540	0.836	D	10,878	0.725	D	-0.111	No
Coast Blvd to Jimmy Durante Blvd.	2-Lane Collector	15,000	8,312	0.554	C	6,650	0.443	B	-0.111	No
Jimmy Durante Boulevard										
Via De La Valle to South Fair Access	4-Lane Collector	30,000	13,141	0.438	B	14,388	0.480	C	0.042	No
South Fair Access to Camino Del Mar	2-Lane Collector	15,000	9,092	0.606	C	10,339	0.689	D	0.083	No
Via De La Valle										
Hwy 101-Camino Del Mar to Jimmy Durante Blvd.	2-Lane Collector	15,000	18,498	1.233	**F**	19,745	1.316	**F**	0.083	**Yes**

V/C = Volume to Capacity Ratio

As shown in Table 5-3, all the study roadway segments continue to operate at acceptable LOS D or better for the staged construction (No Closure) scenario except for Via De La Valle, which continue to operate at an unacceptable LOS F. The staged construction (No Closure) scenario causes a significant impact at Via De La Valle roadway segment.

TABLE 5-4: FULL CLOSURE CONSTRUCTION SCENARIO DAILY ROADWAY SEGMENT LOS SUMMARY

Segment	Functional Classification/ Lanes	Daily Capacity	Existing Conditions			Full Closure Construction Scenario			Change in V/C	Significant
			ADT	V/C Ratio	LOS	ADT	V/C Ratio	LOS		
Camino Del Mar										
Via De La Valle to Coast Blvd.	2-Lane Collector	15,000	12,540	0.836	D	627	0.042	A	-0.794	No
Coast Blvd to Jimmy Durante Blvd.	2-Lane Collector	15,000	8,312	0.554	C	416	0.028	A	-0.526	No
Jimmy Durante Boulevard										
Via De La Valle to South Fair Access	4-Lane Collector	30,000	13,141	0.438	B	15,219	0.507	C	0.069	No
South Fair Access to Camino Del Mar	2-Lane Collector	15,000	9,092	0.606	C	11,170	0.745	D	0.139	No
Via De La Valle										
Hwy 101-Camino Del Mar to Jimmy Durante Blvd.	2-Lane Collector	15,000	18,498	1.233	**F**	22,238	1.483	**F**	0.249	**Yes**

V/C = Volume to Capacity Ratio

As shown in Table 5-4, all the study roadway segments continue to operate at acceptable LOS D or better for the full closure construction scenario except for Via De La Valle, which continue to operate at an unacceptable LOS F. The full closure construction scenario causes a significant impact at Via De La Valle roadway segment.

6 ACCIDENT DATA ASSESSMENT

An assessment of accident data was conducted for Camino Del Mar in the vicinity of the bridge site. Three years historical data was obtained from the Transportation Injury Mapping System (TIMS) data base maintained by University of California, Berkley, California. Figure 6-1 below, obtained from TIMS, shows the accident locations occurred between January 2015 and December 2017. As shown in the map below, there were no accidents that occurred in the vicinity of the bridge site.

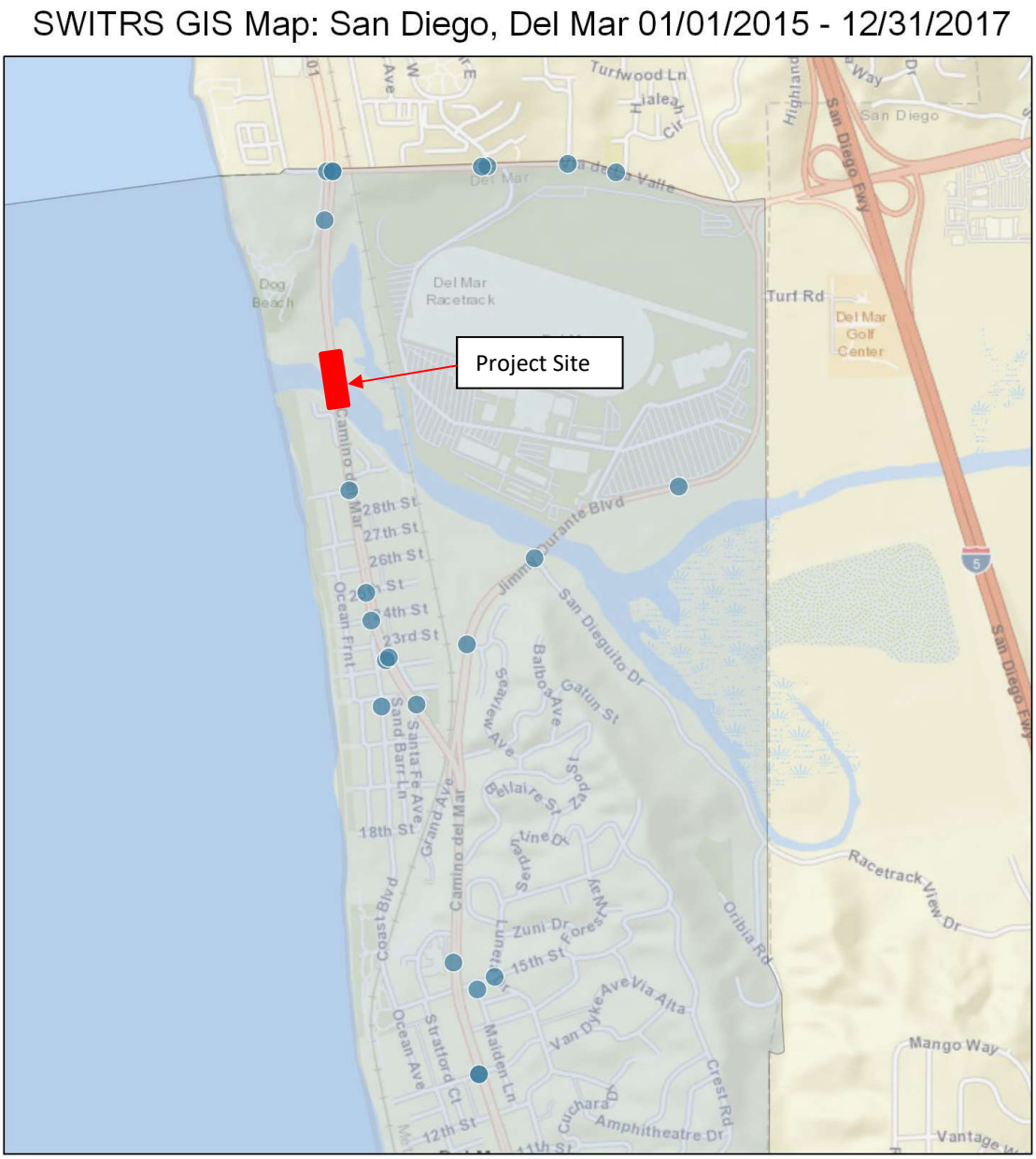


Figure 6-1 Accident Locations

7 SIGNIFICANT IMPACTS AND MITIGATION MEASURES

From the above analysis following summarizes the impacts due to respective construction scenarios:

Staged Construction (No Closure) Scenario

This construction scenario is forecast to result in a significant impact at the following study area roadway segment:

- Via De La Valle between Hwy 101-Camino Del Mar and Jimmy Durante Boulevard – LOS F

Full Closure Construction Scenario

This construction scenario is forecast to result in a significant impact at the following study area intersection and roadway segment:

6. Jimmy Durante Boulevard / San Dieguito Drive – LOS E (PM peak hour)

- Via De La Valle between Hwy 101-Camino Del Mar and Jimmy Durante Boulevard – LOS F

The impacts due to construction on the study intersection and roadway segment are a temporary condition. The significant impact at the intersection of Jimmy Durante Boulevard / San Dieguito Drive due to the construction occurs only during the PM peak hour. Since this intersection is a roundabout with one lane entry/exit approaches and is physically constrained, no feasible mitigation measures are recommended.

For the staged construction scenario, it can be assumed that traffic diversion would occur only during the peak hour when traffic and delay are high along Camino Del Mar and the time to pass through the construction zone exceeds the time and delay that may occur if an alternate route was chosen. It is assumed that no traffic will be diverted during the off peak, when the traffic and delay are low, and the construction will have limited impacts on travel time. Via De La Valle currently operate at unacceptable LOS, and the change in v/c due to traffic diversion is minor. Although the segment analysis shows a significant impact on Via De La Valle, the worst-case condition generally occurs during the peak hour of the day as against occurring throughout the day. Via De La Valle is currently designed to accommodate bike lanes and parking on either side of the roadway and, a center two-way-left-turn-lane. Any changes to mitigate the impacts would change the characteristics of the current roadway conditions. For this reason, no mitigation is recommended.

8 PEDESTRIAN, BICYCLE AND TRANSIT IMPACTS

This section summarizes the impacts of the two construction scenarios on pedestrian, bicycle and transit facilities.

Staged Construction (No Closure) Scenario

During first two stages of this construction scenario, the segment of Camino Del Mar under construction, will have travel lanes with reduced lane widths and no bike lanes. Bicyclists will share the road with the vehicular traffic. Sidewalks will be provided on one side of the roadway for the first two construction stages. Stage three of this construction scenario will consist of buffered bike lanes and sidewalk on both sides of the roadway segment. Stop signs will be proposed to be installed at pedestrian crossings, on either side of the bridge construction, to facilitate safe pedestrian crossing. The bus route currently traveling along Camino Del Mar can continue to travel along this roadway segment during all stages of this construction scenario.

Full Closure Construction Scenario

This construction scenario will fully close the Camino Del Mar bridge throughout the construction period, and all modes of traffic will be detoured to Via De La Valle and Jimmy Durante Boulevard. Access to the beach, west of Camino Del Mar and south of Via De La Valle will be open for public during construction. The bus stops along Camino Del Mar between south of the bridge and Jimmy Durante Boulevard will not be served during this construction scenario. Bus riders currently commuting from these bus stops will have to access the bus stops at Camino Del Mar / 15th Street intersection, which is 0.9 mile from the 29th Street bus stop and 0.67 mile from the 24th Street bus stops.

9 FINDINGS AND CONCLUSIONS

The Camino Del Mar bridge over the San Dieguito River is located within the City of Del Mar, west of Interstate 5, south of Via De La Valle. The bridge is proposed to be replaced to include one travel lane and one buffered bike lane in either direction. The new bridge is also proposed to include a protected sidewalk on each side of the bridge and a center striped median. This transportation impact analysis evaluated the existing conditions and the Horizon Year 2040 traffic conditions with the new bridge.

Sidewalks are provided on either both sides or just one side of the street along Camino Del Mar and Jimmy Durante Boulevard. Along Via De La Valle, sidewalk are provided on both sides between Highway 101 – Camino Del Mar and Jimmy Durante Boulevard. Class II bicycle lanes are provided in both directions along Camino Del Mar, Jimmy Durante Boulevard and Via De La Valle. Buffered bike lanes are provided at some locations along Camino Del Mar.

The results of the existing conditions analysis showed that all the study intersections and roadway segments operate at acceptable LOS D or better except for the following:

2. Camino Del Mar / Coast Boulevard – LOS E (PM peak hour)

- Via De La Valla between Hwy 101-Camino Del Mar and Jimmy Durante Blvd. – LOS F

The results of the Horizon Year 2040 analysis showed that all the study intersections and roadway segments operate at acceptable LOS D or better except for the following:

3. Camino Del Mar / Coast Boulevard – LOS F (PM peak hour)
6. Jimmy Durante Blvd / San Dieguito Dr – LOS E (PM peak hour)

- Camino Del Mar between Via De La Valle and Coast Blvd. – LOS E
- Via De La Valle between Hwy 101-Camino Del Mar and Jimmy Durante Blvd. – LOS F

Although these segments and intersections operate at deficient LOS with the new bridge, the project does not result in a significant impact as these locations would operate at a deficient LOS without or with the proposed project. Along Camino Del Mar, it may be feasible to restripe the bridge in the future to provide two northbound lanes and one southbound lane, resulting in a capacity of approximately 20,000 vehicles per day at LOS D. This restripe would mitigate forecast LOS E conditions on the bridge.

This study also evaluated the traffic conditions of the study area during the construction. Two construction scenarios were considered in this transportation analysis: staged construction with reduced travel lanes and full closure. For the staged construction scenario, the bridge will remain accessible throughout the demolition and replacement period, with two-way traffic maintained at all times. For the full closure construction scenario, traffic will be detoured to Via De La Valle, Jimmy Durante Boulevard and Interstate 5.

The results of the staged construction (No Closure) scenario analysis showed that all the study intersections and roadway segments operate at acceptable LOS D or better except for the following roadway segment:

- Via De La Valle between Hwy 101-Camino Del Mar and Jimmy Durante Blvd. – LOS F

The results of the full closure construction scenario analysis showed that all the study intersections and roadway segments operate at acceptable LOS D or better except for the following:

6. Jimmy Durante Boulevard / San Dieguito Drive – LOS E (PM peak hour)

- Via De La Valle between Hwy 101-Camino Del Mar and Jimmy Durante Blvd. – LOS F

Although the two construction scenarios result in significant impacts due to traffic diversion, the impacts are temporary and generally occur during the peak hours. Since the intersection of Jimmy Durante Boulevard / San Dieguito Drive is a roundabout and is physically constrained, no feasible mitigation measure can be implemented. The segment of Via De La Valle between Hwy 101-Camino Del Mar and Jimmy Durante Boulevard currently operate at unacceptable LOS, and the change in v/c due to traffic diversion is minor. To retain the characteristics of the current roadway conditions, no mitigation measures are recommended. To minimize impacts to these locations, traffic control signage in advance of the study area should be installed to deter drivers from entering the study area or surrounding community.

Based on the accident data assessment, no accidents occurred in the vicinity of the bridge site between January 2015 and December 2017. With the proposed geometry design of the bridge providing improvements, it can be concluded that there would not be any critical issues in the geometry.

Appendix A

Existing Traffic Volumes

Prepared by National Data & Surveying Services

CLASSIFICATION

Camino Del Mar Bet. Via De La Valle & Coast Blvd

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	16	0	0	0	0	0	0	0	0	0	0	0	16
01:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
02:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16
03:00	0	5	0	0	0	0	0	1	0	0	0	0	0	6
04:00	0	19	3	0	0	0	0	0	0	0	0	0	0	22
05:00	1	53	3	0	4	0	0	0	0	0	0	0	0	61
06:00	0	275	33	2	7	1	0	0	0	0	0	0	0	318
07:00	3	597	68	3	10	2	0	0	4	0	0	0	0	687
08:00	2	724	58	2	16	4	0	0	2	0	0	0	0	808
09:00	1	628	64	2	13	3	0	2	2	0	0	0	0	715
10:00	0	663	46	3	10	5	1	0	2	0	0	0	0	730
11:00	10	770	49	3	11	1	0	2	3	0	0	0	0	849
12:00 PM	5	879	61	2	13	2	0	0	0	0	0	0	0	962
13:00	4	892	40	2	11	2	0	0	3	0	0	0	0	954
14:00	8	836	45	2	3	1	0	0	0	0	0	0	0	895
15:00	7	1039	43	3	7	1	1	1	0	0	0	0	0	1102
16:00	3	1099	45	2	10	0	0	0	0	0	0	0	0	1159
17:00	4	1058	39	2	7	0	2	0	0	0	0	0	0	1112
18:00	4	769	33	3	3	0	0	1	0	0	0	0	0	813
19:00	3	565	20	2	2	0	0	0	0	0	0	0	0	592
20:00	0	306	12	2	2	0	0	0	0	0	0	0	0	322
21:00	1	201	5	1	1	0	0	0	0	0	0	0	0	209
22:00	0	115	0	0	0	0	0	0	0	0	0	0	0	115
23:00	0	63	1	0	0	0	0	0	0	0	0	0	0	64
Totals	56	11601	668	36	130	22	4	7	16					12540
% of Totals	0%	93%	5%	0%	1%	0%	0%	0%	0%					100%

AM Volumes	17	3779	324	15	71	16	1	5	13	0	0	0	0	4241
% AM	0%	30%	3%	0%	1%	0%	0%	0%	0%					34%
AM Peak Hour	11:00	11:00	07:00	07:00	08:00	10:00	10:00	09:00	07:00					11:00
Volume	10	770	68	3	16	5	1	2	4					849
PM Volumes	39	7822	344	21	59	6	3	2	3	0	0	0	0	8299
% PM	0%	62%	3%	0%	0%	0%	0%	0%	0%					66%
PM Peak Hour	14:00	16:00	12:00	15:00	12:00	12:00	17:00	15:00	13:00					16:00
Volume	8	1099	61	3	13	2	2	1	3					1159

Directional Peak Periods All Classes	AM 7-9 Volume		%	NOON 12-2 Volume		%	PM 4-6 Volume		%	Off Peak Volumes Volume		%
	1495	⟷	12%	1916	⟷	15%	2271	⟷	18%	6858	⟷	55%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Camino Del Mar Bet. Via De La Valle & Coast Blvd

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_001

DAILY TOTALS	NB	SB	EB	WB	Total
	6,328	6,212	0	0	12,540

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		1		0	0	3		12:00	122		133		0	0	255	
00:15	2		3		0	0	5		12:15	114		102		0	0	216	
00:30	4		0		0	0	4		12:30	110		130		0	0	240	
00:45	1	9	3	7	0	0	4	16	12:45	127	473	124	489	0	0	251	962
01:00	1		1		0	0	2		13:00	124		121		0	0	245	
01:15	0		1		0	0	1		13:15	107		101		0	0	208	
01:30	2		3		0	0	5		13:30	130		128		0	0	258	
01:45	4	7	1	6	0	0	5	13	13:45	128	489	115	465	0	0	243	954
02:00	7		3		0	0	10		14:00	107		101		0	0	208	
02:15	1		1		0	0	2		14:15	122		114		0	0	236	
02:30	2		2		0	0	4		14:30	119		77		0	0	196	
02:45	0	10	0	6	0	0		16	14:45	140	488	115	407	0	0	255	895
03:00	1		1		0	0	2		15:00	169		114		0	0	283	
03:15	1		1		0	0	2		15:15	142		106		0	0	248	
03:30	0		0		0	0			15:30	170		113		0	0	283	
03:45	1	3	1	3	0	0	2	6	15:45	173	654	115	448	0	0	288	1102
04:00	2		1		0	0	3		16:00	179		117		0	0	296	
04:15	3		0		0	0	3		16:15	188		114		0	0	302	
04:30	3		6		0	0	9		16:30	178		100		0	0	278	
04:45	5	13	2	9	0	0	7	22	16:45	172	717	111	442	0	0	283	1159
05:00	5		1		0	0	6		17:00	167		103		0	0	270	
05:15	3		8		0	0	11		17:15	167		117		0	0	284	
05:30	5		7		0	0	12		17:30	192		131		0	0	323	
05:45	16	29	16	32	0	0	32	61	17:45	136	662	99	450	0	0	235	1112
06:00	12		34		0	0	46		18:00	138		107		0	0	245	
06:15	15		45		0	0	60		18:15	115		89		0	0	204	
06:30	28		54		0	0	82		18:30	114		100		0	0	214	
06:45	36	91	94	227	0	0	130	318	18:45	78	445	72	368	0	0	150	813
07:00	45		121		0	0	166		19:00	94		77		0	0	171	
07:15	44		108		0	0	152		19:15	84		76		0	0	160	
07:30	51		119		0	0	170		19:30	73		75		0	0	148	
07:45	52	192	147	495	0	0	199	687	19:45	56	307	57	285	0	0	113	592
08:00	73		118		0	0	191		20:00	56		47		0	0	103	
08:15	66		141		0	0	207		20:15	40		43		0	0	83	
08:30	79		151		0	0	230		20:30	32		46		0	0	78	
08:45	69	287	111	521	0	0	180	808	20:45	28	156	30	166	0	0	58	322
09:00	74		116		0	0	190		21:00	30		34		0	0	64	
09:15	85		98		0	0	183		21:15	28		35		0	0	63	
09:30	60		86		0	0	146		21:30	15		29		0	0	44	
09:45	93	312	103	403	0	0	196	715	21:45	17	90	21	119	0	0	38	209
10:00	83		86		0	0	169		22:00	16		16		0	0	32	
10:15	82		83		0	0	165		22:15	22		9		0	0	31	
10:30	83		109		0	0	192		22:30	26		8		0	0	34	
10:45	108	356	96	374	0	0	204	730	22:45	10	74	8	41	0	0	18	115
11:00	108		101		0	0	209		23:00	9		11		0	0	20	
11:15	118		102		0	0	220		23:15	14		7		0	0	21	
11:30	94		96		0	0	190		23:30	9		4		0	0	13	
11:45	108	428	122	421	0	0	230	849	23:45	4	36	6	28	0	0	10	64
TOTALS		1737		2504				4241	TOTALS		4591		3708				8299
SPLIT %		41.0%		59.0%				33.8%	SPLIT %		55.3%		44.7%				66.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	6,328	6,212	0	0	12,540

AM Peak Hour	11:45		07:45					11:45	PM Peak Hour	15:45		12:00					15:30
AM Pk Volume	454		557					941	PM Pk Volume	718		489					1169
Pk Hr Factor	0.930		0.922					0.923	Pk Hr Factor	0.955		0.919					0.968
7 - 9 Volume	479		1016		0		0	1495	4 - 6 Volume	1379		892		0		0	2271
7 - 9 Peak Hour	08:00		07:45					07:45	4 - 6 Peak Hour	16:00		16:45					16:45
7 - 9 Pk Volume	287		557		0		0	827	4 - 6 Pk Volume	717		462		0		0	1160
Pk Hr Factor	0.908		0.922		0.000		0.000	0.899	Pk Hr Factor	0.953		0.882		0.000		0.000	0.898

Prepared by National Data & Surveying Services

CLASSIFICATION

Camino Del Mar Bet. Coast Blvd & Jimmy Durante Blvd

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	19	0	0	0	0	0	0	0	0	0	0	0	19
01:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
03:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
04:00	0	18	1	0	0	0	0	0	0	0	0	0	0	19
05:00	0	41	3	1	0	0	0	1	0	0	0	0	0	46
06:00	0	170	8	2	2	0	0	1	0	0	0	0	0	183
07:00	2	486	19	2	5	0	0	0	0	0	0	0	0	514
08:00	0	540	15	2	6	0	0	0	0	0	0	0	0	563
09:00	0	420	31	2	3	0	0	3	0	0	0	0	0	459
10:00	1	439	23	2	9	1	0	1	1	0	0	0	0	477
11:00	8	537	22	2	8	0	0	2	1	0	0	0	0	580
12:00 PM	1	581	23	2	7	0	0	0	0	0	0	0	0	614
13:00	0	527	32	2	6	1	0	0	0	0	0	0	0	568
14:00	1	504	22	2	7	0	0	0	0	0	0	0	0	536
15:00	4	678	32	2	7	1	0	0	0	0	0	0	0	724
16:00	1	803	38	3	10	0	0	0	0	0	0	0	0	855
17:00	3	756	18	2	4	0	0	0	0	0	0	0	0	783
18:00	1	491	17	2	4	0	0	0	0	0	0	0	0	515
19:00	2	375	4	1	4	0	0	0	0	0	0	0	0	386
20:00	0	206	4	1	1	0	0	1	0	0	0	0	0	213
21:00	0	131	0	1	1	0	0	0	0	0	0	0	0	133
22:00	0	62	1	0	0	0	0	0	0	0	0	0	0	63
23:00	0	37	0	0	0	0	0	0	0	0	0	0	0	37
Totals	24	7844	315	31	84	3		9	2					8312
% of Totals	0%	94%	4%	0%	1%	0%		0%	0%					100%

AM Volumes	11	2693	124	13	33	1	0	8	2	0	0	0	0	2885
% AM	0%	32%	1%	0%	0%	0%		0%	0%					35%
AM Peak Hour	11:00	08:00	09:00	06:00	10:00	10:00		09:00	10:00					11:00
Volume	8	540	31	2	9	1		3	1					580
PM Volumes	13	5151	191	18	51	2	0	1	0	0	0	0	0	5427
% PM	0%	62%	2%	0%	1%	0%		0%						65%
PM Peak Hour	15:00	16:00	16:00	16:00	16:00	13:00		20:00						16:00
Volume	4	803	38	3	10	1		1						855

Directional Peak Periods All Classes	AM 7-9 Volume	AM 7-9 %	NOON 12-2 Volume	NOON 12-2 %	PM 4-6 Volume	PM 4-6 %	Off Peak Volumes Volume	Off Peak Volumes %
	1077	13%	1182	14%	1638	20%	4415	53%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Camino Del Mar Bet. Coast Blvd & Jimmy Durante Blvd

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_002

DAILY TOTALS	NB	SB	EB	WB	Total
	4,105	4,207	0	0	8,312

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		6		0	0	6		12:00	75		75		0	0	150	
00:15	2		4		0	0	6		12:15	75		74		0	0	149	
00:30	3		1		0	0	4		12:30	73		77		0	0	150	
00:45	2	7	1	12	0	0	3	19	12:45	88	311	77	303	0	0	165	614
01:00	1		3		0	0	4		13:00	59		82		0	0	141	
01:15	0		2		0	0	2		13:15	72		63		0	0	135	
01:30	2		1		0	0	3		13:30	79		65		0	0	144	
01:45	1	4	2	8	0	0	3	12	13:45	70	280	78	288	0	0	148	568
02:00	2		1		0	0	3		14:00	50		62		0	0	112	
02:15	0		1		0	0	1		14:15	73		77		0	0	150	
02:30	1		0		0	0	1		14:30	69		53		0	0	122	
02:45	1	4	0	2	0	0	1	6	14:45	86	278	66	258	0	0	152	536
03:00	3		1		0	0	4		15:00	100		66		0	0	166	
03:15	1		1		0	0	2		15:15	101		67		0	0	168	
03:30	0		1		0	0	1		15:30	115		77		0	0	192	
03:45	0	4	0	3	0	0		7	15:45	132	448	66	276	0	0	198	724
04:00	3		2		0	0	5		16:00	146		70		0	0	216	
04:15	2		1		0	0	3		16:15	139		83		0	0	222	
04:30	2		5		0	0	7		16:30	133		62		0	0	195	
04:45	2	9	2	10	0	0	4	19	16:45	141	559	81	296	0	0	222	855
05:00	1		3		0	0	4		17:00	108		57		0	0	165	
05:15	4		5		0	0	9		17:15	137		74		0	0	211	
05:30	3		7		0	0	10		17:30	125		86		0	0	211	
05:45	10	18	13	28	0	0	23	46	17:45	114	484	82	299	0	0	196	783
06:00	8		21		0	0	29		18:00	81		61		0	0	142	
06:15	12		22		0	0	34		18:15	78		54		0	0	132	
06:30	18		43		0	0	61		18:30	76		54		0	0	130	
06:45	15	53	44	130	0	0	59	183	18:45	61	296	50	219	0	0	111	515
07:00	28		89		0	0	117		19:00	59		64		0	0	123	
07:15	18		87		0	0	105		19:15	54		47		0	0	101	
07:30	25		102		0	0	127		19:30	36		60		0	0	96	
07:45	38	109	127	405	0	0	165	514	19:45	27	176	39	210	0	0	66	386
08:00	36		91		0	0	127		20:00	33		36		0	0	69	
08:15	39		115		0	0	154		20:15	26		29		0	0	55	
08:30	38		116		0	0	154		20:30	24		31		0	0	55	
08:45	39	152	89	411	0	0	128	563	20:45	17	100	17	113	0	0	34	213
09:00	50		70		0	0	120		21:00	21		25		0	0	46	
09:15	47		77		0	0	124		21:15	13		22		0	0	35	
09:30	48		56		0	0	104		21:30	7		22		0	0	29	
09:45	45	190	66	269	0	0	111	459	21:45	10	51	13	82	0	0	23	133
10:00	52		56		0	0	108		22:00	12		14		0	0	26	
10:15	50		60		0	0	110		22:15	11		10		0	0	21	
10:30	58		72		0	0	130		22:30	4		5		0	0	9	
10:45	64	224	65	253	0	0	129	477	22:45	6	33	1	30	0	0	7	63
11:00	70		69		0	0	139		23:00	6		8		0	0	14	
11:15	76		77		0	0	153		23:15	6		3		0	0	9	
11:30	74		63		0	0	137		23:30	3		3		0	0	6	
11:45	77	297	74	283	0	0	151	580	23:45	3	18	5	19	0	0	8	37
TOTALS		1071		1814				**2885**	**TOTALS**		3034		2393				**5427**
SPLIT %		37.1%		62.9%				**34.7%**	**SPLIT %**		55.9%		44.1%				**65.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	4,105	4,207	0	0	8,312

AM Peak Hour	11:15		07:45					**07:45**	**PM Peak Hour**	16:00		12:15					**16:00**
AM Pk Volume	302		449					**600**	**PM Pk Volume**	559		310					**855**
Pk Hr Factor	0.981		0.884					**0.909**	**Pk Hr Factor**	0.957		0.945					**0.963**
7 - 9 Volume	261		816		0		0	**1077**	**4 - 6 Volume**	1043		595		0		0	**1638**
7 - 9 Peak Hour	08:00		07:45					**07:45**	**4 - 6 Peak Hour**	16:00		17:00					**16:00**
7 - 9 Pk Volume	152		449		0		0	**600**	**4 - 6 Pk Volume**	559		299		0		0	**855**
Pk Hr Factor	0.974		0.884		0.000		0.000	**0.909**	**Pk Hr Factor**	0.957		0.869		0.000		0.000	**0.963**

Prepared by National Data & Surveying Services

CLASSIFICATION

Jimmy Durante Blvd Bet. Via De La Valle & S Fair Access

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	25	1	0	0	0	0	0	0	0	0	0	0	26
01:00	0	11	0	0	0	1	0	0	0	0	0	0	0	12
02:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
03:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
04:00	0	20	2	0	0	0	0	1	0	0	0	0	0	23
05:00	0	65	1	0	0	0	0	0	0	0	0	0	0	66
06:00	1	255	12	0	3	2	0	1	2	0	0	0	0	276
07:00	0	474	24	0	7	3	0	4	0	0	0	0	0	512
08:00	0	692	35	0	14	2	0	0	1	0	0	0	0	744
09:00	0	650	45	0	17	2	0	1	0	0	0	0	0	715
10:00	0	602	29	1	13	1	0	1	2	0	0	0	0	649
11:00	0	705	41	0	24	1	0	1	0	0	0	0	0	772
12:00 PM	1	813	49	0	15	2	0	1	2	0	0	0	0	883
13:00	2	766	41	0	17	0	0	0	0	0	0	0	0	826
14:00	0	759	40	0	7	0	0	0	0	0	0	0	0	806
15:00	0	865	55	0	10	0	0	0	0	0	0	0	0	930
16:00	1	1011	58	0	10	0	0	0	0	0	0	0	0	1080
17:00	1	1127	29	0	8	0	0	0	0	0	0	0	0	1165
18:00	4	1167	32	0	8	0	0	0	0	0	0	0	0	1211
19:00	1	1107	33	0	6	0	0	1	0	0	0	0	0	1148
20:00	1	850	25	1	2	0	0	0	0	0	0	0	0	879
21:00	0	240	7	0	0	0	0	0	0	0	0	0	0	247
22:00	0	102	2	0	0	0	0	0	0	0	0	0	0	104
23:00	0	43	0	0	2	0	0	0	0	0	0	0	0	45
Totals	12	12369	563	2	163	14		11	7					13141
% of Totals	0%	94%	4%	0%	1%	0%		0%	0%					100%

AM Volumes	1	3519	192	1	78	12	0	9	5	0	0	0	0	3817
% AM	0%	27%	1%	0%	1%	0%		0%	0%					29%
AM Peak Hour	06:00	11:00	09:00	10:00	11:00	07:00		07:00	06:00					11:00
Volume	1	705	45	1	24	3		4	2					772
PM Volumes	11	8850	371	1	85	2	0	2	2	0	0	0	0	9324
% PM	0%	67%	3%	0%	1%	0%		0%	0%					71%
PM Peak Hour	18:00	18:00	16:00	20:00	13:00	12:00		12:00	12:00					18:00
Volume	4	1167	58	1	17	2		1	2					1211

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1256		10%	1709		13%	2245		17%	7931		60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Jimmy Durante Blvd Bet. Via De La Valle & S Fair Access

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_003

DAILY TOTALS	NB	SB	EB	WB	Total
	7,589	5,552	0	0	13,141

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	7		2		0	0	9		12:00	106		108		0	0	214	
00:15	3		1		0	0	4		12:15	109		109		0	0	218	
00:30	3		4		0	0	7		12:30	117		106		0	0	223	
00:45	4	17	2	9	0	0	6	26	12:45	126	458	102	425	0	0	228	883
01:00	2		0		0	0	2		13:00	123		96		0	0	219	
01:15	4		0		0	0	4		13:15	114		94		0	0	208	
01:30	0		3		0	0	3		13:30	138		74		0	0	212	
01:45	3	9	0	3	0	0	3	12	13:45	118	493	69	333	0	0	187	826
02:00	3		2		0	0	5		14:00	114		80		0	0	194	
02:15	1		0		0	0	1		14:15	114		65		0	0	179	
02:30	4		0		0	0	4		14:30	138		72		0	0	210	
02:45	2	10	1	3	0	0	3	13	14:45	140	506	83	300	0	0	223	806
03:00	0		1		0	0	1		15:00	155		92		0	0	247	
03:15	2		1		0	0	3		15:15	155		73		0	0	228	
03:30	1		3		0	0	4		15:30	147		57		0	0	204	
03:45	0	3	1	6	0	0	1	9	15:45	169	626	82	304	0	0	251	930
04:00	2		1		0	0	3		16:00	170		87		0	0	257	
04:15	1		4		0	0	5		16:15	184		102		0	0	286	
04:30	2		3		0	0	5		16:30	185		90		0	0	275	
04:45	4	9	6	14	0	0	10	23	16:45	181	720	81	360	0	0	262	1080
05:00	6		9		0	0	15		17:00	184		95		0	0	279	
05:15	2		4		0	0	6		17:15	190		108		0	0	298	
05:30	4		15		0	0	19		17:30	136		134		0	0	270	
05:45	6	18	20	48	0	0	26	66	17:45	143	653	175	512	0	0	318	1165
06:00	10		36		0	0	46		18:00	126		216		0	0	342	
06:15	28		26		0	0	54		18:15	114		175		0	0	289	
06:30	12		53		0	0	65		18:30	124		169		0	0	293	
06:45	28	78	83	198	0	0	111	276	18:45	166	530	121	681	0	0	287	1211
07:00	42		61		0	0	103		19:00	179		94		0	0	273	
07:15	35		69		0	0	104		19:15	214		72		0	0	286	
07:30	59		59		0	0	118		19:30	237		57		0	0	294	
07:45	72	208	115	304	0	0	187	512	19:45	236	866	59	282	0	0	295	1148
08:00	86		112		0	0	198		20:00	174		35		0	0	209	
08:15	67		109		0	0	176		20:15	168		39		0	0	207	
08:30	51		118		0	0	169		20:30	309		25		0	0	334	
08:45	92	296	109	448	0	0	201	744	20:45	107	758	22	121	0	0	129	879
09:00	71		83		0	0	154		21:00	62		25		0	0	87	
09:15	94		99		0	0	193		21:15	43		17		0	0	60	
09:30	78		102		0	0	180		21:30	39		19		0	0	58	
09:45	75	318	113	397	0	0	188	715	21:45	29	173	13	74	0	0	42	247
10:00	78		75		0	0	153		22:00	22		14		0	0	36	
10:15	71		81		0	0	152		22:15	19		10		0	0	29	
10:30	95		71		0	0	166		22:30	14		7		0	0	21	
10:45	91	335	87	314	0	0	178	649	22:45	13	68	5	36	0	0	18	104
11:00	97		68		0	0	165		23:00	2		2		0	0	4	
11:15	89		92		0	0	181		23:15	12		4		0	0	16	
11:30	105		91		0	0	196		23:30	6		8		0	0	14	
11:45	118	409	112	363	0	0	230	772	23:45	8	28	3	17	0	0	11	45
TOTALS		1710		2107				3817	TOTALS		5879		3445				9324
SPLIT %		44.8%		55.2%				29.0%	SPLIT %		63.1%		36.9%				71.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,589	5,552	0	0	13,141

AM Peak Hour	11:45	07:45			11:45	PM Peak Hour	19:45	17:45			17:45
AM Pk Volume	450	454			885	PM Pk Volume	887	735			1242
Pk Hr Factor	0.953	0.962			0.962	Pk Hr Factor	0.718	0.851			0.908
7 - 9 Volume	504	752	0	0	1256	4 - 6 Volume	1373	872	0	0	2245
7 - 9 Peak Hour	08:00	07:45			08:00	4 - 6 Peak Hour	16:30	17:00			17:00
7 - 9 Pk Volume	296	454	0	0	744	4 - 6 Pk Volume	740	512	0	0	1165
Pk Hr Factor	0.804	0.962	0.000	0.000	0.925	Pk Hr Factor	0.974	0.731	0.000	0.000	0.916

Prepared by National Data & Surveying Services

CLASSIFICATION

Jimmy Durante Blvd Bet. S Fair Access & Camino Del Mar

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	17	0	0	2	0	0	0	0	0	0	0	0	19
01:00	0	9	0	0	0	1	0	0	0	0	0	0	0	10
02:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
03:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
04:00	0	15	4	0	0	0	0	1	0	0	0	0	0	20
05:00	0	42	0	0	0	0	0	0	0	0	0	0	0	42
06:00	1	139	16	0	5	0	0	1	2	0	0	0	0	164
07:00	0	349	35	0	4	4	0	0	0	0	0	0	0	392
08:00	0	526	42	0	10	2	0	0	1	0	0	0	0	581
09:00	1	474	48	0	20	3	0	0	0	0	0	0	0	546
10:00	2	463	32	0	9	1	0	2	4	0	0	0	0	513
11:00	0	524	36	0	15	0	0	1	0	0	0	0	0	576
12:00 PM	3	580	43	0	11	2	0	0	1	0	0	0	0	640
13:00	5	602	37	0	13	0	0	0	0	0	0	0	0	657
14:00	0	573	35	0	0	0	0	0	0	0	0	0	0	608
15:00	2	764	37	0	12	0	0	0	0	0	0	0	0	815
16:00	6	825	42	0	5	1	0	0	0	0	0	0	0	879
17:00	3	867	27	0	4	0	0	0	0	0	0	0	0	901
18:00	1	616	12	0	2	0	0	1	0	0	0	0	0	632
19:00	3	432	9	0	1	0	0	0	0	0	0	0	0	445
20:00	0	293	11	0	1	0	0	0	0	0	0	0	0	305
21:00	0	190	2	0	1	0	0	0	0	0	0	0	0	193
22:00	0	92	2	0	1	0	0	1	0	0	0	0	0	96
23:00	0	42	0	0	0	0	0	0	0	0	0	0	0	42
Totals	27	8450	470		116	14		7	8					9092
% of Totals	0%	93%	5%		1%	0%		0%	0%					100%

AM Volumes	4	2574	213	0	65	11	0	5	7	0	0	0	0	2879
% AM	0%	28%	2%		1%	0%		0%	0%					32%
AM Peak Hour	10:00	08:00	09:00		09:00	07:00		10:00	10:00					08:00
Volume	2	526	48		20	4		2	4					581
PM Volumes	23	5876	257	0	51	3	0	2	1	0	0	0	0	6213
% PM	0%	65%	3%		1%	0%		0%	0%					68%
PM Peak Hour	16:00	17:00	12:00		13:00	12:00		18:00	12:00					17:00
Volume	6	867	43		13	2		1	1					901

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	973		11%	1297		14%	1780		20%	5042		55%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Jimmy Durante Blvd Bet. S Fair Access & Camino Del Mar

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_004

DAILY TOTALS	NB	SB	EB	WB	Total
	5,214	3,878	0	0	9,092

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	4		1		0	0	5		12:00	73		70		0	0	143	
00:15	1		1		0	0	2		12:15	93		76		0	0	169	
00:30	6		3		0	0	9		12:30	80		91		0	0	171	
00:45	2	13	1	6	0	0	3	19	12:45	91	337	66	303	0	0	157	640
01:00	2		1		0	0	3		13:00	95		85		0	0	180	
01:15	2		0		0	0	2		13:15	90		68		0	0	158	
01:30	0		2		0	0	2		13:30	101		62		0	0	163	
01:45	2	6	1	4	0	0	3	10	13:45	99	385	57	272	0	0	156	657
02:00	2		1		0	0	3		14:00	84		55		0	0	139	
02:15	3		0		0	0	3		14:15	96		49		0	0	145	
02:30	2		0		0	0	2		14:30	86		65		0	0	151	
02:45	2	9	1	2	0	0	3	11	14:45	102	368	71	240	0	0	173	608
03:00	0		0		0	0			15:00	123		82		0	0	205	
03:15	0		0		0	0			15:15	134		63		0	0	197	
03:30	1		2		0	0	3		15:30	134		52		0	0	186	
03:45	0	1	2	4	0	0	2	5	15:45	150	541	77	274	0	0	227	815
04:00	1		1		0	0	2		16:00	139		71		0	0	210	
04:15	1		2		0	0	3		16:15	164		71		0	0	235	
04:30	2		3		0	0	5		16:30	151		64		0	0	215	
04:45	6	10	4	10	0	0	10	20	16:45	166	620	53	259	0	0	219	879
05:00	3		4		0	0	7		17:00	164		85		0	0	249	
05:15	2		3		0	0	5		17:15	181		66		0	0	247	
05:30	4		8		0	0	12		17:30	137		65		0	0	202	
05:45	7	16	11	26	0	0	18	42	17:45	147	629	56	272	0	0	203	901
06:00	9		18		0	0	27		18:00	129		59		0	0	188	
06:15	12		12		0	0	24		18:15	100		53		0	0	153	
06:30	12		25		0	0	37		18:30	92		59		0	0	151	
06:45	24	57	52	107	0	0	76	164	18:45	72	393	68	239	0	0	140	632
07:00	26		43		0	0	69		19:00	55		53		0	0	108	
07:15	35		57		0	0	92		19:15	59		54		0	0	113	
07:30	48		47		0	0	95		19:30	63		50		0	0	113	
07:45	67	176	69	216	0	0	136	392	19:45	54	231	57	214	0	0	111	445
08:00	73		81		0	0	154		20:00	41		40		0	0	81	
08:15	55		79		0	0	134		20:15	36		35		0	0	71	
08:30	43		90		0	0	133		20:30	43		54		0	0	97	
08:45	77	248	83	333	0	0	160	581	20:45	33	153	23	152	0	0	56	305
09:00	67		58		0	0	125		21:00	36		27		0	0	63	
09:15	67		67		0	0	134		21:15	28		12		0	0	40	
09:30	60		79		0	0	139		21:30	30		22		0	0	52	
09:45	60	254	88	292	0	0	148	546	21:45	22	116	16	77	0	0	38	193
10:00	65		60		0	0	125		22:00	24		14		0	0	38	
10:15	67		57		0	0	124		22:15	15		9		0	0	24	
10:30	59		62		0	0	121		22:30	14		5		0	0	19	
10:45	73	264	70	249	0	0	143	513	22:45	10	63	5	33	0	0	15	96
11:00	62		55		0	0	117		23:00	5		1		0	0	6	
11:15	82		82		0	0	164		23:15	9		5		0	0	14	
11:30	76		65		0	0	141		23:30	7		7		0	0	14	
11:45	78	298	76	278	0	0	154	576	23:45	5	26	3	16	0	0	8	42
TOTALS		1352		1527				2879	TOTALS		3862		2351				6213
SPLIT %		47.0%		53.0%				31.7%	SPLIT %		62.2%		37.8%				68.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,214	3,878	0	0	9,092

AM Peak Hour	11:45	08:00					11:45		PM Peak Hour	16:30	12:15					16:30		
AM Pk Volume	324	333					637		PM Pk Volume	662	318					930		
Pk Hr Factor	0.871	0.925					0.931		Pk Hr Factor	0.914	0.874					0.934		
7 - 9 Volume	424	549	0	0			973		4 - 6 Volume	1249	531	0	0			1780		
7 - 9 Peak Hour	08:00	08:00					08:00		4 - 6 Peak Hour	16:30	16:15					16:30		
7 - 9 Pk Volume	248	333	0	0			581		4 - 6 Pk Volume	662	273	0	0			930		
Pk Hr Factor	0.805	0.925	0.000	0.000			0.908		Pk Hr Factor	0.914	0.803	0.000	0.000			0.934		

Prepared by National Data & Surveying Services

CLASSIFICATION

Via De La Valle Bet. Highway 101 & Jimmy Durante Blvd

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	53	1	0	0	0	0	0	0	0	0	0	0	54
01:00	0	30	2	0	0	0	0	0	0	0	0	0	0	32
02:00	0	19	0	0	1	0	0	0	0	0	0	0	0	20
03:00	0	21	1	0	0	0	0	0	0	0	0	0	0	22
04:00	0	56	0	0	1	0	0	0	0	0	0	0	0	57
05:00	1	188	6	0	3	0	0	1	1	0	0	0	0	200
06:00	0	511	29	0	4	1	0	0	4	0	0	0	0	549
07:00	1	1113	51	0	12	4	0	3	4	0	0	0	0	1188
08:00	4	1242	63	0	24	6	0	4	5	1	0	0	0	1349
09:00	2	1101	63	0	28	8	0	0	5	0	0	0	0	1207
10:00	0	1019	56	1	16	4	0	0	3	0	0	0	0	1099
11:00	4	1168	68	0	20	4	0	1	3	0	0	0	0	1268
12:00 PM	2	1195	59	0	14	5	0	2	2	0	0	0	0	1279
13:00	2	1281	80	0	16	4	0	0	5	0	0	0	0	1388
14:00	3	1189	72	0	13	2	0	0	0	0	0	0	0	1279
15:00	6	1261	65	0	12	1	0	1	0	0	0	0	0	1346
16:00	4	1202	67	0	12	0	0	0	0	0	0	0	0	1285
17:00	4	1299	50	0	11	0	0	0	0	0	0	0	0	1364
18:00	2	1128	53	0	7	2	1	1	0	1	0	0	0	1195
19:00	2	798	29	0	3	0	0	0	0	0	0	0	0	832
20:00	0	631	25	0	3	0	0	0	0	0	0	0	0	659
21:00	1	410	14	0	1	0	0	0	0	0	0	0	0	426
22:00	0	214	12	0	0	0	0	0	0	0	0	0	0	226
23:00	0	165	8	0	1	0	0	0	0	0	0	0	0	174
Totals	38	17294	874	1	202	41	1	13	32	2				18498
% of Totals	0%	93%	5%	0%	1%	0%	0%	0%	0%	0%				100%

AM Volumes	12	6521	340	1	109	27	0	9	25	1	0	0	0	7045
% AM	0%	35%	2%	0%	1%	0%		0%	0%	0%				38%
AM Peak Hour	08:00	08:00	11:00	10:00	09:00	09:00		08:00	08:00	08:00				08:00
Volume	4	1242	68	1	28	8		4	5	1				1349
PM Volumes	26	10773	534	0	93	14	1	4	7	1	0	0	0	11453
% PM	0%	58%	3%		1%	0%	0%	0%	0%	0%				62%
PM Peak Hour	15:00	17:00	13:00		13:00	12:00	18:00	12:00	13:00	18:00				13:00
Volume	6	1299	80		16	5	1	2	5	1				1388

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	2537	14%	2667	14%	2649	14%	10645	58%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Via De La Valle Bet. Highway 101 & Jimmy Durante Blvd

Day: Wednesday
Date: 4/25/2018

City: Del Mar
Project #: CA18_4144_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	9,094	9,404	18,498

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	8		6		14		12:00	0	0	164		179		343	
00:15	0	0	13		5		18		12:15	0	0	147		160		307	
00:30	0	0	4		7		11		12:30	0	0	146		161		307	
00:45	0	0	6	31	5	23	11	54	12:45	0	0	150	607	172	672	322	1279
01:00	0	0	5		8		13		13:00	0	0	162		164		326	
01:15	0	0	4		2		6		13:15	0	0	158		188		346	
01:30	0	0	4		6		10		13:30	0	0	183		169		352	
01:45	0	0	1	14	2	18	3	32	13:45	0	0	187	690	177	698	364	1388
02:00	0	0	6		2		8		14:00	0	0	177		163		340	
02:15	0	0	2		0		2		14:15	0	0	162		142		304	
02:30	0	0	3		3		6		14:30	0	0	172		125		297	
02:45	0	0	1	12	3	8	4	20	14:45	0	0	154	665	184	614	338	1279
03:00	0	0	2		2		4		15:00	0	0	182		165		347	
03:15	0	0	2		0		2		15:15	0	0	169		173		342	
03:30	0	0	4		4		8		15:30	0	0	171		171		342	
03:45	0	0	2	10	6	12	8	22	15:45	0	0	107	629	208	717	315	1346
04:00	0	0	3		6		9		16:00	0	0	171		193		364	
04:15	0	0	4		1		5		16:15	0	0	147		196		343	
04:30	0	0	10		10		20		16:30	0	0	122		172		294	
04:45	0	0	10	27	13	30	23	57	16:45	0	0	137	577	147	708	284	1285
05:00	0	0	10		25		35		17:00	0	0	132		187		319	
05:15	0	0	10		22		32		17:15	0	0	147		203		350	
05:30	0	0	19		35		54		17:30	0	0	166		186		352	
05:45	0	0	28	67	51	133	79	200	17:45	0	0	145	590	198	774	343	1364
06:00	0	0	35		44		79		18:00	0	0	166		157		323	
06:15	0	0	44		63		107		18:15	0	0	155		144		299	
06:30	0	0	66		90		156		18:30	0	0	155		158		313	
06:45	0	0	92	237	115	312	207	549	18:45	0	0	125	601	135	594	260	1195
07:00	0	0	128		110		238		19:00	0	0	118		136		254	
07:15	0	0	143		120		263		19:15	0	0	109		103		212	
07:30	0	0	190		139		329		19:30	0	0	109		83		192	
07:45	0	0	168	629	190	559	358	1188	19:45	0	0	97	433	77	399	174	832
08:00	0	0	199		144		343		20:00	0	0	106		74		180	
08:15	0	0	191		156		347		20:15	0	0	83		75		158	
08:30	0	0	198		147		345		20:30	0	0	97		74		171	
08:45	0	0	157	745	157	604	314	1349	20:45	0	0	81	367	69	292	150	659
09:00	0	0	139		172		311		21:00	0	0	64		50		114	
09:15	0	0	169		167		336		21:15	0	0	67		54		121	
09:30	0	0	124		160		284		21:30	0	0	44		56		100	
09:45	0	0	130	562	146	645	276	1207	21:45	0	0	39	214	52	212	91	426
10:00	0	0	138		140		278		22:00	0	0	38		27		65	
10:15	0	0	144		132		276		22:15	0	0	41		19		60	
10:30	0	0	111		145		256		22:30	0	0	41		24		65	
10:45	0	0	133	526	156	573	289	1099	22:45	0	0	21	141	15	85	36	226
11:00	0	0	140		155		295		23:00	0	0	23		18		41	
11:15	0	0	163		158		321		23:15	0	0	25		12		37	
11:30	0	0	137		171		308		23:30	0	0	33		9		42	
11:45	0	0	156	596	188	672	344	1268	23:45	0	0	43	124	11	50	54	174
TOTALS				3456		3589		7045	TOTALS				5638		5815		11453
SPLIT %				49.1%		50.9%		38.1%	SPLIT %				49.2%		50.8%		61.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	9,094	9,404	18,498

AM Peak Hour			07:45		11:30		07:45		PM Peak Hour			13:30		17:00		13:15	
AM Pk Volume			756		698		1393		PM Pk Volume			709		774		1402	
Pk Hr Factor			0.950		0.928		0.973		Pk Hr Factor			0.948		0.953		0.963	
7 - 9 Volume	0	0	1374		1163		2537		4 - 6 Volume	0	0	1167		1482		2649	
7 - 9 Peak Hour			07:45		07:45		07:45		4 - 6 Peak Hour			17:00		17:00		17:00	
7 - 9 Pk Volume	0	0	756		637		1393		4 - 6 Pk Volume	0	0	590		774		1364	
Pk Hr Factor	0.000	0.000	0.950		0.838		0.973		Pk Hr Factor	0.000	0.000	0.889		0.953		0.969	

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hwy 101-Camino Del Mar & Via De La Valle
City: Del Mar
Control: Signalized

Project ID: 18-04143-001
Date: 4/25/2018

Total

NS/EW Streets:	Hwy 101-Camino Del Mar				Hwy 101-Camino Del Mar				Via De La Valle				Via De La Valle				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	0	1	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	29	15	0	55	88	2	1	1	22	4	0	29	9	24	0	281
7:15 AM	1	21	25	0	75	75	3	0	1	27	5	0	25	24	26	0	308
7:30 AM	1	28	25	1	97	94	4	1	0	35	6	0	20	14	36	0	362
7:45 AM	1	23	18	0	108	111	2	2	1	24	8	0	32	28	55	0	413
8:00 AM	2	32	38	2	97	75	0	2	1	35	5	0	27	28	25	0	369
8:15 AM	3	36	23	1	102	103	5	3	0	37	6	0	35	26	44	0	424
8:30 AM	1	43	39	1	98	102	6	4	0	42	5	0	37	17	53	0	448
8:45 AM	6	38	27	1	91	81	3	0	0	25	4	0	29	38	43	0	386
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	17	250	210	6	723	729	25	13	4	247	43	0	234	184	306	0	2991
APPROACH %'s :	3.52%	51.76%	43.48%	1.24%	48.52%	48.93%	1.68%	0.87%	1.36%	84.01%	14.63%	0.00%	32.32%	25.41%	42.27%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	7	134	118	4	405	391	13	11	2	138	24	0	131	99	177	0	1654
PEAK HR FACTOR :	0.583	0.779	0.756	0.500	0.938	0.881	0.542	0.688	0.500	0.821	0.750	0.000	0.885	0.884	0.805	0.000	0.923
	0.783				0.919				0.872				0.885				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	0	1	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	133	26	2	79	70	6	4	1	29	5	0	45	20	100	0	528
4:15 PM	6	153	41	1	46	73	0	2	1	20	5	0	38	33	90	0	509
4:30 PM	11	130	29	0	57	58	3	5	2	29	3	0	45	25	87	0	484
4:45 PM	9	132	33	3	58	76	2	5	1	32	8	0	28	14	84	0	485
5:00 PM	5	137	35	1	41	68	4	6	3	21	7	0	31	32	89	0	480
5:15 PM	5	113	38	3	61	62	6	1	4	26	3	0	55	26	104	0	507
5:30 PM	12	131	47	0	77	78	7	1	0	26	4	0	42	25	83	0	533
5:45 PM	12	101	39	1	63	70	4	7	1	23	5	0	39	30	86	0	481
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	68	1030	288	11	482	555	32	31	13	206	40	0	323	205	723	0	4007
APPROACH %'s :	4.87%	73.73%	20.62%	0.79%	43.82%	50.45%	2.91%	2.82%	5.02%	79.54%	15.44%	0.00%	25.82%	16.39%	57.79%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	34	548	129	6	240	277	11	16	5	110	21	0	156	92	361	0	2006
PEAK HR FACTOR :	0.773	0.895	0.787	0.500	0.759	0.911	0.458	0.800	0.625	0.859	0.656	0.000	0.867	0.697	0.903	0.000	0.950
	0.892				0.855				0.829				0.923				

Prepared by National Data & Surveying Services

Hwy 101-Camino Del Mar & Via De La Valle

Peak Hour Turning Movement Count

ID: 18-04143-001
City: Del Mar

Day: Wednesday
Date: 04/25/2018

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Hwy 101-Camino Del Mar — SOUTHBOUND

AM	13	391	405	11	324	AM
NOON	0	0	0	0	0	NOON
PM	11	277	240	16	930	PM

Via De La Valle — EASTBOUND

AM	NOON	PM	
119	0	137	
0	0	0	0
2	0	5	0
138	0	110	1
24	0	21	0

CONTROL

Signalized

TEV	1654	0	2006
	AM	NOON	PM
PHF	0.92		0.95

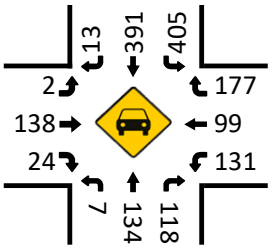
WESTBOUND — Via De La Valle

PM	NOON	AM	
361	0	177	1
92	0	99	1
156	0	131	1
0	0	0	0
479	0	661	

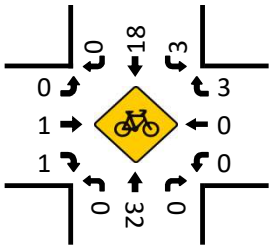
Hwy 101-Camino Del Mar — NORTHBOUND

PM	460	6	34	548	129	PM
NOON	0	0	0	0	0	NOON
AM	550	4	7	134	118	AM

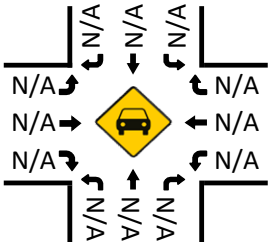
Total Vehicles (AM)



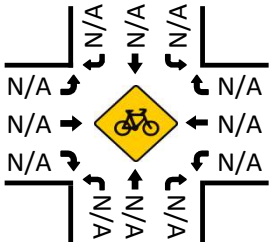
Bikes (AM)



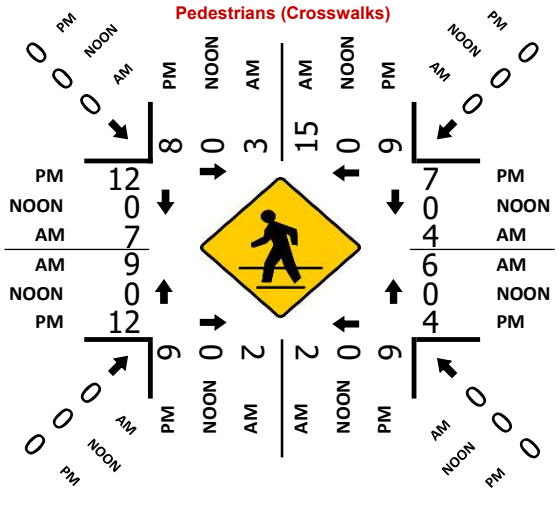
Total Vehicles (Noon)



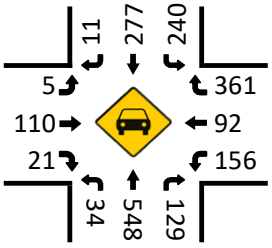
Bikes (NOON)



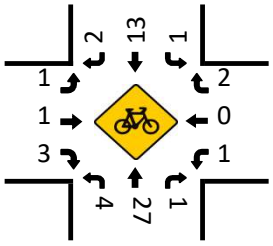
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Camino Del Mar & Coast Blvd
City: Del Mar
Control: 4-Way Stop (NB/SB/EB/WB)

Project ID: 18-04143-002
Date: 4/25/2018

Total

NS/EW Streets:	Camino Del Mar				Camino Del Mar				Coast Blvd				Coast Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	1	1	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	25	1	0	0	82	14	4	7	0	2	0	0	0	0	0	136
7:15 AM	1	17	0	0	0	85	10	4	12	0	5	0	2	0	1	0	137
7:30 AM	2	25	1	0	2	94	13	0	12	0	0	0	4	2	2	0	157
7:45 AM	4	35	0	0	0	126	13	0	14	1	4	0	2	0	1	0	200
8:00 AM	3	31	1	0	2	87	10	4	9	0	4	0	1	0	3	0	155
8:15 AM	2	33	0	0	1	103	22	2	15	0	5	0	1	0	1	0	185
8:30 AM	0	40	2	0	0	118	19	1	11	0	5	0	1	0	2	0	199
8:45 AM	3	38	0	0	1	80	17	2	15	0	2	0	1	0	1	0	160
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	16	244	5	0	6	775	118	17	95	1	27	0	12	2	11	0	1329
APPROACH %'s :	6.04%	92.08%	1.89%	0.00%	0.66%	84.61%	12.88%	1.86%	77.24%	0.81%	21.95%	0.00%	48.00%	8.00%	44.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	9	139	3	0	3	434	64	7	49	1	18	0	5	0	7	0	739
PEAK HR FACTOR :	0.563	0.869	0.375	0.000	0.375	0.861	0.727	0.438	0.817	0.250	0.900	0.000	0.625	0.000	0.583	0.000	0.924
	0.899				0.914				0.850				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	1	1	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	153	0	1	3	69	30	0	26	0	2	0	2	0	0	0	287
4:15 PM	6	125	1	2	0	70	24	3	30	0	5	0	1	0	0	0	267
4:30 PM	1	139	1	0	0	59	23	1	19	0	4	0	1	0	1	0	249
4:45 PM	3	131	0	1	0	76	23	0	27	0	5	0	0	0	1	0	267
5:00 PM	4	113	2	0	0	54	18	0	23	0	0	0	1	0	0	0	215
5:15 PM	1	134	0	1	1	75	23	1	33	0	4	0	1	0	0	0	274
5:30 PM	4	127	2	1	0	78	16	0	27	0	4	0	1	0	0	0	260
5:45 PM	2	99	1	0	0	80	18	1	19	0	4	0	0	0	0	0	224
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	22	1021	7	6	4	561	175	6	204	0	28	0	7	0	2	0	2043
APPROACH %'s :	2.08%	96.69%	0.66%	0.57%	0.54%	75.20%	23.46%	0.80%	87.93%	0.00%	12.07%	0.00%	77.78%	0.00%	22.22%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	11	548	2	4	3	274	100	4	102	0	16	0	4	0	2	0	1070
PEAK HR FACTOR :	0.458	0.895	0.500	0.500	0.250	0.901	0.833	0.333	0.850	0.000	0.800	0.000	0.500	0.000	0.500	0.000	0.932
	0.911				0.934				0.843				0.750				

Prepared by National Data & Surveying Services

Camino Del Mar & Coast Blvd

Peak Hour Turning Movement Count

ID: 18-04143-002
City: Del Mar

Day: Wednesday
Date: 04/25/2018

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Camino Del Mar — SOUTHBOUND

AM	64	434	3	7	202	AM
NOON	0	0	0	0	0	NOON
PM	100	274	3	4	656	PM

EASTBOUND (Coast Blvd)

AM	NOON	PM		
73	0	111		
0	0	0	0	
49	0	102	0	
1	0	0	0.5	
18	0	16	0.5	

WESTBOUND (Coast Blvd)

PM	NOON	AM	
2	0	7	0
0	0	0	1
4	0	5	0
0	0	0	0
5	0	7	

CONTROL

4-Way Stop (NB/SB/EB/WB)

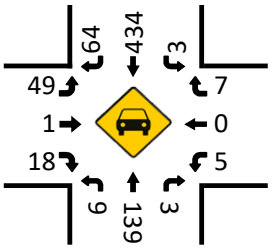
TEV	739 AM	0 NOON	1070 PM
PHF	0.92		0.93

NORTHBOUND — Camino Del Mar

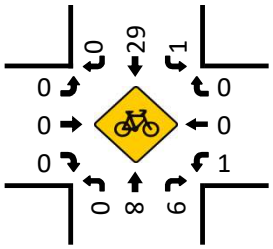
PM	298	4	11	548	2	PM
NOON	0	0	0	0	0	NOON
AM	457	0	9	139	3	AM

Turning movements: 1 1 1 0 (SB) | 0 1 2 0 (NB)

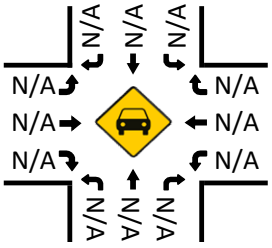
Total Vehicles (AM)



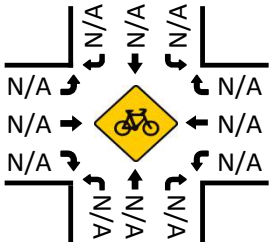
Bikes (AM)



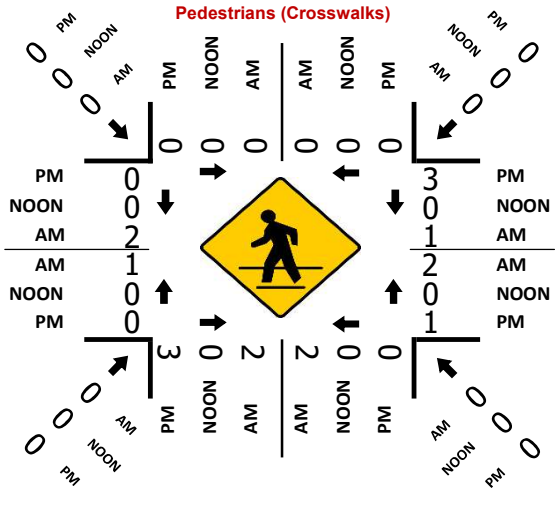
Total Vehicles (Noon)



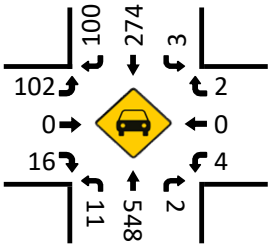
Bikes (NOON)



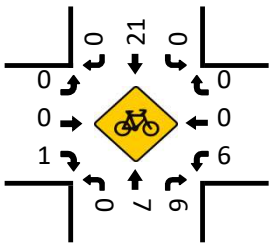
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Jimmy Durante Blvd & Via De La Valle
City: Del Mar
Control: Signalized

Project ID: 18-04143-003
Date: 4/25/2018

Total

NS/EW Streets:	Jimmy Durante Blvd				Jimmy Durante Blvd				Via De La Valle				Via De La Valle				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	2	0	2	1	1	0	1	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	12	35	0	90	14	11	0	4	118	5	0	54	99	67	0	512
7:15 AM	4	7	39	0	108	20	9	0	7	146	3	0	76	120	107	0	646
7:30 AM	6	8	54	0	146	16	10	0	11	164	7	0	63	113	140	0	738
7:45 AM	8	20	60	0	148	29	19	0	9	156	13	0	84	172	92	0	810
8:00 AM	4	36	52	0	144	38	21	0	15	176	10	0	84	135	66	0	781
8:15 AM	7	14	59	1	151	31	22	0	16	178	10	0	108	147	82	0	826
8:30 AM	4	9	68	0	83	24	7	0	13	199	12	0	95	149	99	0	762
8:45 AM	4	23	69	0	117	25	19	0	12	151	9	0	112	146	111	0	798
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	40	129	436	1	987	197	118	0	87	1288	69	0	676	1081	764	0	5873
APPROACH %'s :	6.60%	21.29%	71.95%	0.17%	75.81%	15.13%	9.06%	0.00%	6.02%	89.20%	4.78%	0.00%	26.81%	42.88%	30.31%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	23	79	239	1	526	122	69	0	53	709	45	0	371	603	339	0	3179
PEAK HR FACTOR :	0.719	0.549	0.879	0.250	0.871	0.803	0.784	0.000	0.828	0.891	0.865	0.000	0.859	0.876	0.856	0.000	0.962
	0.929				0.879				0.901				0.943				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	2	0	2	1	1	0	1	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	24	35	144	0	116	20	15	0	15	138	10	0	111	210	94	0	932
4:15 PM	20	53	158	0	93	23	12	0	12	151	7	0	85	197	123	0	934
4:30 PM	18	33	158	0	110	19	17	0	10	116	11	0	93	157	108	0	850
4:45 PM	15	42	151	0	79	18	14	0	9	103	18	0	100	142	110	0	801
5:00 PM	17	47	170	0	79	30	14	0	7	132	6	0	132	167	89	0	890
5:15 PM	30	52	175	0	89	34	18	0	8	107	19	0	158	156	71	0	917
5:30 PM	26	40	173	0	109	31	18	0	7	156	18	0	154	163	111	0	1006
5:45 PM	16	36	112	0	81	41	16	0	16	110	21	1	215	199	108	0	972
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	166	338	1241	0	756	216	124	0	84	1013	110	1	1048	1391	814	0	7302
APPROACH %'s :	9.51%	19.37%	71.12%	0.00%	68.98%	19.71%	11.31%	0.00%	6.95%	83.86%	9.11%	0.08%	32.22%	42.76%	25.02%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	89	175	630	0	358	136	66	0	38	505	64	1	659	685	379	0	3785
PEAK HR FACTOR :	0.742	0.841	0.900	0.000	0.821	0.829	0.917	0.000	0.594	0.809	0.762	0.250	0.766	0.861	0.854	0.000	0.941
	0.870				0.886				0.840				0.825				

Prepared by National Data & Surveying Services

Jimmy Durante Blvd & Via De La Valle

Peak Hour Turning Movement Count

ID: 18-04143-003
City: Del Mar

Day: Wednesday
Date: 04/25/2018

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Jimmy Durante Blvd — SOUTHBOUND

AM	69	122	526	0	471	AM
NOON	0	0	0	0	0	NOON
PM	66	136	358	0	592	PM

Via De La Valle — EASTBOUND

AM	NOON	PM		
695	0	841		
0	0	1	0	
53	0	38	1	
709	0	505	2	
45	0	64	0	
AM	NOON	PM		

Via De La Valle — WESTBOUND

PM	NOON	AM		
379	0	339	0	
685	0	603	2	
659	0	371	2	
0	0	0	0	
1493	0	1474		
PM	NOON	AM		

Jimmy Durante Blvd — NORTHBOUND

PM	859	0	89	175	630	PM
NOON	0	0	0	0	0	NOON
AM	539	1	23	79	239	AM

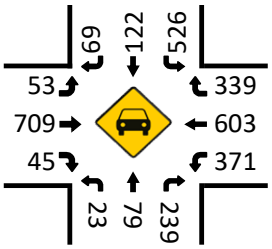
	1	1	2	0
	0	1	1	2

CONTROL

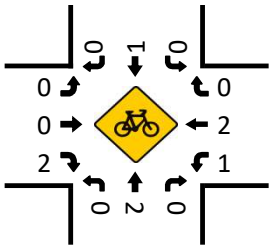
Signalized

TEV	3179 AM	0 NOON	3785 PM
PHF	0.96		0.94

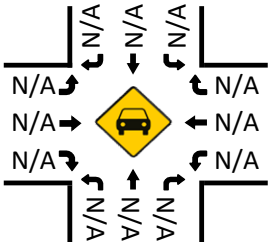
Total Vehicles (AM)



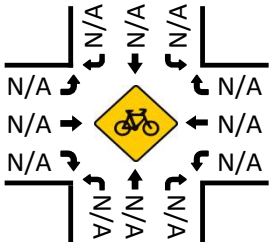
Bikes (AM)



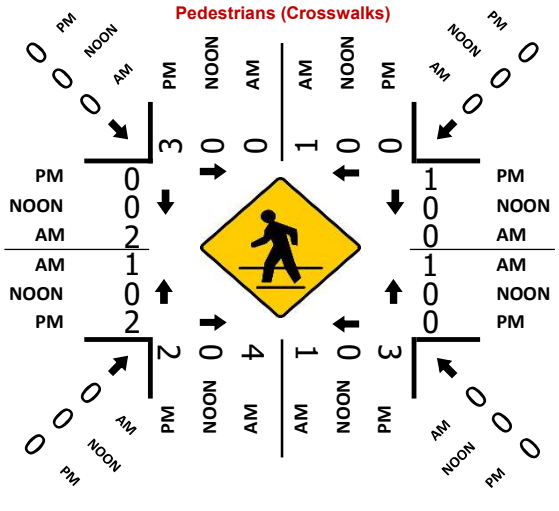
Total Vehicles (Noon)



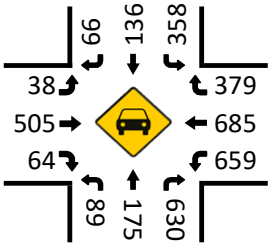
Bikes (NOON)



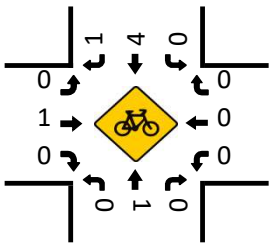
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Jimmy Durante Blvd & San Dieguito Dr
City: Del Mar
Control: 3-Way Yield (NB/SB/WB)

Project ID: 18-04143-004
Date: 4/25/2018

Total

NS/EW Streets:	Jimmy Durante Blvd				Jimmy Durante Blvd				San Dieguito Dr				San Dieguito Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	37	0	0	6	45	2	0	0	0	0	0	2	0	3	0	95
7:15 AM	0	28	1	0	6	63	1	0	0	0	0	0	1	0	4	0	104
7:30 AM	0	44	3	0	6	43	0	1	0	5	1	0	4	2	9	0	118
7:45 AM	0	61	2	0	9	89	3	0	0	0	0	0	3	2	8	0	177
8:00 AM	0	73	6	0	8	91	4	0	2	0	1	0	2	0	11	0	198
8:15 AM	0	55	1	0	10	100	0	0	0	2	1	0	3	0	6	0	178
8:30 AM	0	41	1	0	3	104	1	1	0	0	0	0	2	2	9	0	164
8:45 AM	4	77	1	0	10	87	1	0	3	0	2	0	5	0	7	0	197
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	416	15	0	58	622	12	2	5	7	5	0	22	6	57	0	1231
APPROACH %'s :	0.92%	95.63%	3.45%	0.00%	8.36%	89.63%	1.73%	0.29%	29.41%	41.18%	29.41%	0.00%	25.88%	7.06%	67.06%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	4	246	9	0	31	382	6	1	5	2	4	0	12	2	33	0	737
PEAK HR FACTOR :	0.250	0.799	0.375	0.000	0.775	0.918	0.375	0.250	0.417	0.250	0.500	0.000	0.600	0.250	0.750	0.000	0.931
		0.790				0.955				0.550				0.904			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	130	5	0	7	75	2	0	1	0	2	0	2	1	11	0	236
4:15 PM	0	158	9	1	6	70	1	1	3	0	0	0	1	0	16	0	266
4:30 PM	0	157	6	0	16	63	1	0	8	0	0	0	3	1	13	0	268
4:45 PM	1	161	4	0	11	52	2	0	2	0	1	1	1	0	10	0	246
5:00 PM	1	161	6	1	7	72	0	0	2	0	0	0	2	0	15	0	267
5:15 PM	0	180	4	0	9	69	0	2	0	0	0	0	0	0	6	0	270
5:30 PM	1	141	7	0	12	60	3	0	1	0	2	0	1	0	6	0	234
5:45 PM	0	142	12	0	4	58	2	1	1	1	0	0	2	1	7	0	231
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	1230	53	2	72	519	11	4	18	1	5	1	12	3	84	0	2018
APPROACH %'s :	0.23%	95.50%	4.11%	0.16%	11.88%	85.64%	1.82%	0.66%	72.00%	4.00%	20.00%	4.00%	12.12%	3.03%	84.85%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	2	659	20	1	43	256	3	2	12	0	1	1	6	1	44	0	1051
PEAK HR FACTOR :	0.500	0.915	0.833	0.250	0.672	0.889	0.375	0.250	0.375	0.000	0.250	0.250	0.500	0.250	0.733	0.000	0.973
		0.927				0.950				0.438				0.750			

Prepared by National Data & Surveying Services

Jimmy Durante Blvd & San Dieguito Dr

Peak Hour Turning Movement Count

ID: 18-04143-004
City: Del Mar

Day: Wednesday
Date: 04/25/2018

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

Jimmy Durante Blvd — SOUTHBOUND

AM	6	382	31	1	285	AM
NOON	0	0	0	0	0	NOON
PM	3	256	43	2	717	PM

San Dieguito Dr — EASTBOUND

AM	NOON	PM	
12	0	7	
0	0	1	0
5	0	12	0
2	0	0	0
4	0	1	1
AM	NOON	PM	

WESTBOUND — San Dieguito Dr

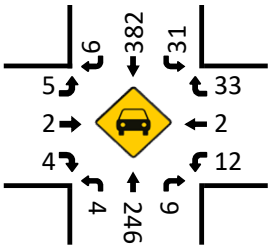
PM	NOON	AM	
44	0	33	1
1	0	2	0
6	0	12	0
0	0	0	0
63	0	42	
PM	NOON	AM	

NORTHBOUND — Jimmy Durante Blvd

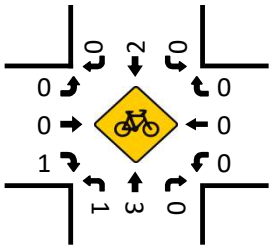
PM	264	1	2	659	20	PM
NOON	0	0	0	0	0	NOON
AM	398	0	4	246	9	AM

CONTROL			
3-Way Yield (NB/SB/WB)			
TEV	737 AM	0 NOON	1051 PM
PHF	0.93		0.97

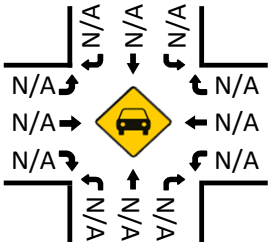
Total Vehicles (AM)



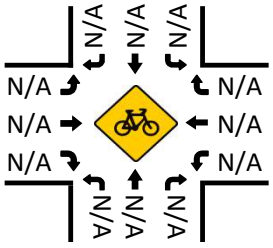
Bikes (AM)



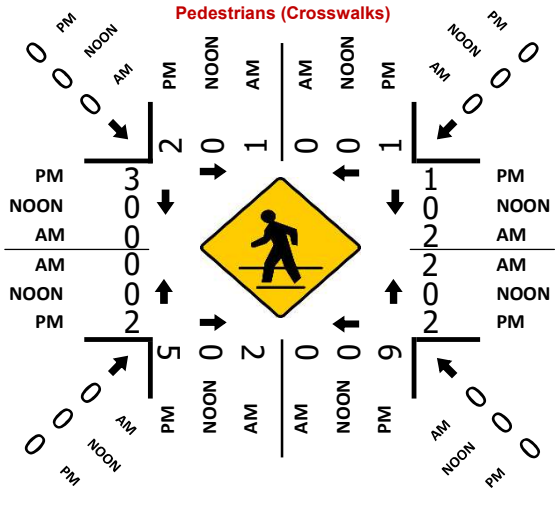
Total Vehicles (Noon)



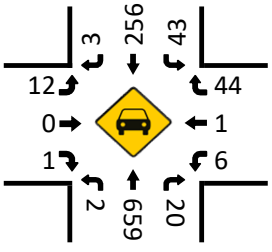
Bikes (NOON)



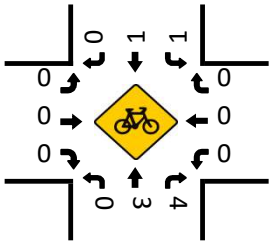
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Camino Del Mar & L'Auberge Del Mar/Plaza Parking
City: Del Mar
Control: Signalized

Project ID: 18-04155-001
Date: 5/3/2018

Total

NS/EW Streets:	Camino Del Mar				Camino Del Mar				L'Auberge Del Mar/Plaza Parking				L'Auberge Del Mar/Plaza Parking				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0.3	0.3	0.3	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	55	0	1	1	99	5	6	4	0	3	0	0	0	0	0	177
7:15 AM	2	52	1	0	1	118	1	6	3	0	1	0	0	0	0	0	185
7:30 AM	4	53	0	0	4	178	2	6	1	0	2	0	0	0	1	0	251
7:45 AM	3	87	0	0	3	176	5	9	0	0	3	0	0	0	0	0	286
8:00 AM	1	108	0	0	1	140	5	7	1	0	5	0	0	0	1	0	269
8:15 AM	4	80	2	0	4	175	3	8	6	1	1	0	0	0	1	0	285
8:30 AM	2	92	5	1	3	186	5	8	5	0	3	0	0	0	1	0	311
8:45 AM	6	102	5	0	5	147	3	6	6	0	4	0	1	0	2	0	287
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	25	629	13	2	22	1219	29	56	26	1	22	0	1	0	6	0	2051
APPROACH %'s :	3.74%	94.02%	1.94%	0.30%	1.66%	91.93%	2.19%	4.22%	53.06%	2.04%	44.90%	0.00%	14.29%	0.00%	85.71%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	13	382	12	1	13	648	16	29	18	1	13	0	1	0	5	0	1152
PEAK HR FACTOR :	0.542	0.884	0.600	0.250	0.650	0.871	0.800	0.906	0.750	0.250	0.650	0.000	0.250	0.000	0.625	0.000	0.926
	0.903				0.874				0.800				0.500				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0.3	0.3	0.3	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	315	2	2	5	153	5	8	5	0	5	0	6	0	2	0	511
4:15 PM	1	298	6	1	4	128	4	15	4	0	4	0	2	0	6	0	473
4:30 PM	3	268	6	0	3	134	7	6	8	0	6	0	2	0	3	0	446
4:45 PM	1	273	5	2	7	135	5	5	5	0	2	0	7	0	5	0	452
5:00 PM	0	266	3	0	7	129	3	7	4	0	4	0	6	0	7	0	436
5:15 PM	4	226	4	1	9	121	4	9	10	0	5	0	3	0	10	0	406
5:30 PM	2	271	6	0	5	136	5	6	4	0	4	0	7	0	8	0	454
5:45 PM	3	221	7	1	6	121	4	4	9	0	3	0	2	0	5	0	386
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	17	2138	39	7	46	1057	37	60	49	0	33	0	35	0	46	0	3564
APPROACH %'s :	0.77%	97.14%	1.77%	0.32%	3.83%	88.08%	3.08%	5.00%	59.76%	0.00%	40.24%	0.00%	43.21%	0.00%	56.79%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	8	1154	19	5	19	550	21	34	22	0	17	0	17	0	16	0	1882
PEAK HR FACTOR :	0.667	0.916	0.792	0.625	0.679	0.899	0.750	0.567	0.688	0.000	0.708	0.000	0.607	0.000	0.667	0.000	0.921
	0.921				0.912				0.696				0.688				

Prepared by National Data & Surveying Services

Camino Del Mar & L'Auberge Del Mar/Plaza Parking

Peak Hour Turning Movement Count

ID: 18-04155-001
City: Del Mar

Day: Thursday
Date: 05/03/2018

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Camino Del Mar — SOUTHBOUND

AM	16	648	13	29	434	AM
NOON	0	0	0	0	0	NOON
PM	21	550	19	34	1226	PM

L'Auberge Del Mar/Plaza Parking — EASTBOUND

AM	NOON	PM		
29	0	29		
0	0	0	0	
18	0	22	0.3	
1	0	0	0.3	
13	0	17	0.3	
AM	NOON	PM		

L'Auberge Del Mar/Plaza Parking — WESTBOUND

PM	NOON	AM		
16	0	5	0.5	
0	0	0	0.5	
17	0	1	1	
0	0	0	0	
38	0	26		
PM	NOON	AM		

Camino Del Mar — NORTHBOUND

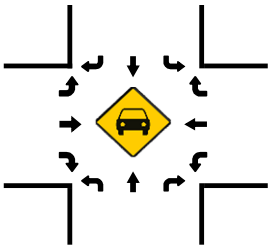
PM	589	5	8	1154	19	PM
NOON	0	0	0	0	0	NOON
AM	663	1	13	382	12	AM

	0	2	1	0
	0	1	2	0

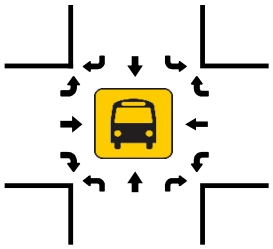
CONTROL: Signalized

TEV	1152 AM	0 NOON	1882 PM
PHF	0.93		0.92

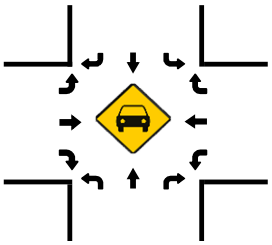
Total Vehicles (AM)



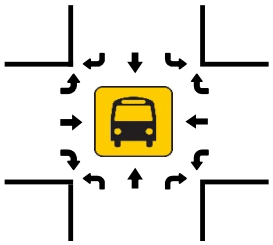
Total Vehicles (AM)



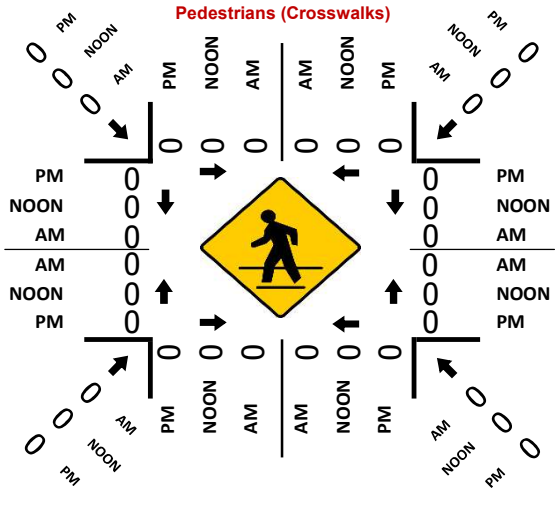
Total Vehicles (NOON)



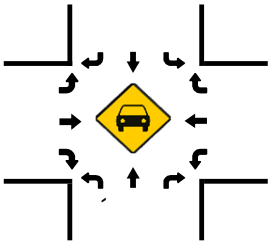
Total Vehicles (NOON)



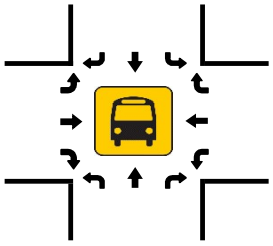
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Camino Del Mar & 15th St
City: Del Mar
Control: Signalized

Project ID: 18-04155-002
Date: 5/3/2018

Total

NS/EW Streets:	Camino Del Mar				Camino Del Mar				15th St				15th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0.5	0.5	1	0	1.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	44	5	1	17	75	11	3	5	1	8	0	3	1	11	0	195
7:15 AM	9	41	7	0	12	100	7	1	2	1	11	0	10	2	15	0	218
7:30 AM	12	40	8	0	19	154	12	2	0	0	15	0	6	4	16	0	288
7:45 AM	18	73	8	1	15	157	8	3	7	0	15	0	7	3	13	0	328
8:00 AM	18	69	17	1	20	103	10	4	11	4	15	0	8	0	24	0	304
8:15 AM	14	71	16	0	33	149	9	4	7	3	14	0	13	1	13	0	347
8:30 AM	16	70	20	0	18	142	12	5	11	1	23	0	4	5	11	0	338
8:45 AM	19	68	20	3	11	118	14	1	12	0	32	0	5	4	15	0	322
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	116	476	101	6	145	998	83	23	55	10	133	0	56	20	118	0	2340
APPROACH %'s :	16.60%	68.10%	14.45%	0.86%	11.61%	79.90%	6.65%	1.84%	27.78%	5.05%	67.17%	0.00%	28.87%	10.31%	60.82%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	66	283	61	2	86	551	39	16	36	8	67	0	32	9	61	0	1317
PEAK HR FACTOR :	0.917	0.969	0.763	0.500	0.652	0.877	0.813	0.800	0.818	0.500	0.728	0.000	0.615	0.450	0.635	0.000	0.949
	0.972				0.887				0.793				0.797				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0.5	0.5	1	0	1.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	21	265	6	1	23	124	18	3	13	3	17	0	12	4	31	0	541
4:15 PM	13	265	14	0	25	92	10	5	13	5	17	0	11	7	28	0	505
4:30 PM	22	225	12	0	13	122	17	3	14	1	31	0	8	4	34	0	506
4:45 PM	22	240	8	3	19	112	19	3	14	1	19	0	9	7	23	0	499
5:00 PM	17	217	17	0	7	103	22	1	10	1	24	0	3	10	29	0	461
5:15 PM	28	206	14	0	23	87	12	4	16	1	23	0	7	4	22	0	447
5:30 PM	22	235	22	0	15	108	25	1	6	4	22	0	3	7	23	0	493
5:45 PM	26	200	19	1	16	89	23	6	13	4	19	0	14	4	27	0	461
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	171	1853	112	5	141	837	146	26	99	20	172	0	67	47	217	0	3913
APPROACH %'s :	7.99%	86.55%	5.23%	0.23%	12.26%	72.78%	12.70%	2.26%	34.02%	6.87%	59.11%	0.00%	20.24%	14.20%	65.56%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	78	995	40	4	80	450	64	14	54	10	84	0	40	22	116	0	2051
PEAK HR FACTOR :	0.886	0.939	0.714	0.333	0.800	0.907	0.842	0.700	0.964	0.500	0.677	0.000	0.833	0.786	0.853	0.000	0.948
	0.953				0.905				0.804				0.947				

Prepared by National Data & Surveying Services

Camino Del Mar & 15th St

Peak Hour Turning Movement Count

ID: 18-04155-002
City: Del Mar

Day: Thursday
Date: 05/03/2018

PEAK HOURS		COUNT PERIODS
AM	07:45 AM - 08:45 AM	AM
NOON	NONE	NOON
PM	04:00 PM - 05:00 PM	PM

AM	39	551	86	16	396	AM
NOON	0	0	0	0	0	NOON
PM	64	450	80	14	1179	PM

PM	578	4	78	995	40	PM
NOON	0	0	0	0	0	NOON
AM	652	2	66	283	61	AM

EASTBOUND				
AM	NOON	PM		
114	0	164	⇦	
0	0	0	↶	0
36	0	54	↱	0.5
8	0	10	→	0.5
67	0	84	↷	1
AM	NOON	PM		

WESTBOUND				
PM	NOON	AM		
116	0	61	↶	1
22	0	9	←	0.5
40	0	32	↰	1.5
0	0	0	↷	0
130	0	155	⇨	
PM	NOON	AM		

0	2	1	0	
0	1	2	0	

CONTROL			
Signalized			
TEV	1317 AM	0 NOON	2051 PM
PHF	0.95		0.95

Camino Del Mar

SOUTHBOUND

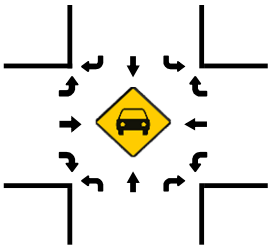
NORTHBOUND

Camino Del Mar

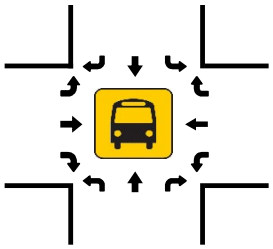
15th St

15th St

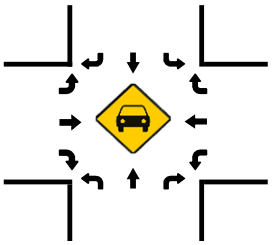
Total Vehicles (AM)



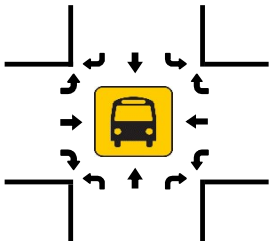
Total Vehicles (AM)



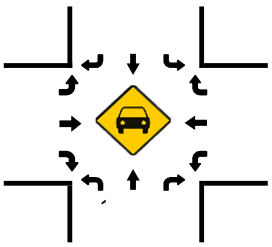
Total Vehicles (NOON)



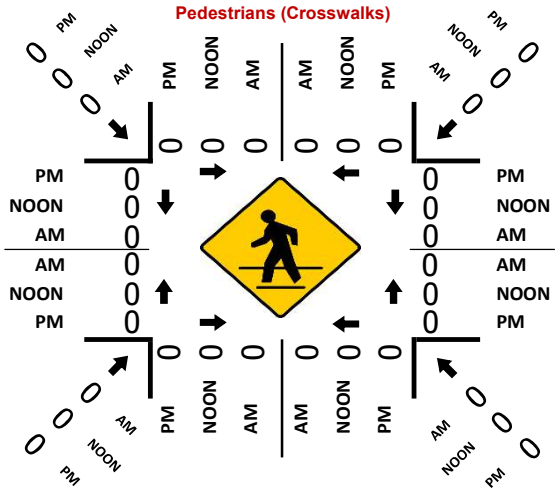
Total Vehicles (NOON)



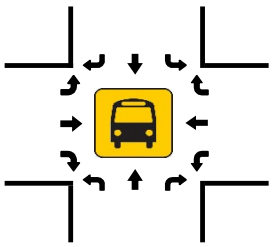
Total Vehicles (PM)



Pedestrians (Crosswalks)



Total Vehicles (PM)



Appendix B

Existing HCM Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	138	24	131	99	177	4	7	134	118	11	405
Future Volume (vph)	2	138	24	131	99	177	4	7	134	118	11	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00	0.95	1.00		1.00
Frt		0.98		1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected		1.00		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1825		1770	1863	1583		1770	3539	1583		1770
Flt Permitted		1.00		0.62	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		1820		1161	1863	1583		1770	3539	1583		1770
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	150	26	142	108	192	4	8	146	128	12	440
RTOR Reduction (vph)	0	7	0	0	0	150	0	0	0	101	0	0
Lane Group Flow (vph)	0	171	0	142	108	42	0	12	146	27	0	452
Turn Type	Perm	NA		Perm	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4			4		5	5	2		1	1
Permitted Phases	4			4		4				2		
Actuated Green, G (s)		14.7		14.7	14.7	14.7		1.2	14.0	14.0		22.2
Effective Green, g (s)		14.7		14.7	14.7	14.7		1.2	14.0	14.0		22.2
Actuated g/C Ratio		0.22		0.22	0.22	0.22		0.02	0.21	0.21		0.33
Clearance Time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		397		253	406	345		31	736	329		583
v/s Ratio Prot					0.06			0.01	0.04			c0.26
v/s Ratio Perm		0.09		c0.12		0.03				0.02		
v/c Ratio		0.43		0.56	0.27	0.12		0.39	0.20	0.08		0.78
Uniform Delay, d1		22.7		23.4	21.8	21.1		32.7	22.0	21.5		20.3
Progression Factor		1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.8		2.8	0.4	0.2		7.8	0.1	0.1		6.4
Delay (s)		23.4		26.3	22.2	21.3		40.5	22.1	21.6		26.7
Level of Service		C		C	C	C		D	C	C		C
Approach Delay (s)		23.4			23.1				22.7			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	67.3	Sum of lost time (s)	16.4
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	391	13
Future Volume (vph)	391	13
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	
Lane Util. Factor	0.95	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	3522	
Flt Permitted	1.00	
Satd. Flow (perm)	3522	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	425	14
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	437	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	35.0	
Effective Green, g (s)	35.0	
Actuated g/C Ratio	0.52	
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1831	
v/s Ratio Prot	c0.12	
v/s Ratio Perm		
v/c Ratio	0.24	
Uniform Delay, d1	8.8	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	8.9	
Level of Service	A	
Approach Delay (s)	17.9	
Approach LOS	B	

Intersection Summary

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	49	1	18	5	0	7	9	139	3	7	3	434
Future Vol, veh/h	49	1	18	5	0	7	9	139	3	7	3	434
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	53	1	20	5	0	8	10	151	3	8	3	472
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	10.1	9	10.5	15.3
HCM LOS	B	A	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	72%	42%	100%	0%	0%
Vol Thru, %	0%	98%	1%	0%	0%	100%	0%
Vol Right, %	0%	2%	26%	58%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	142	68	12	10	434	64
LT Vol	9	0	49	5	10	0	0
Through Vol	0	139	1	0	0	434	0
RT Vol	0	3	18	7	0	0	64
Lane Flow Rate	10	154	74	13	11	472	70
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.017	0.251	0.131	0.022	0.017	0.651	0.082
Departure Headway (Hd)	6.383	5.865	6.37	6.118	5.47	4.968	4.265
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	558	608	560	580	653	726	838
Service Time	4.153	3.635	4.147	3.91	3.211	2.709	2.005
HCM Lane V/C Ratio	0.018	0.253	0.132	0.022	0.017	0.65	0.084
HCM Control Delay	9.3	10.6	10.1	9	8.3	16.6	7.4
HCM Lane LOS	A	B	B	A	A	C	A
HCM 95th-tile Q	0.1	1	0.4	0.1	0.1	4.8	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	64
Future Vol, veh/h	64
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	70
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	18	1	13	1	0	5	14	382	12	29	13	648
Future Volume (vph)	18	1	13	1	0	5	14	382	12	29	13	648
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6		4.0	5.3			4.6	5.3
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95			1.00	0.95
Frt		0.94		1.00	0.85		1.00	1.00			1.00	1.00
Flt Protected		0.97		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)		1711		1770	1583		1770	3523			1770	3527
Flt Permitted		1.00		1.00	1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)		1759		1863	1583		1770	3523			1770	3527
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)	19	1	14	1	0	5	15	411	13	31	14	697
RTOR Reduction (vph)	0	13	0	0	5	0	0	2	0	0	0	1
Lane Group Flow (vph)	0	21	0	1	0	0	15	422	0	0	45	713
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Actuated Green, G (s)		1.8		1.8	1.8		0.8	15.0			1.9	16.7
Effective Green, g (s)		1.8		1.8	1.8		0.8	15.0			1.9	16.7
Actuated g/C Ratio		0.05		0.05	0.05		0.02	0.45			0.06	0.50
Clearance Time (s)		4.6		4.6	4.6		4.0	5.3			4.6	5.3
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		95		101	85		42	1591			101	1774
v/s Ratio Prot					0.00		0.01	0.12			c0.03	c0.20
v/s Ratio Perm		c0.01		0.00								
v/c Ratio		0.22		0.01	0.00		0.36	0.27			0.45	0.40
Uniform Delay, d1		15.0		14.9	14.9		15.9	5.7			15.1	5.1
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		1.2		0.0	0.0		5.1	0.1			3.1	0.1
Delay (s)		16.2		14.9	14.9		21.1	5.8			18.3	5.3
Level of Service		B		B	B		C	A			B	A
Approach Delay (s)		16.2			14.9			6.3				6.1
Approach LOS		B			B			A				A

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	33.2	Sum of lost time (s)	14.5
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	16
Future Volume (vph)	16
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

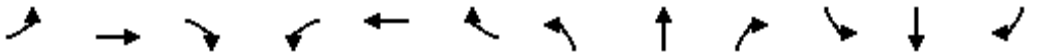
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	36	8	67	32	9	61	2	66	283	61	16	86
Future Volume (vph)	36	8	67	32	9	61	2	66	283	61	16	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00		1.00	0.95			1.00
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.97			1.00
Flt Protected		0.96	1.00	0.95	0.97	1.00		0.95	1.00			0.95
Satd. Flow (prot)		1789	1583	1681	1719	1583		1770	3445			1770
Flt Permitted		0.96	1.00	0.95	0.97	1.00		0.95	1.00			0.95
Satd. Flow (perm)		1789	1583	1681	1719	1583		1770	3445			1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	8	71	34	9	64	2	69	298	64	17	91
RTOR Reduction (vph)	0	0	64	0	0	59	0	0	10	0	0	0
Lane Group Flow (vph)	0	46	7	21	22	5	0	71	352	0	0	108
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	7	7		8	8		5	5	2		1	1
Permitted Phases			7			8						
Actuated Green, G (s)		5.7	5.7	4.9	4.9	4.9		6.6	21.4			7.7
Effective Green, g (s)		5.7	5.7	4.9	4.9	4.9		6.6	21.4			7.7
Actuated g/C Ratio		0.10	0.10	0.08	0.08	0.08		0.11	0.37			0.13
Clearance Time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		174	154	140	143	132		199	1260			232
v/s Ratio Prot		c0.03		0.01	c0.01			0.04	0.10			c0.06
v/s Ratio Perm			0.00			0.00						
v/c Ratio		0.26	0.04	0.15	0.15	0.04		0.36	0.28			0.47
Uniform Delay, d1		24.5	23.9	24.9	24.9	24.6		24.0	13.1			23.5
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Incremental Delay, d2		0.8	0.1	0.5	0.5	0.1		1.1	0.1			1.5
Delay (s)		25.3	24.1	25.4	25.4	24.8		25.1	13.2			25.0
Level of Service		C	C	C	C	C		C	B			C
Approach Delay (s)		24.5			25.0				15.2			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	58.5	Sum of lost time (s)	20.8
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	551	39
Future Volume (vph)	551	39
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3504	
Flt Permitted	1.00	
Satd. Flow (perm)	3504	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	580	41
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	618	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	22.8	
Effective Green, g (s)	22.8	
Actuated g/C Ratio	0.39	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1365	
v/s Ratio Prot	c0.18	
v/s Ratio Perm		
v/c Ratio	0.45	
Uniform Delay, d1	13.2	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	13.5	
Level of Service	B	
Approach Delay (s)	15.2	
Approach LOS	B	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	709	45	371	603	339	24	79	239	526	122	69
Future Volume (vph)	53	709	45	371	603	339	24	79	239	526	122	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3507		3433	3348		1770	1863	2787	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3507		3433	3348		1770	1863	2787	3433	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	55	739	47	386	628	353	25	82	249	548	127	72
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	225	0	0	56
Lane Group Flow (vph)	55	784	0	386	981	0	25	82	24	548	127	16
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases									2			1
Actuated Green, G (s)	7.6	32.7		18.0	43.2		10.6	10.6	10.6	25.0	25.0	25.0
Effective Green, g (s)	7.6	32.7		18.0	43.2		10.6	10.6	10.6	25.0	25.0	25.0
Actuated g/C Ratio	0.07	0.30		0.16	0.39		0.10	0.10	0.10	0.23	0.23	0.23
Clearance Time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	122	1044		562	1317		170	179	269	781	424	360
v/s Ratio Prot	0.03	0.22		c0.11	c0.29		0.01	c0.04		c0.16	0.07	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.45	0.75		0.69	0.74		0.15	0.46	0.09	0.70	0.30	0.05
Uniform Delay, d1	49.1	34.9		43.2	28.6		45.5	46.9	45.2	39.0	35.1	33.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	3.1		3.5	2.3		0.4	1.9	0.1	2.9	0.4	0.1
Delay (s)	51.7	38.0		46.7	30.9		45.9	48.7	45.3	41.8	35.5	33.1
Level of Service	D	D		D	C		D	D	D	D	D	C
Approach Delay (s)		38.9			35.4			46.2			39.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	38.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	23.5
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	11	50	279	451
Demand Flow Rate, veh/h	11	51	284	460
Vehicles Circulating, veh/h	467	279	42	19
Vehicles Exiting, veh/h	12	47	436	311
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.3	4.9	5.9	7.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	11	51	284	460
Cap Entry Lane, veh/h	708	855	1083	1109
Entry HV Adj Factor	0.996	0.980	0.981	0.980
Flow Entry, veh/h	11	50	279	451
Cap Entry, veh/h	706	837	1063	1086
V/C Ratio	0.016	0.060	0.262	0.415
Control Delay, s/veh	5.3	4.9	5.9	7.7
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	5	110	21	156	92	361	6	34	548	129	16	240
Future Volume (vph)	5	110	21	156	92	361	6	34	548	129	16	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00	0.95	1.00		1.00
Frt		0.98		1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected		1.00		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1821		1770	1863	1583		1770	3539	1583		1770
Flt Permitted		0.99		0.68	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		1807		1259	1863	1583		1770	3539	1583		1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	116	22	164	97	380	6	36	577	136	17	253
RTOR Reduction (vph)	0	7	0	0	0	294	0	0	0	98	0	0
Lane Group Flow (vph)	0	136	0	164	97	86	0	42	577	38	0	270
Turn Type	Perm	NA		Perm	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4			4		5	5	2		1	1
Permitted Phases	4			4		4				2		
Actuated Green, G (s)		17.1		17.1	17.1	17.1		4.5	21.2	21.2		20.6
Effective Green, g (s)		17.1		17.1	17.1	17.1		4.5	21.2	21.2		20.6
Actuated g/C Ratio		0.23		0.23	0.23	0.23		0.06	0.28	0.28		0.27
Clearance Time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		410		285	423	359		105	996	445		484
v/s Ratio Prot					0.05			0.02	c0.16			c0.15
v/s Ratio Perm		0.08		c0.13		0.05				0.02		
v/c Ratio		0.33		0.58	0.23	0.24		0.40	0.58	0.09		0.56
Uniform Delay, d1		24.3		25.9	23.7	23.8		34.1	23.2	19.9		23.4
Progression Factor		1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.5		2.8	0.3	0.3		2.5	0.8	0.1		1.4
Delay (s)		24.8		28.7	24.0	24.1		36.6	24.0	20.0		24.8
Level of Service		C		C	C	C		D	C	C		C
Approach Delay (s)		24.8			25.3				24.0			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	75.3	Sum of lost time (s)	16.4
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	277	11
Future Volume (vph)	277	11
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3518	
Flt Permitted	1.00	
Satd. Flow (perm)	3518	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	292	12
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	301	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	37.3	
Effective Green, g (s)	37.3	
Actuated g/C Ratio	0.50	
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1742	
v/s Ratio Prot	0.09	
v/s Ratio Perm		
v/c Ratio	0.17	
Uniform Delay, d1	10.5	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	10.5	
Level of Service	B	
Approach Delay (s)	17.3	
Approach LOS	B	

Intersection Summary

Intersection	
Intersection Delay, s/veh	35.8
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Vol, veh/h	102	0	16	4	0	2	4	11	548	2	4	3
Future Vol, veh/h	102	0	16	4	0	2	4	11	548	2	4	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	0	17	4	0	2	4	12	589	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	12.9	10.5	56.7	12.3
HCM LOS	B	B	F	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	86%	67%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	0%	100%	0%
Vol Right, %	0%	0%	14%	33%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	550	118	6	7	274	100
LT Vol	15	0	102	4	7	0	0
Through Vol	0	548	0	0	0	274	0
RT Vol	0	2	16	2	0	0	100
Lane Flow Rate	16	591	127	6	8	295	108
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.029	0.988	0.263	0.014	0.013	0.474	0.152
Departure Headway (Hd)	6.519	6.012	7.462	7.656	6.299	5.793	5.083
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	549	603	481	466	568	622	704
Service Time	4.26	3.752	5.221	5.434	4.04	3.533	2.823
HCM Lane V/C Ratio	0.029	0.98	0.264	0.013	0.014	0.474	0.153
HCM Control Delay	9.5	58	12.9	10.5	9.1	13.7	8.7
HCM Lane LOS	A	F	B	B	A	B	A
HCM 95th-tile Q	0.1	14.4	1	0	0	2.5	0.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBT	SBR
Lane Configurations		
Traffic Vol, veh/h	274	100
Future Vol, veh/h	274	100
Peak Hour Factor	0.93	0.93
Heavy Vehicles, %	2	2
Mvmt Flow	295	108
Number of Lanes	1	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	22	0	17	17	0	16	5	8	1154	19	34	19
Future Volume (vph)	22	0	17	17	0	16	5	8	1154	19	34	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6			4.0	5.3			4.6
Lane Util. Factor		1.00		1.00	1.00			1.00	0.95			1.00
Frt		0.94		1.00	0.85			1.00	1.00			1.00
Flt Protected		0.97		0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)		1706		1770	1583			1770	3530			1770
Flt Permitted		1.00		1.00	1.00			0.95	1.00			0.95
Satd. Flow (perm)		1755		1863	1583			1770	3530			1770
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)	24	0	18	18	0	17	5	9	1254	21	37	21
RTOR Reduction (vph)	0	40	0	0	16	0	0	0	1	0	0	0
Lane Group Flow (vph)	0	2	0	18	1	0	0	14	1274	0	0	58
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8								
Actuated Green, G (s)		3.0		3.0	3.0			1.4	37.3			5.2
Effective Green, g (s)		3.0		3.0	3.0			1.4	37.3			5.2
Actuated g/C Ratio		0.05		0.05	0.05			0.02	0.62			0.09
Clearance Time (s)		4.6		4.6	4.6			4.0	5.3			4.6
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		87		93	79			41	2194			153
v/s Ratio Prot					0.00			0.01	c0.36			c0.03
v/s Ratio Perm		0.00		c0.01								
v/c Ratio		0.02		0.19	0.01			0.34	0.58			0.38
Uniform Delay, d1		27.1		27.3	27.1			28.8	6.7			25.9
Progression Factor		1.00		1.00	1.00			0.84	1.86			1.00
Incremental Delay, d2		0.1		1.0	0.1			4.4	1.0			1.6
Delay (s)		27.2		28.4	27.1			28.7	13.5			27.4
Level of Service		C		C	C			C	B			C
Approach Delay (s)		27.2			27.8				13.7			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	550	21
Future Volume (vph)	550	21
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3520	
Flt Permitted	1.00	
Satd. Flow (perm)	3520	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	598	23
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	619	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	41.7	
Effective Green, g (s)	41.7	
Actuated g/C Ratio	0.70	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2446	
v/s Ratio Prot	c0.18	
v/s Ratio Perm		
v/c Ratio	0.25	
Uniform Delay, d1	3.4	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	3.6	
Level of Service	A	
Approach Delay (s)	5.7	
Approach LOS	A	

Intersection Summary

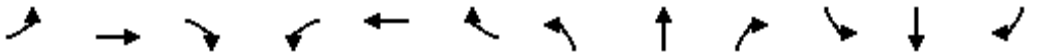
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	54	10	84	40	22	116	4	78	995	40	14	80
Future Volume (vph)	54	10	84	40	22	116	4	78	995	40	14	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00		1.00	0.95			1.00
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.99			1.00
Flt Protected		0.96	1.00	0.95	0.99	1.00		0.95	1.00			0.95
Satd. Flow (prot)		1788	1583	1681	1743	1583		1770	3519			1770
Flt Permitted		0.96	1.00	0.95	0.99	1.00		0.95	1.00			0.95
Satd. Flow (perm)		1788	1583	1681	1743	1583		1770	3519			1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	11	88	42	23	122	4	82	1047	42	15	84
RTOR Reduction (vph)	0	0	81	0	0	114	0	0	1	0	0	0
Lane Group Flow (vph)	0	68	7	32	33	8	0	86	1088	0	0	99
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	7	7		8	8		5	5	2		1	1
Permitted Phases			7			8						
Actuated Green, G (s)		9.9	9.9	7.8	7.8	7.8		14.4	71.5			12.0
Effective Green, g (s)		9.9	9.9	7.8	7.8	7.8		14.4	71.5			12.0
Actuated g/C Ratio		0.08	0.08	0.06	0.06	0.06		0.12	0.60			0.10
Clearance Time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		147	130	109	113	102		212	2096			177
v/s Ratio Prot		c0.04		c0.02	0.02			0.05	c0.31			c0.06
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.46	0.06	0.29	0.29	0.08		0.41	0.52			0.56
Uniform Delay, d1		52.5	50.7	53.5	53.5	52.7		48.8	14.2			51.5
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.10
Incremental Delay, d2		2.3	0.2	1.5	1.4	0.3		1.3	0.9			3.8
Delay (s)		54.8	50.9	55.0	54.9	53.0		50.1	15.1			60.5
Level of Service		D	D	D	D	D		D	B			E
Approach Delay (s)		52.6			53.7				17.7			
Approach LOS		D			D				B			

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	450	64
Future Volume (vph)	450	64
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	3473	
Flt Permitted	1.00	
Satd. Flow (perm)	3473	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	474	67
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	536	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	69.4	
Effective Green, g (s)	69.4	
Actuated g/C Ratio	0.58	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2008	
v/s Ratio Prot	0.15	
v/s Ratio Perm		
v/c Ratio	0.27	
Uniform Delay, d1	12.6	
Progression Factor	1.09	
Incremental Delay, d2	0.3	
Delay (s)	14.0	
Level of Service	B	
Approach Delay (s)	21.2	
Approach LOS	C	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	505	64	659	685	379	89	175	630	358	136	66
Future Volume (vph)	39	505	64	659	685	379	89	175	630	358	136	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.98		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3480		3433	3350		1770	1863	2787	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3480		3433	3350		1770	1863	2787	3433	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	41	537	68	701	729	403	95	186	670	381	145	70
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	552	0	0	58
Lane Group Flow (vph)	41	600	0	701	1132	0	95	186	118	381	145	12
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases									2			1
Actuated Green, G (s)	7.1	29.8		32.2	55.0		22.8	22.8	22.8	21.6	21.6	21.6
Effective Green, g (s)	7.1	29.8		32.2	55.0		22.8	22.8	22.8	21.6	21.6	21.6
Actuated g/C Ratio	0.05	0.23		0.25	0.42		0.18	0.18	0.18	0.17	0.17	0.17
Clearance Time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	96	798		850	1418		310	326	489	570	309	263
v/s Ratio Prot	0.02	0.17		c0.20	c0.34		0.05	c0.10		c0.11	0.08	
v/s Ratio Perm									0.04			0.01
v/c Ratio	0.43	0.75		0.82	0.80		0.31	0.57	0.24	0.67	0.47	0.04
Uniform Delay, d1	59.4	46.6		46.2	32.6		46.7	49.1	46.1	50.8	49.0	45.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	4.0		6.5	3.2		0.6	2.4	0.3	3.0	1.1	0.1
Delay (s)	62.5	50.6		52.7	35.9		47.2	51.5	46.4	53.8	50.1	45.6
Level of Service	E	D		D	D		D	D	D	D	D	D
Approach Delay (s)		51.4			42.3			47.4			51.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	129.9	Sum of lost time (s)	23.5
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	11.0
Intersection LOS	B

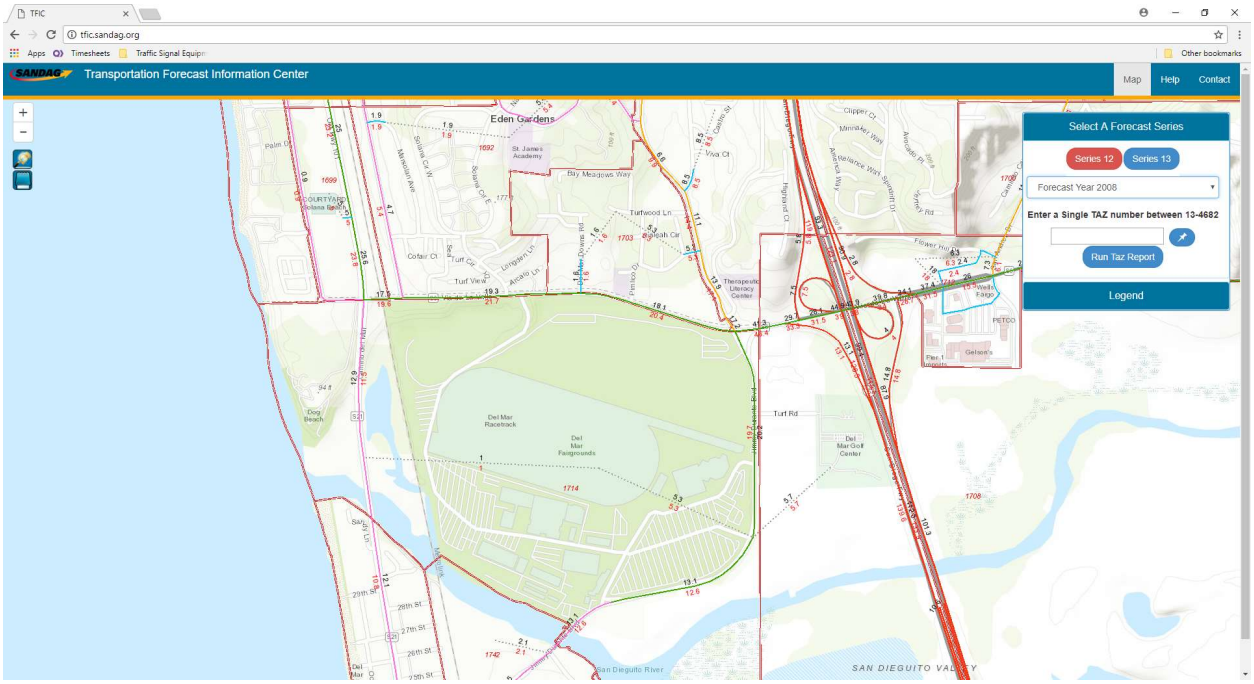
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	14	52	703	313
Demand Flow Rate, veh/h	14	53	717	319
Vehicles Circulating, veh/h	322	709	60	10
Vehicles Exiting, veh/h	7	68	276	752
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.6	7.8	13.6	6.0
Approach LOS	A	A	B	A

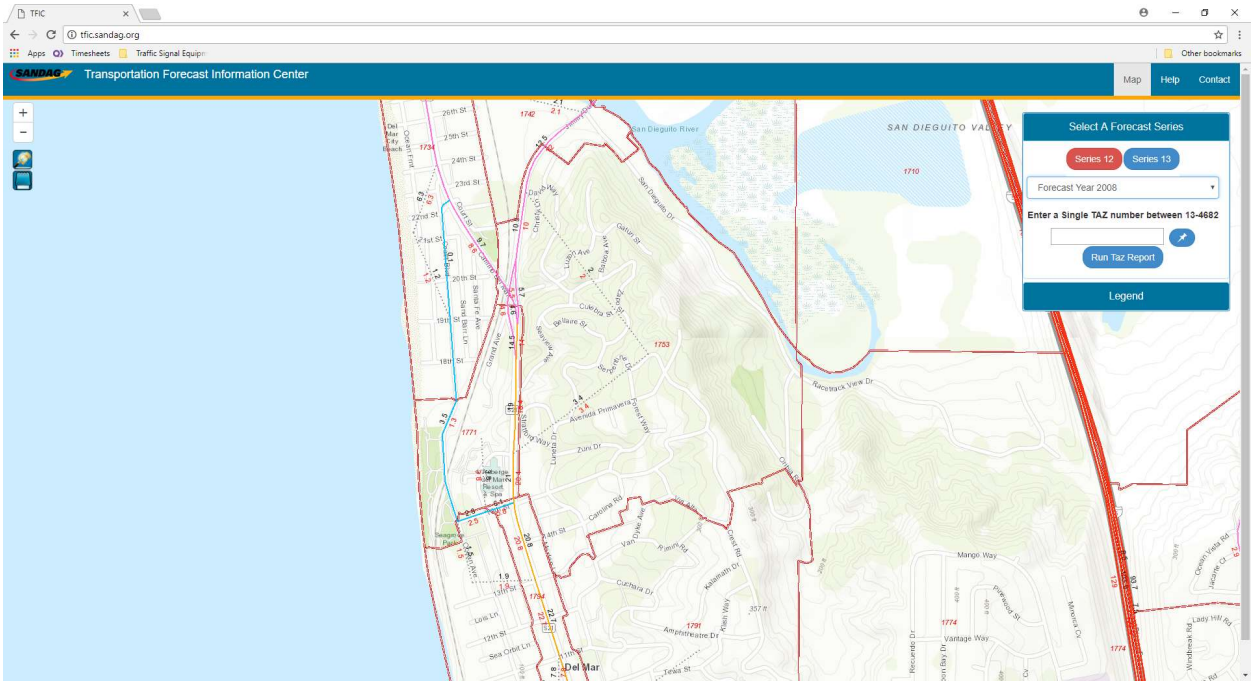
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	14	53	717	319
Cap Entry Lane, veh/h	819	556	1064	1119
Entry HV Adj Factor	1.000	0.981	0.981	0.980
Flow Entry, veh/h	14	52	703	313
Cap Entry, veh/h	819	545	1044	1097
V/C Ratio	0.017	0.095	0.674	0.285
Control Delay, s/veh	4.6	7.8	13.6	6.0
LOS	A	A	B	A
95th %tile Queue, veh	0	0	5	1

Appendix C

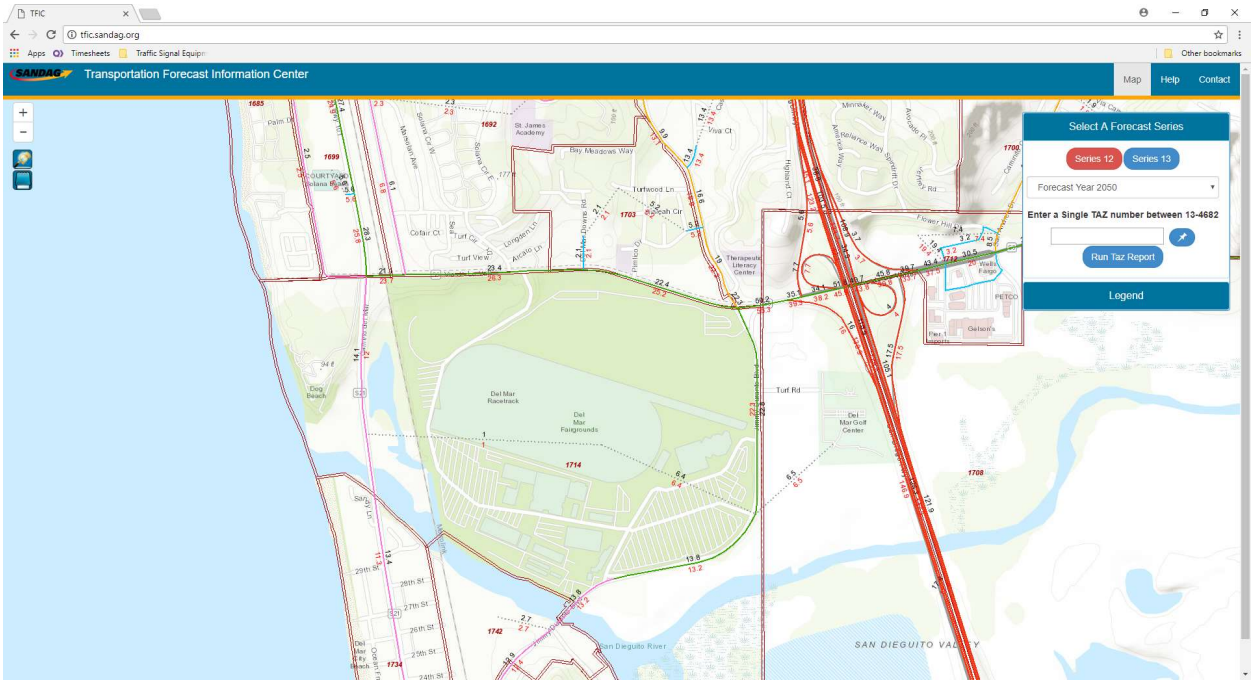
SANDAG Series 12 Model and Growth Calculation

Series 12 Year 2008





Year 2050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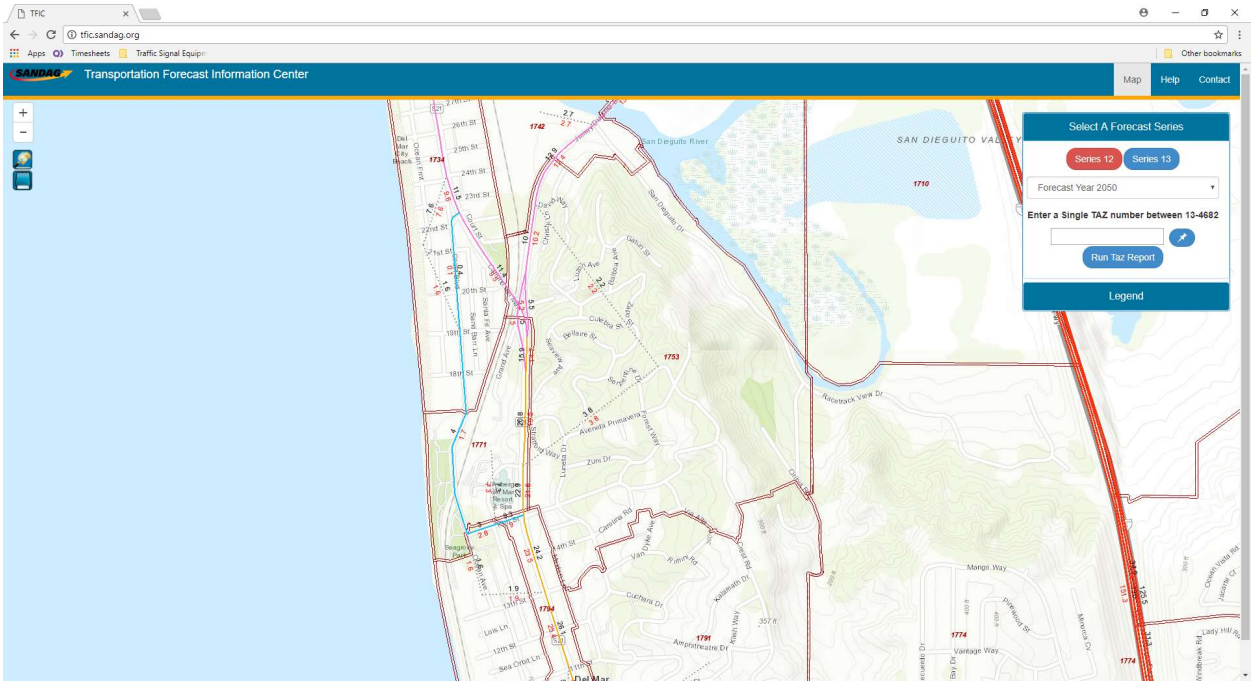
tfic.sandag.org
Transportation Forecast Information Center
Map
Help
Contact
Select A Forecast Series
Series 12
Series 13
Forecast Year 2050
Enter a Single TAZ number between 13-4682
Run Taz Report
Legend
SAN DIEGUITO VALLEY


TFIC
tfic.sandag.org
Transportation Forecast Information Center
Map
Help
Contact
Select A Forecast Series
Series 12
Series 13
Forecast Year 2050
Enter a Single TAZ number between 13-4682
Run Taz Report
Legend
SAN DIEGUITO VALLEY

Camino Del Mar Bridge Project Growth Factor Calculation

	SEG ID	Segments	2008 SANDAG Series 12 Model	2050 SANDAG Series 12 Model	Interpolated 2040 ADT
Camino Del Mar/Hwy 101	1	N/o Via De La Ville	25,600	28,300	27,657
	2	Via De La Ville - Coast Blvd	12,500	13,750	13,452
	3	Coast Blvd - Jimmi Durante Blvd	9,700	11,400	10,995
	4	Jimmi Durante Blvd - L'Auberge Del Mar	19,000	20,800	20,371
	5	L'Auberge Del Mar - 15th St	21,000	22,900	22,448
	6	S/o 15th St	20,800	24,200	23,390
Valley Ave	7	N/o Via De La Valle	17,200	22,300	21,086
Jimmi Durante Blvd	8	S/o Via De La Valle	20,200	22,800	22,181
	9	N/O San Dieguito Dr	13,100	13,800	13,633
	10	San Dieguito Dr to Camino Del Mar	11,500	11,800	11,729
Border Ave	11	W/o Camino Del Mar	900	2,500	2,119
Via De La Valle	12	Camino Del Mar to Jimmy Durante Blvd	18,300	22,300	21,348
	13	E/o Jimmy Durante Blvd	41,300	50,200	48,081
Coast Blvd	14	W/o Camino Del Mar	100	400	329
15th St	15	W/o Camino Del Mar	6100	9300	8,538

AM **#1** N/S Street: Highway 101 E/W Street: Via De La Valle AM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**Via De La Valle**		**%**				**Northbound**		**N of**	**Via De La Valle**				
	Left	**11**	NB	313	28%	NB	594	**12**	Left	**350**	NB	350	12	**+12**	**+12**	**12**
14,580	Thru	**134**	SB	820	72%	SB	1556	**144**	Thru	**1556**	SB	1556	147	**+147**	**+147**	**147**
14580	Right	**118**	Sum	**1133**		**Enter**	**27660**	**127**	Right		Sum	**1905**	130	**+130**	**+130**	**130**
	Southbound	**S. of**	**Via De La Valle**						**Southbound**		**S of**	**Via De La Valle**				
	Left	**416**	NB	263	33%	NB	282	**789**	Left	**282**	NB	282	458	**+789**	**+460**	**460**
12,540	Thru	**391**	SB	546	67%	SB	586	**742**	Thru	**911**	SB	911	430	**+742**	**+450**	**450**
	Right	**13**	Sum	**809**		**Enter**	**13452**	**25**	Right		Sum	**1193**	14	**+25**	**+25**	**25**
	Eastbound	**E. of**	**Highway 101**						**Eastbound**		**E of**	**Highway 101**				
	Left	**2**	EB	672	62%	EB	776	**1**	Left	**1018**	EB	1018	2	**+2**	**+2**	**2**
18,498	Thru	**138**	WB	407	38%	WB	470	**102**	Thru	**470**	WB	470	152	**+152**	**+152**	**152**
	Right	**24**	Sum	**1079**		**Enter**	**21350**	**18**	Right		Sum	**1487**	26	**+26**	**+26**	**26**
	Westbound	**W.of**	**Highway 101**						**Westbound**		**W of**	**Highway 101**				
	Left	**131**	EB	164	57%	EB	121	**151**	Left	**121**	EB	121	144	**+151**	**+151**	**151**
2,870	Thru	**99**	WB	123	43%	WB	91	**114**	Thru	**151**	WB	151	109	**+114**	**+114**	**114**
2870	Right	**177**	Sum	**287**		**Enter**	**2120**	**204**	Right		Sum	**272**	195	**+204**	**+204**	**204**

PM N/S Street: Highway 101 E/W Street: Via De La Valle PM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**Via De La Valle**		**%**				**Northbound**		**N of**	**Via De La Valle**				
	Left	**40**	NB	914	63%	NB	1734	**43**	Left	**1008**	NB	1008	44	**+44**	**+44**	**44**
14,580	Thru	**548**	SB	544	37%	SB	1032	**588**	Thru	**1032**	SB	1032	603	**+603**	**+603**	**603**
	Right	**129**	Sum	**1458**		**Enter**	**27660**	**138**	Right		Sum	**2040**	142	**+142**	**+142**	**142**
	Southbound	**S. of**	**Via De La Valle**						**Southbound**		**S of**	**Via De La Valle**				
	Left	**256**	NB	717	61%	NB	769	**486**	Left	**769**	NB	769	282	**+486**	**+350**	**350**
12,540	Thru	**277**	SB	454	39%	SB	487	**526**	Thru	**721**	SB	721	305	**+526**	**+400**	**400**
	Right	**11**	Sum	**1171**		**Enter**	**13452**	**21**	Right		Sum	**1490**	12	**+21**	**+21**	**21**
	Eastbound	**E. of**	**Highway 101**						**Eastbound**		**E of**	**Highway 101**				
	Left	**5**	EB	495	45%	EB	571	**4**	Left	**705**	EB	705	6	**+6**	**+6**	**6**
18,498	Thru	**110**	WB	609	55%	WB	703	**81**	Thru	**703**	WB	703	121	**+121**	**+121**	**121**
	Right	**21**	Sum	**1104**		**Enter**	**21350**	**16**	Right		Sum	**1408**	23	**+23**	**+23**	**23**
	Westbound	**W.of**	**Highway 101**						**Westbound**		**W of**	**Highway 101**				
	Left	**156**	EB	136	49%	EB	100	**180**	Left	**100**	EB	100	172	**+180**	**+180**	**180**
2,870	Thru	**92**	WB	143	51%	WB	106	**106**	Thru	**170**	WB	170	101	**+106**	**+106**	**106**
	Right	**361**	Sum	**279**		**Enter**	**2120**	**417**	Right		Sum	**270**	397	**+417**	**+417**	**417**

AM **#2** N/S Street: Camino Del Mar E/W Street: Court St AM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**Court St**		**%**			**Northbound**		**N of**	**Court St**				
	Left	**9**	NB	195	28%	NB 195	**9**	Left	**188**	NB	188	10	**+10**	**+10**	**10**
13,450	Thru	**139**	SB	508	72%	SB 508	**139**	Thru	**508**	SB	508	153	**+153**	**+153**	**153**
	Right	**3**	Sum	**703**		**Enter**	**13450** **3**	Right		Sum	**696**	3	**+3**	**+3**	**3**
	Southbound	**S. of**	**Court St**					**Southbound**		**S of**	**Court St**				
	Left	**10**	NB	151	25%	NB 151	**10**	Left	**151**	NB	151	11	**+11**	**+11**	**11**
11,000	Thru	**434**	SB	457	75%	SB 457	**434**	Thru	**452**	SB	452	477	**+477**	**+477**	**477**
	Right	**64**	Sum	**608**		**Enter**	**11000** **64**	Right		Sum	**603**	70	**+70**	**+70**	**70**
	Eastbound	**E. of**	**Camino Del Mar**					**Eastbound**		**E of**	Camino Del Mar				
	Left	**49**	EB	14	54%	EB 0	**49**	Left	**14**	EB	14	54	**+54**	**+54**	**54**
260	Thru	**1**	WB	12	46%	WB 0	**1**	Thru	**0**	WB	0	1	**+1**	**+1**	**1**
260	Right	**18**	Sum	**26**		**Enter**	**18**	Right		Sum	**14**	20	**+20**	**+20**	**20**
	Westbound	**W.of**	**Camino Del Mar**					**Westbound**		**W of**	Camino Del Mar				
	Left	**5**	EB	68	48%	EB 68	**0**	Left	**68**	EB	68	6	**+6**	**+6**	**6**
330	Thru	**0**	WB	73	52%	WB 73	**0**	Thru	**73**	WB	73	0	**+0**	**+0**	**0**
	Right	**7**	Sum	**141**		**Enter**	**330** **0**	Right		Sum	**141**	8	**+8**	**+8**	**8**

PM N/S Street: Camino Del Mar E/W Street: Court St PM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**Court St**		**%**			**Northbound**		**N of**	**Court St**				
	Left	**15**	NB	652	63%	NB 652	**15**	Left	**650**	NB	650	17	**+17**	**+17**	**17**
13,450	Thru	**548**	SB	381	37%	SB 381	**548**	Thru	**381**	SB	381	603	**+603**	**+603**	**603**
	Right	**2**	Sum	**1033**		**Enter**	**13450** **2**	Right		Sum	**1031**	2	**+2**	**+2**	**2**
	Southbound	**S. of**	**Court St**					**Southbound**		**S of**	**Court St**				
	Left	**7**	NB	565	66%	NB 565	**7**	Left	**565**	NB	565	8	**+8**	**+8**	**8**
11,000	Thru	**274**	SB	294	34%	SB 294	**274**	Thru	**290**	SB	290	301	**+301**	**+301**	**301**
	Right	**100**	Sum	**859**		**Enter**	**11000** **100**	Right		Sum	**855**	110	**+110**	**+110**	**110**
	Eastbound	**E. of**	**Camino Del Mar**					**Eastbound**		**E of**	Camino Del Mar				
	Left	**102**	EB	9	60%	EB 0	**102**	Left	**9**	EB	9	112	**+112**	**+112**	**112**
260	Thru	**0**	WB	6	40%	WB 0	**0**	Thru	**0**	WB	0	0	**+0**	**+0**	**0**
	Right	**16**	Sum	**15**		**Enter**	**0** **16**	Right		Sum	**9**	18	**+18**	**+18**	**18**
	Westbound	**W.of**	**Camino Del Mar**					**Westbound**		**W of**	Camino Del Mar				
	Left	**4**	EB	118	51%	EB 118	**0**	Left	**118**	EB	118	4	**+4**	**+4**	**4**
330	Thru	**0**	WB	115	49%	WB 115	**0**	Thru	**115**	WB	115	0	**+0**	**+0**	**0**
	Right	**2**	Sum	**233**		**Enter**	**330** **0**	Right		Sum	**233**	2	**+2**	**+2**	**2**

AM **#3** N/S Street: Camino Del Mar E/W Street: Plaza Parking AM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**Plaza Parking**		**%**				**Northbound**		**N of**	**Plaza Parking**				
	Left	**14**	NB	405	36%	NB	479	**15**	Left	**401**	NB	401	15	**+15**	**+15**	**15**
17,224	Thru	**382**	SB	706	64%	SB	835	**401**	Thru	**835**	SB	835	420	**+420**	**+420**	**420**
	Right	**12**	Sum	**1111**		**Enter**	**20370**	**13**	Right		Sum	**1236**	13	**+13**	**+13**	**13**
	Southbound	**S. of**	**Plaza Parking**						**Southbound**		**S of**	**Plaza Parking**				
	Left	**42**	NB	408	38%	NB	428	**50**	Left	**428**	NB	428	46	**+50**	**+50**	**50**
21,389	Thru	**648**	SB	662	62%	SB	695	**766**	Thru	**766**	SB	766	713	**+766**	**+720**	**720**
from shores p	Right	**16**	Sum	**1070**		**Enter**	**22450**	**19**	Right		Sum	**1195**	18	**+19**	**+19**	**19**
	Eastbound	**E. of**	**Camino Del Mar**						**Eastbound**		**E of**	**Camino Del Mar**				
	Left	**18**	EB	55	0%	EB	0	**0**	Left	**62**	EB	62	20	**+20**	**+20**	**20**
1,050	Thru	**1**	WB	6	0%	WB	0	**0**	Thru	**0**	WB	0	1	**+1**	**+1**	**1**
1050	Right	**13**	Sum	**61**		**Enter**		**0**	Right		Sum	**62**	14	**+14**	**+14**	**14**
	Westbound	**W.of**	**Camino Del Mar**						**Westbound**		**W of**	**Camino Del Mar**				
	Left	**1**	EB	32	52%	EB	0	**0**	Left	**0**	EB	0	1	**+1**	**+1**	**1**
730	Thru	**0**	WB	30	48%	WB	0	**0**	Thru	**34**	WB	34	0	**+0**	**+0**	**0**
730	Right	**5**	Sum	**62**		**Enter**		**0**	Right		Sum	**34**	6	**+6**	**+6**	**6**

PM N/S Street: Camino Del Mar E/W Street: Plaza Parking PM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**Plaza Parking**		**%**				**Northbound**		**N of**	**Plaza Parking**				
	Left	**13**	NB	1192	66%	NB	1410	**14**	Left	**1211**	NB	1211	14	**+14**	**+14**	**14**
17,224	Thru	**1154**	SB	624	34%	SB	738	**1211**	Thru	**738**	SB	738	1269	**+1,269**	**+1,269**	**1269**
	Right	**19**	Sum	**1816**		**Enter**	**20370**	**20**	Right		Sum	**1949**	21	**+21**	**+21**	**21**
	Southbound	**S. of**	**Plaza Parking**						**Southbound**		**S of**	**Plaza Parking**				
	Left	**53**	NB	1186	67%	NB	1245	**63**	Left	**1245**	NB	1245	58	**+63**	**+63**	**63**
21,389	Thru	**550**	SB	584	33%	SB	613	**650**	Thru	**650**	SB	650	605	**+650**	**+650**	**650**
	Right	**21**	Sum	**1770**		**Enter**	**22450**	**25**	Right		Sum	**1895**	23	**+25**	**+25**	**25**
	Eastbound	**E. of**	**Camino Del Mar**						**Eastbound**		**E of**	**Camino Del Mar**				
	Left	**22**	EB	72	0%	EB	0	**0**	Left	**83**	EB	83	24	**+24**	**+24**	**24**
1,050	Thru	**0**	WB	33	0%	WB	0	**0**	Thru	**0**	WB	0	0	**+0**	**+0**	**0**
	Right	**17**	Sum	**105**		**Enter**	**0**	**0**	Right		Sum	**83**	19	**+19**	**+19**	**19**
	Westbound	**W.of**	**Camino Del Mar**						**Westbound**		**W of**	**Camino Del Mar**				
	Left	**17**	EB	39	53%	EB	0	**0**	Left	**0**	EB	0	19	**+19**	**+19**	**19**
730	Thru	**0**	WB	34	47%	WB	0	**0**	Thru	**38**	WB	38	0	**+0**	**+0**	**0**
	Right	**16**	Sum	**73**		**Enter**	**0**	**0**	Right		Sum	**38**	18	**+18**	**+18**	**18**

AM **#4** N/S Street: Camino Del Mar E/W Street: 15th St AM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**15th St**		**%**				**Northbound**		**N of**	**15th St**				
	Left	**68**	NB	380	35%	NB	495	**74**	Left	**407**	NB	407	75	**+75**	**+75**	**75**
17,224	Thru	**283**	SB	692	65%	SB	902	**310**	Thru	**902**	SB	902	311	**+311**	**+311**	**311**
	Right	**61**	Sum	**1072**		**Enter**	**22450**	**67**	Right		Sum	**1309**	67	**+67**	**+67**	**67**
	Southbound	**S. of**	**15th St**						**Southbound**		**S of**	**15th St**				
	Left	**102**	NB	412	39%	NB	451	**133**	Left	**451**	NB	451	112	**+133**	**+133**	**133**
21,389	Thru	**551**	SB	650	61%	SB	711	**718**	Thru	**899**	SB	899	606	**+718**	**+610**	**610**
from shores p	Right	**39**	Sum	**1062**		**Enter**	**23400**	**51**	Right		Sum	**1350**	43	**+51**	**+51**	**51**
	Eastbound	**E. of**	**Camino Del Mar**						**Eastbound**		**E of**	Camino Del Mar				
	Left	**36**	EB	171	63%	EB	0	**97**	Left	**221**	EB	221	40	**+97**	**+40**	**40**
3,220	Thru	**8**	WB	102	37%	WB	0	**22**	Thru	**0**	WB	0	9	**+22**	**+15**	**15**
3220	Right	**67**	Sum	**273**		**Enter**		**181**	Right		Sum	**221**	74	**+181**	**+80**	**80**
	Westbound	**W.of**	**Camino Del Mar**						**Westbound**		**W of**	Camino Del Mar				
	Left	**32**	EB	111	49%	EB	300	**0**	Left	**300**	EB	300	35	**+35**	**+35**	**35**
3,160	Thru	**9**	WB	116	51%	WB	313	**0**	Thru	**125**	WB	125	10	**+10**	**+10**	**10**
3160	Right	**61**	Sum	**227**		**Enter**	**8540**	**0**	Right		Sum	**425**	67	**+67**	**+67**	**67**

PM N/S Street: Camino Del Mar E/W Street: 15th St PM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**15th St**		**%**				**Northbound**		**N of**	**15th St**				
	Left	**82**	NB	1165	66%	NB	1518	**90**	Left	**1234**	NB	1234	90	**+90**	**+90**	**90**
17,224	Thru	**995**	SB	608	34%	SB	792	**1089**	Thru	**792**	SB	792	1095	**+1,095**	**+1,095**	**1095**
	Right	**40**	Sum	**1773**		**Enter**	**22450**	**44**	Right		Sum	**2027**	44	**+44**	**+44**	**44**
	Southbound	**S. of**	**15th St**						**Southbound**		**S of**	**15th St**				
	Left	**94**	NB	1117	66%	NB	1222	**123**	Left	**1222**	NB	1222	103	**+123**	**+123**	**123**
21,389	Thru	**450**	SB	574	34%	SB	628	**587**	Thru	**814**	SB	814	495	**+587**	**+550**	**550**
	Right	**64**	Sum	**1691**		**Enter**	**23400**	**83**	Right		Sum	**2036**	70	**+83**	**+83**	**83**
	Eastbound	**E. of**	**Camino Del Mar**						**Eastbound**		**E of**	Camino Del Mar				
	Left	**54**	EB	144	45%	EB	0	**146**	Left	**193**	EB	193	59	**+146**	**+70**	**70**
3,220	Thru	**10**	WB	178	55%	WB	0	**27**	Thru	**0**	WB	0	11	**+27**	**+20**	**20**
	Right	**84**	Sum	**322**		**Enter**	**0**	**227**	Right		Sum	**193**	92	**+227**	**+110**	**110**
	Westbound	**W.of**	**Camino Del Mar**						**Westbound**		**W of**	Camino Del Mar				
	Left	**40**	EB	148	47%	EB	400	**0**	Left	**400**	EB	400	44	**+44**	**+44**	**44**
3,160	Thru	**22**	WB	168	53%	WB	454	**0**	Thru	**173**	WB	173	24	**+24**	**+24**	**24**
	Right	**116**	Sum	**316**		**Enter**	**8540**	**0**	Right		Sum	**573**	128	**+128**	**+128**	**128**

AM **#5** N/S Street: Valley Ave E/W Street: Via De La Valle AM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2040)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**Via De La Valle**		**%**			**Northbound**		**N of**	**Via De La Valle**				
	Left	**24**	NB	471	40%	NB 837	**41**	Left	**702**	NB	702	26	**+41**	**+41**	**41**
11,880	Thru	**79**	SB	717	60%	SB 1273	**133**	Thru	**1273**	SB	1273	87	**+133**	**+133**	**133**
11880	Right	**239**	Sum	**1188**		**Enter**	**21100** **403**	Right		Sum	**1975**	263	**+403**	**+350**	**350**
	Southbound	**S. of**	**Via De La Valle**					**Southbound**		**S of**	**Via De La Valle**				
	Left	**526**	NB	342	39%	NB 577	**934**	Left	**577**	NB	577	579	**+934**	**+600**	**600**
13,141	Thru	**122**	SB	538	61%	SB 908	**217**	Thru	**824**	SB	824	134	**+217**	**+150**	**150**
	Right	**69**	Sum	**880**		**Enter**	**22180** **123**	Right		Sum	**1401**	76	**+123**	**+123**	**123**
	Eastbound	**E. of**	**Valley Ave**					**Eastbound**		**E of**	**Valley Ave**				
	Left	**53**	EB	1474	53%	EB 2205	**61**	Left	**2156**	EB	2156	58	**+61**	**+61**	**61**
32,160	Thru	**709**	WB	1313	47%	WB 1964	**818**	Thru	**1964**	WB	1964	780	**+818**	**+818**	**818**
32160	Right	**45**	Sum	**2787**		**Enter**	**48100** **52**	Right		Sum	**4120**	50	**+52**	**+52**	**52**
	Westbound	**W.of**	**Valley Ave**					**Westbound**		**W of**	**Valley Ave**				
	Left	**371**	EB	807	54%	EB 931	**555**	Left	**931**	EB	931	408	**+555**	**+430**	**430**
18,498	Thru	**603**	WB	696	46%	WB 803	**902**	Thru	**1065**	WB	1065	663	**+902**	**+750**	**750**
	Right	**339**	Sum	**1503**		**Enter**	**21350** **507**	Right		Sum	**1996**	373	**+507**	**+400**	**400**

PM N/S Street: Valley Ave E/W Street: Via De La Valle PM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**Via De La Valle**		**%**			**Northbound**		**N of**	**Via De La Valle**				
	Left	**89**	NB	593	51%	NB 1053	**150**	Left	**907**	NB	907	98	**+150**	**+150**	**150**
11,880	Thru	**175**	SB	560	49%	SB 995	**295**	Thru	**995**	SB	995	193	**+295**	**+250**	**250**
	Right	**630**	Sum	**1153**		**Enter**	**21100** **1063**	Right		Sum	**1902**	693	**+1,063**	**+750**	**750**
	Southbound	**S. of**	**Via De La Valle**					**Southbound**		**S of**	**Via De La Valle**				
	Left	**358**	NB	894	51%	NB 1509	**636**	Left	**1509**	NB	1509	394	**+636**	**+450**	**450**
13,141	Thru	**136**	SB	859	49%	SB 1450	**242**	Thru	**1301**	SB	1301	150	**+242**	**+200**	**200**
	Right	**66**	Sum	**1753**		**Enter**	**22180** **117**	Right		Sum	**2810**	73	**+117**	**+117**	**117**
	Eastbound	**E. of**	**Valley Ave**					**Eastbound**		**E of**	**Valley Ave**				
	Left	**39**	EB	1493	46%	EB 2233	**45**	Left	**2282**	EB	2282	43	**+45**	**+45**	**45**
32,160	Thru	**505**	WB	1723	54%	WB 2577	**583**	Thru	**2577**	WB	2577	556	**+583**	**+583**	**583**
	Right	**64**	Sum	**3216**		**Enter**	**48100** **74**	Right		Sum	**4859**	70	**+74**	**+74**	**74**
	Westbound	**W.of**	**Valley Ave**					**Westbound**		**W of**	**Valley Ave**				
	Left	**659**	EB	608	42%	EB 702	**986**	Left	**702**	EB	702	725	**+986**	**+725**	**725**
18,498	Thru	**685**	WB	840	58%	WB 970	**1025**	Thru	**1292**	WB	1292	754	**+1,025**	**+800**	**800**
	Right	**379**	Sum	**1448**		**Enter**	**21350** **567**	Right		Sum	**1994**	417	**+567**	**+500**	**500**

AM **#6** N/S Street: Jimmy Durante Blvd E/W Street: San Dieguito Dr AM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**San Dieguito Dr**		**%**				**Northbound**		**N of** San Dieguito Dr					
	Left	**4**	NB	284	40%	NB	295	**5**	Left	**317**	NB	317	4	**+5**	**+5**	**5**
13,141	Thru	**246**	SB	420	60%	SB	436	**317**	Thru	**436**	SB	436	271	**+317**	**+317**	**317**
	Right	**9**	Sum	**704**		**Enter**	**13630**	**12**	Right		Sum	**753**	10	**+12**	**+12**	**12**
	Southbound	**S. of**	**San Dieguito Dr**						**Southbound**		**S of** San Dieguito Dr					
	Left	**32**	NB	259	39%	NB	334	**33**	Left	**334**	NB	334	35	**+35**	**+35**	**35**
9,092	Thru	**382**	SB	398	61%	SB	513	**396**	Thru	**396**	SB	396	420	**+420**	**+420**	**420**
	Right	**6**	Sum	**657**		**Enter**	**11730**	**6**	Right		Sum	**730**	7	**+7**	**+7**	**7**
	Eastbound	**E. of**	**Jimmy Durante Blvd**						**Eastbound**		**E of** Jimmy Durante Blvd					
	Left	**5**	EB	43	48%	EB	0	**0**	Left	**45**	EB	45	6	**+6**	**+6**	**6**
1,160	Thru	**2**	WB	47	52%	WB	0	**0**	Thru	**0**	WB	0	2	**+2**	**+2**	**2**
1160	Right	**4**	Sum	**90**		**Enter**		**0**	Right		Sum	**45**	4	**+4**	**+4**	**4**
	Westbound	**W.of**	**Jimmy Durante Blvd**						**Westbound**		**W of** Jimmy Durante Blvd					
	Left	**12**	EB	11	48%	EB	0	**0**	Left	**0**	EB	0	13	**+13**	**+13**	**13**
210	Thru	**2**	WB	12	52%	WB	0	**0**	Thru	**11**	WB	11	2	**+2**	**+2**	**2**
210	Right	**33**	Sum	**23**		**Enter**		**0**	Right		Sum	**11**	36	**+36**	**+36**	**36**

PM N/S Street: Jimmy Durante Blvd E/W Street: San Dieguito Dr PM

Existing ADT	Existing	AM	Existing Link Volumes			Future ADT (2035)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	PP or 10% Min Vol	Manually Adjusted	Final Volume
	Northbound	**N.of**	**San Dieguito Dr**		**%**				**Northbound**		**N of** San Dieguito Dr					
	Left	**3**	NB	716	70%	NB	743	**4**	Left	**850**	NB	850	3	**+4**	**+4**	**4**
13,141	Thru	**659**	SB	304	30%	SB	315	**850**	Thru	**315**	SB	315	725	**+850**	**+850**	**850**
	Right	**20**	Sum	**1020**		**Enter**	**13630**	**26**	Right		Sum	**1166**	22	**+26**	**+26**	**26**
	Southbound	**S. of**	**San Dieguito Dr**						**Southbound**		**S of** San Dieguito Dr					
	Left	**45**	NB	682	72%	NB	880	**47**	Left	**880**	NB	880	50	**+50**	**+50**	**50**
9,092	Thru	**256**	SB	263	28%	SB	339	**266**	Thru	**266**	SB	266	282	**+282**	**+282**	**282**
	Right	**3**	Sum	**945**		**Enter**	**11730**	**3**	Right		Sum	**1145**	3	**+3**	**+3**	**3**
	Eastbound	**E. of**	**Jimmy Durante Blvd**						**Eastbound**		**E of** Jimmy Durante Blvd					
	Left	**13**	EB	65	56%	EB	0	**0**	Left	**72**	EB	72	14	**+14**	**+14**	**14**
1,160	Thru	**0**	WB	51	44%	WB	0	**0**	Thru	**0**	WB	0	0	**+0**	**+0**	**0**
	Right	**1**	Sum	**116**		**Enter**	**0**	**0**	Right		Sum	**72**	1	**+1**	**+1**	**1**
	Westbound	**W.of**	**Jimmy Durante Blvd**						**Westbound**		**W of** Jimmy Durante Blvd					
	Left	**6**	EB	14	67%	EB	0	**0**	Left	**0**	EB	0	7	**+7**	**+7**	**7**
210	Thru	**1**	WB	7	33%	WB	0	**0**	Thru	**7**	WB	7	1	**+1**	**+1**	**1**
	Right	**44**	Sum	**21**		**Enter**	**0**	**0**	Right		Sum	**7**	48	**+48**	**+48**	**48**

Appendix D

Horizon Year 2040 HCM Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	152	26	151	114	204	5	10	147	130	15	470
Future Volume (vph)	2	152	26	151	114	204	5	10	147	130	15	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00	0.95	1.00		1.00
Frt		0.98		1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected		1.00		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1826		1770	1863	1583		1770	3539	1583		1770
Flt Permitted		1.00		0.59	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		1822		1106	1863	1583		1770	3539	1583		1770
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	165	28	164	124	222	5	11	160	141	16	511
RTOR Reduction (vph)	0	7	0	0	0	169	0	0	0	112	0	0
Lane Group Flow (vph)	0	188	0	164	124	53	0	16	160	29	0	527
Turn Type	Perm	NA		Perm	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4			4		5	5	2		1	1
Permitted Phases	4			4		4				2		
Actuated Green, G (s)		16.7		16.7	16.7	16.7		1.3	14.3	14.3		22.2
Effective Green, g (s)		16.7		16.7	16.7	16.7		1.3	14.3	14.3		22.2
Actuated g/C Ratio		0.24		0.24	0.24	0.24		0.02	0.21	0.21		0.32
Clearance Time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		437		265	447	379		33	727	325		564
v/s Ratio Prot					0.07			0.01	0.05			c0.30
v/s Ratio Perm		0.10		c0.15		0.03				0.02		
v/c Ratio		0.43		0.62	0.28	0.14		0.48	0.22	0.09		0.93
Uniform Delay, d1		22.4		23.6	21.5	20.8		33.8	23.0	22.4		23.0
Progression Factor		1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.7		4.3	0.3	0.2		10.8	0.2	0.1		22.8
Delay (s)		23.1		27.9	21.9	21.0		44.6	23.2	22.5		45.8
Level of Service		C		C	C	C		D	C	C		D
Approach Delay (s)		23.1			23.4				23.9			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	16.4
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	450	25
Future Volume (vph)	450	25
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3511	
Flt Permitted	1.00	
Satd. Flow (perm)	3511	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	489	27
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	513	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	35.2	
Effective Green, g (s)	35.2	
Actuated g/C Ratio	0.51	
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1775	
v/s Ratio Prot	c0.15	
v/s Ratio Perm		
v/c Ratio	0.29	
Uniform Delay, d1	10.0	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	10.0	
Level of Service	B	
Approach Delay (s)	28.1	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	54	1	20	6	0	8	10	153	3	10	5	477
Future Vol, veh/h	54	1	20	6	0	8	10	153	3	10	5	477
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	59	1	22	7	0	9	11	166	3	11	5	518
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	1

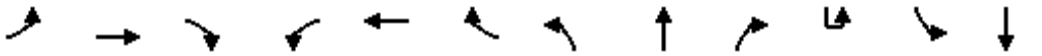
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	10.5	9.3	11.1	18
HCM LOS	B	A	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	72%	43%	100%	0%	0%
Vol Thru, %	0%	98%	1%	0%	0%	100%	0%
Vol Right, %	0%	2%	27%	57%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	156	75	14	15	477	70
LT Vol	10	0	54	6	15	0	0
Through Vol	0	153	1	0	0	477	0
RT Vol	0	3	20	8	0	0	70
Lane Flow Rate	11	170	82	15	16	518	76
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.02	0.283	0.148	0.027	0.025	0.724	0.091
Departure Headway (Hd)	6.533	6.016	6.537	6.44	5.528	5.026	4.322
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	544	592	544	559	645	716	824
Service Time	4.324	3.807	4.336	4.14	3.283	2.78	2.076
HCM Lane V/C Ratio	0.02	0.287	0.151	0.027	0.025	0.723	0.092
HCM Control Delay	9.5	11.2	10.5	9.3	8.4	19.9	7.5
HCM Lane LOS	A	B	B	A	A	C	A
HCM 95th-tile Q	0.1	1.2	0.5	0.1	0.1	6.3	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	70
Future Vol, veh/h	70
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	76
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	20	1	14	1	0	6	15	420	13	35	15	720
Future Volume (vph)	20	1	14	1	0	6	15	420	13	35	15	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6		4.0	5.3			4.6	5.3
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95			1.00	0.95
Frt		0.95		1.00	0.85		1.00	1.00			1.00	1.00
Flt Protected		0.97		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)		1714		1770	1583		1770	3523			1770	3526
Flt Permitted		1.00		1.00	1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)		1763		1863	1583		1770	3523			1770	3526
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)	22	1	15	1	0	6	16	452	14	38	16	774
RTOR Reduction (vph)	0	14	0	0	6	0	0	2	0	0	0	1
Lane Group Flow (vph)	0	24	0	1	0	0	16	464	0	0	54	793
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Actuated Green, G (s)		1.8		1.8	1.8		0.8	15.7			2.1	17.6
Effective Green, g (s)		1.8		1.8	1.8		0.8	15.7			2.1	17.6
Actuated g/C Ratio		0.05		0.05	0.05		0.02	0.46			0.06	0.52
Clearance Time (s)		4.6		4.6	4.6		4.0	5.3			4.6	5.3
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		93		98	83		41	1622			109	1819
v/s Ratio Prot					0.00		0.01	0.13			c0.03	c0.22
v/s Ratio Perm		c0.01		0.00								
v/c Ratio		0.26		0.01	0.00		0.39	0.29			0.50	0.44
Uniform Delay, d1		15.5		15.3	15.3		16.4	5.7			15.5	5.2
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		1.5		0.0	0.0		6.0	0.1			3.5	0.2
Delay (s)		17.0		15.3	15.3		22.5	5.8			19.0	5.3
Level of Service		B		B	B		C	A			B	A
Approach Delay (s)		17.0			15.3			6.4				6.2
Approach LOS		B			B			A				A

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	34.1	Sum of lost time (s)	14.5
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	19
Future Volume (vph)	19
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	20
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

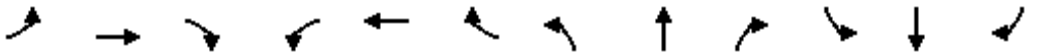
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	40	15	80	35	10	67	5	70	311	67	20	113
Future Volume (vph)	40	15	80	35	10	67	5	70	311	67	20	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00		1.00	0.95			1.00
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.97			1.00
Flt Protected		0.97	1.00	0.95	0.97	1.00		0.95	1.00			0.95
Satd. Flow (prot)		1798	1583	1681	1723	1583		1770	3445			1770
Flt Permitted		0.97	1.00	0.95	0.97	1.00		0.95	1.00			0.95
Satd. Flow (perm)		1798	1583	1681	1723	1583		1770	3445			1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	16	84	37	11	71	5	74	327	71	21	119
RTOR Reduction (vph)	0	0	76	0	0	65	0	0	11	0	0	0
Lane Group Flow (vph)	0	58	8	24	24	6	0	79	387	0	0	140
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	7	7		8	8		5	5	2		1	1
Permitted Phases			7			8						
Actuated Green, G (s)		6.1	6.1	5.0	5.0	5.0		6.9	19.0			12.1
Effective Green, g (s)		6.1	6.1	5.0	5.0	5.0		6.9	19.0			12.1
Actuated g/C Ratio		0.10	0.10	0.08	0.08	0.08		0.11	0.31			0.20
Clearance Time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		179	158	137	141	129		200	1073			351
v/s Ratio Prot		c0.03		c0.01	0.01			0.04	0.11			c0.08
v/s Ratio Perm			0.01			0.00						
v/c Ratio		0.32	0.05	0.18	0.17	0.05		0.40	0.36			0.40
Uniform Delay, d1		25.5	24.8	26.1	26.1	25.8		25.1	16.3			21.3
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Incremental Delay, d2		1.1	0.1	0.6	0.6	0.1		1.3	0.2			0.7
Delay (s)		26.6	25.0	26.7	26.6	25.9		26.4	16.5			22.0
Level of Service		C	C	C	C	C		C	B			C
Approach Delay (s)		25.6			26.2				18.1			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	610	51
Future Volume (vph)	610	51
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3498	
Flt Permitted	1.00	
Satd. Flow (perm)	3498	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	642	54
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	692	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	24.5	
Effective Green, g (s)	24.5	
Actuated g/C Ratio	0.40	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1404	
v/s Ratio Prot	c0.20	
v/s Ratio Perm		
v/c Ratio	0.49	
Uniform Delay, d1	13.6	
Progression Factor	1.00	
Incremental Delay, d2	0.3	
Delay (s)	13.9	
Level of Service	B	
Approach Delay (s)	15.3	
Approach LOS	B	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	818	52	430	750	400	41	133	350	600	150	123
Future Volume (vph)	61	818	52	430	750	400	41	133	350	600	150	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3508		3433	3354		1770	1863	2787	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3508		3433	3354		1770	1863	2787	3433	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	852	54	448	781	417	43	139	365	625	156	128
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	319	0	0	97
Lane Group Flow (vph)	64	904	0	448	1198	0	43	139	46	625	156	31
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases									2			1
Actuated Green, G (s)	8.4	32.5		21.3	45.5		15.5	15.5	15.5	29.8	29.8	29.8
Effective Green, g (s)	8.4	32.5		21.3	45.5		15.5	15.5	15.5	29.8	29.8	29.8
Actuated g/C Ratio	0.07	0.27		0.17	0.37		0.13	0.13	0.13	0.24	0.24	0.24
Clearance Time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	121	929		596	1244		223	235	352	834	452	384
v/s Ratio Prot	0.04	0.26		c0.13	c0.36		0.02	c0.07		c0.18	0.08	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.53	0.97		0.75	0.96		0.19	0.59	0.13	0.75	0.35	0.08
Uniform Delay, d1	55.2	44.6		48.1	37.7		47.9	50.6	47.6	42.9	38.3	35.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	23.0		5.3	17.3		0.4	4.0	0.2	3.7	0.5	0.1
Delay (s)	59.3	67.6		53.5	55.0		48.4	54.5	47.7	46.7	38.8	35.9
Level of Service	E	E		D	E		D	D	D	D	D	D
Approach Delay (s)		67.0			54.6			49.5			43.8	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	122.6	Sum of lost time (s)	23.5
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	12	55	359	498
Demand Flow Rate, veh/h	12	56	366	508
Vehicles Circulating, veh/h	514	359	47	21
Vehicles Exiting, veh/h	15	54	479	394
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	5.4	6.8	8.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	12	56	366	508
Cap Entry Lane, veh/h	676	789	1078	1106
Entry HV Adj Factor	0.997	0.981	0.981	0.980
Flow Entry, veh/h	12	55	359	498
Cap Entry, veh/h	674	774	1058	1085
V/C Ratio	0.018	0.071	0.339	0.459
Control Delay, s/veh	5.5	5.4	6.8	8.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	2	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	6	121	23	180	106	417	10	40	603	142	20	350
Future Volume (vph)	6	121	23	180	106	417	10	40	603	142	20	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00	0.95	1.00		1.00
Frt		0.98		1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected		1.00		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1821		1770	1863	1583		1770	3539	1583		1770
Flt Permitted		0.99		0.62	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		1805		1158	1863	1583		1770	3539	1583		1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	127	24	189	112	439	11	42	635	149	21	368
RTOR Reduction (vph)	0	7	0	0	0	336	0	0	0	99	0	0
Lane Group Flow (vph)	0	150	0	189	112	103	0	53	635	50	0	389
Turn Type	Perm	NA		Perm	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4			4		5	5	2		1	1
Permitted Phases	4			4		4				2		
Actuated Green, G (s)		19.8		19.8	19.8	19.8		5.0	24.4	24.4		24.1
Effective Green, g (s)		19.8		19.8	19.8	19.8		5.0	24.4	24.4		24.1
Actuated g/C Ratio		0.23		0.23	0.23	0.23		0.06	0.29	0.29		0.28
Clearance Time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		421		270	435	370		104	1019	456		503
v/s Ratio Prot					0.06			0.03	c0.18			c0.22
v/s Ratio Perm		0.08		c0.16		0.06				0.03		
v/c Ratio		0.36		0.70	0.26	0.28		0.51	0.62	0.11		0.77
Uniform Delay, d1		27.1		29.7	26.5	26.6		38.7	26.2	22.2		27.8
Progression Factor		1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.5		7.7	0.3	0.4		3.9	1.2	0.1		7.3
Delay (s)		27.6		37.4	26.8	27.0		42.5	27.4	22.3		35.1
Level of Service		C		D	C	C		D	C	C		D
Approach Delay (s)		27.6			29.6				27.4			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	16.4
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	400	21
Future Volume (vph)	400	21
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3513	
Flt Permitted	1.00	
Satd. Flow (perm)	3513	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	421	22
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	440	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	43.5	
Effective Green, g (s)	43.5	
Actuated g/C Ratio	0.51	
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1804	
v/s Ratio Prot	0.13	
v/s Ratio Perm		
v/c Ratio	0.24	
Uniform Delay, d1	11.5	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	11.5	
Level of Service	B	
Approach Delay (s)	22.5	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	56.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Vol, veh/h	112	0	18	4	0	2	5	15	603	2	5	5
Future Vol, veh/h	112	0	18	4	0	2	5	15	603	2	5	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	120	0	19	4	0	2	5	16	648	2	5	5
Number of Lanes	0	1	0	0	1	0	0	1	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	13.7	10.9	95.6	13.4
HCM LOS	B	B	F	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	86%	67%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	0%	100%	0%
Vol Right, %	0%	0%	14%	33%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	605	130	6	10	301	110
LT Vol	20	0	112	4	10	0	0
Through Vol	0	603	0	0	0	301	0
RT Vol	0	2	18	2	0	0	110
Lane Flow Rate	22	651	140	6	11	324	118
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.04	1.121	0.291	0.014	0.019	0.522	0.167
Departure Headway (Hd)	6.714	6.206	7.791	8.099	6.528	6.02	5.308
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	537	592	464	445	552	602	680
Service Time	4.414	3.906	5.491	5.799	4.228	3.72	3.008
HCM Lane V/C Ratio	0.041	1.1	0.302	0.013	0.02	0.538	0.174
HCM Control Delay	9.7	98.4	13.7	10.9	9.4	15.1	9.1
HCM Lane LOS	A	F	B	B	A	C	A
HCM 95th-tile Q	0.1	20.6	1.2	0	0.1	3	0.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBT	SBR
Lane Configurations		
Traffic Vol, veh/h	301	110
Future Vol, veh/h	301	110
Peak Hour Factor	0.93	0.93
Heavy Vehicles, %	2	2
Mvmt Flow	324	118
Number of Lanes	1	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	24	0	19	19	0	18	5	15	1269	21	35	28
Future Volume (vph)	24	0	19	19	0	18	5	15	1269	21	35	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6			4.0	5.3			4.6
Lane Util. Factor		1.00		1.00	1.00			1.00	0.95			1.00
Frt		0.94		1.00	0.85			1.00	1.00			1.00
Flt Protected		0.97		0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)		1703		1770	1583			1770	3531			1770
Flt Permitted		0.82		0.91	1.00			0.95	1.00			0.95
Satd. Flow (perm)		1430		1693	1583			1770	3531			1770
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)	26	0	21	21	0	20	5	16	1379	23	38	30
RTOR Reduction (vph)	0	44	0	0	19	0	0	0	1	0	0	0
Lane Group Flow (vph)	0	3	0	21	1	0	0	21	1401	0	0	68
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8								
Actuated Green, G (s)		4.4		4.4	4.4			1.5	34.2			6.9
Effective Green, g (s)		4.4		4.4	4.4			1.5	34.2			6.9
Actuated g/C Ratio		0.07		0.07	0.07			0.02	0.57			0.12
Clearance Time (s)		4.6		4.6	4.6			4.0	5.3			4.6
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		104		124	116			44	2012			203
v/s Ratio Prot					0.00			0.01	c0.40			c0.04
v/s Ratio Perm		0.00		c0.01								
v/c Ratio		0.03		0.17	0.01			0.48	0.70			0.33
Uniform Delay, d1		25.8		26.1	25.8			28.9	9.2			24.4
Progression Factor		1.00		1.00	1.00			0.89	2.08			1.00
Incremental Delay, d2		0.1		0.6	0.0			6.7	1.7			1.0
Delay (s)		26.0		26.7	25.8			32.3	20.8			25.4
Level of Service		C		C	C			C	C			C
Approach Delay (s)		26.0			26.3				21.0			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	650	25
Future Volume (vph)	650	25
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3520	
Flt Permitted	1.00	
Satd. Flow (perm)	3520	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	707	27
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	732	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	40.2	
Effective Green, g (s)	40.2	
Actuated g/C Ratio	0.67	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2358	
v/s Ratio Prot	0.21	
v/s Ratio Perm		
v/c Ratio	0.31	
Uniform Delay, d1	4.1	
Progression Factor	1.00	
Incremental Delay, d2	0.3	
Delay (s)	4.5	
Level of Service	A	
Approach Delay (s)	6.2	
Approach LOS	A	

Intersection Summary

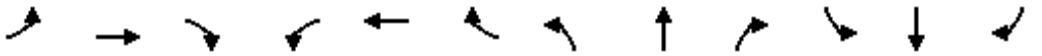
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	70	20	110	44	24	128	5	85	1095	44	15	108
Future Volume (vph)	70	20	110	44	24	128	5	85	1095	44	15	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00		1.00	0.95			1.00
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.99			1.00
Flt Protected		0.96	1.00	0.95	0.98	1.00		0.95	1.00			0.95
Satd. Flow (prot)		1793	1583	1681	1743	1583		1770	3519			1770
Flt Permitted		0.96	1.00	0.95	0.98	1.00		0.95	1.00			0.95
Satd. Flow (perm)		1793	1583	1681	1743	1583		1770	3519			1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	21	116	46	25	135	5	89	1153	46	16	114
RTOR Reduction (vph)	0	0	105	0	0	126	0	0	1	0	0	0
Lane Group Flow (vph)	0	95	11	35	36	9	0	94	1198	0	0	130
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	7	7		8	8		5	5	2		1	1
Permitted Phases			7			8						
Actuated Green, G (s)		11.7	11.7	8.0	8.0	8.0		15.7	67.5			14.0
Effective Green, g (s)		11.7	11.7	8.0	8.0	8.0		15.7	67.5			14.0
Actuated g/C Ratio		0.10	0.10	0.07	0.07	0.07		0.13	0.56			0.12
Clearance Time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		174	154	112	116	105		231	1979			206
v/s Ratio Prot		c0.05		c0.02	0.02			0.05	c0.34			c0.07
v/s Ratio Perm			0.01			0.01						
v/c Ratio		0.55	0.07	0.31	0.31	0.09		0.41	0.61			0.63
Uniform Delay, d1		51.6	49.2	53.4	53.4	52.6		47.9	17.4			50.5
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.04
Incremental Delay, d2		3.5	0.2	1.6	1.5	0.4		1.2	1.4			6.1
Delay (s)		55.1	49.4	55.0	54.9	52.9		49.0	18.8			58.6
Level of Service		E	D	D	D	D		D	B			E
Approach Delay (s)		52.0			53.6				21.0			
Approach LOS		D			D				C			

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	550	83
Future Volume (vph)	550	83
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	3470	
Flt Permitted	1.00	
Satd. Flow (perm)	3470	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	579	87
RTOR Reduction (vph)	6	0
Lane Group Flow (vph)	660	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	66.1	
Effective Green, g (s)	66.1	
Actuated g/C Ratio	0.55	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1911	
v/s Ratio Prot	0.19	
v/s Ratio Perm		
v/c Ratio	0.35	
Uniform Delay, d1	14.9	
Progression Factor	1.11	
Incremental Delay, d2	0.5	
Delay (s)	17.0	
Level of Service	B	
Approach Delay (s)	23.8	
Approach LOS	C	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	585	75	725	800	500	150	250	750	450	200	117
Future Volume (vph)	45	585	75	725	800	500	150	250	750	450	200	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3479		3433	3335		1770	1863	2787	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3479		3433	3335		1770	1863	2787	3433	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	622	80	771	851	532	160	266	798	479	213	124
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	576	0	0	102
Lane Group Flow (vph)	48	696	0	771	1383	0	160	266	222	479	213	22
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases									2			1
Actuated Green, G (s)	4.9	37.3		38.5	71.0		28.5	28.5	28.5	27.5	27.5	27.5
Effective Green, g (s)	4.9	37.3		38.5	71.0		28.5	28.5	28.5	27.5	27.5	27.5
Actuated g/C Ratio	0.03	0.24		0.25	0.46		0.18	0.18	0.18	0.18	0.18	0.18
Clearance Time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	55	835		851	1524		324	341	511	607	329	280
v/s Ratio Prot	0.03	0.20		c0.22	c0.41		0.09	c0.14		c0.14	0.11	
v/s Ratio Perm									0.08			0.01
v/c Ratio	0.87	0.83		0.91	0.91		0.49	0.78	0.43	0.79	0.65	0.08
Uniform Delay, d1	74.9	56.0		56.6	39.1		56.9	60.4	56.2	61.1	59.4	53.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	76.2	7.2		13.1	8.1		1.2	11.0	0.6	6.8	4.3	0.1
Delay (s)	151.1	63.2		69.7	47.2		58.1	71.4	56.8	67.9	63.7	53.4
Level of Service	F	E		E	D		E	E	E	E	E	D
Approach Delay (s)		68.8			55.3			60.2			64.6	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	60.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	155.3	Sum of lost time (s)	23.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	20.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	15	57	907	346
Demand Flow Rate, veh/h	15	58	926	353
Vehicles Circulating, veh/h	357	912	67	12
Vehicles Exiting, veh/h	8	81	305	958
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	9.9	26.3	6.4
Approach LOS	A	A	D	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	15	58	926	353
Cap Entry Lane, veh/h	791	454	1057	1116
Entry HV Adj Factor	1.000	0.982	0.980	0.981
Flow Entry, veh/h	15	57	907	346
Cap Entry, veh/h	791	446	1036	1095
V/C Ratio	0.019	0.128	0.876	0.316
Control Delay, s/veh	4.7	9.9	26.3	6.4
LOS	A	A	D	A
95th %tile Queue, veh	0	0	12	1

Appendix E

Staged Construction (No Closure) Scenario HCM Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	2	138	24	66	99	177	4	7	134	118	11	483
Future Volume (vph)	2	138	24	66	99	177	4	7	134	118	11	483
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00	0.95	1.00		1.00
Frt		0.98		1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected		1.00		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1825		1770	1863	1583		1770	3539	1583		1770
Flt Permitted		1.00		0.61	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		1820		1145	1863	1583		1770	3539	1583		1770
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	150	26	72	108	192	4	8	146	128	12	525
RTOR Reduction (vph)	0	7	0	0	0	156	0	0	0	100	0	0
Lane Group Flow (vph)	0	171	0	72	108	36	0	12	146	28	0	537
Turn Type	Perm	NA		Perm	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4			4		5	5	2		1	1
Permitted Phases	4			4		4				2		
Actuated Green, G (s)		12.2		12.2	12.2	12.2		1.3	13.9	13.9		22.1
Effective Green, g (s)		12.2		12.2	12.2	12.2		1.3	13.9	13.9		22.1
Actuated g/C Ratio		0.19		0.19	0.19	0.19		0.02	0.22	0.22		0.34
Clearance Time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		343		216	351	298		35	761	340		605
v/s Ratio Prot					0.06			0.01	0.04			c0.30
v/s Ratio Perm		c0.09		0.06		0.02				0.02		
v/c Ratio		0.50		0.33	0.31	0.12		0.34	0.19	0.08		0.89
Uniform Delay, d1		23.5		22.7	22.6	21.8		31.2	20.8	20.2		20.1
Progression Factor		1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		1.1		0.9	0.5	0.2		5.8	0.1	0.1		14.7
Delay (s)		24.6		23.6	23.1	21.9		37.0	20.9	20.4		34.8
Level of Service		C		C	C	C		D	C	C		C
Approach Delay (s)		24.6			22.6				21.3			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	64.6	Sum of lost time (s)	16.4
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	313	13
Future Volume (vph)	313	13
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3518	
Flt Permitted	1.00	
Satd. Flow (perm)	3518	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	340	14
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	352	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	34.7	
Effective Green, g (s)	34.7	
Actuated g/C Ratio	0.54	
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1889	
v/s Ratio Prot	c0.10	
v/s Ratio Perm		
v/c Ratio	0.19	
Uniform Delay, d1	7.7	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	7.7	
Level of Service	A	
Approach Delay (s)	24.0	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	49	1	18	5	0	7	9	139	3	7	3	291
Future Vol, veh/h	49	1	18	5	0	7	9	139	3	7	3	291
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	53	1	20	5	0	8	10	151	3	8	3	316
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	1

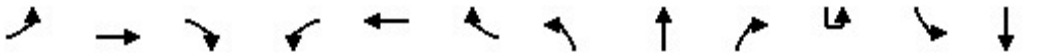
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	9.6	8.6	9.9	10.7
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	72%	42%	100%	0%	0%
Vol Thru, %	0%	98%	1%	0%	0%	100%	0%
Vol Right, %	0%	2%	26%	58%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	142	68	12	10	291	64
LT Vol	9	0	49	5	10	0	0
Through Vol	0	139	1	0	0	291	0
RT Vol	0	3	18	7	0	0	64
Lane Flow Rate	10	154	74	13	11	316	70
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.017	0.238	0.123	0.021	0.016	0.435	0.082
Departure Headway (Hd)	6.073	5.556	6.015	5.744	5.452	4.949	4.246
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	588	645	594	620	657	728	842
Service Time	3.822	3.305	3.773	3.511	3.183	2.681	1.978
HCM Lane V/C Ratio	0.017	0.239	0.125	0.021	0.017	0.434	0.083
HCM Control Delay	8.9	10	9.6	8.6	8.3	11.5	7.4
HCM Lane LOS	A	A	A	A	A	B	A
HCM 95th-tile Q	0.1	0.9	0.4	0.1	0	2.2	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	64
Future Vol, veh/h	64
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	70
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	18	1	13	1	0	5	14	382	12	29	13	570
Future Volume (vph)	18	1	13	1	0	5	14	382	12	29	13	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6		4.0	5.3			4.6	5.3
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95			1.00	0.95
Frt		0.94		1.00	0.85		1.00	1.00			1.00	1.00
Flt Protected		0.97		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)		1711		1770	1583		1770	3523			1770	3525
Flt Permitted		1.00		1.00	1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)		1759		1863	1583		1770	3523			1770	3525
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)	19	1	14	1	0	5	15	411	13	31	14	613
RTOR Reduction (vph)	0	14	0	0	5	0	0	2	0	0	0	1
Lane Group Flow (vph)	0	20	0	1	0	0	15	422	0	0	45	629
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Actuated Green, G (s)		0.8		0.8	0.8		0.7	13.5			2.1	15.5
Effective Green, g (s)		0.8		0.8	0.8		0.7	13.5			2.1	15.5
Actuated g/C Ratio		0.03		0.03	0.03		0.02	0.44			0.07	0.50
Clearance Time (s)		4.6		4.6	4.6		4.0	5.3			4.6	5.3
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		45		48	40		40	1539			120	1768
v/s Ratio Prot					0.00		0.01	0.12			c0.03	c0.18
v/s Ratio Perm		c0.01		0.00								
v/c Ratio		0.45		0.02	0.00		0.38	0.27			0.38	0.36
Uniform Delay, d1		14.8		14.7	14.7		14.9	5.6			13.8	4.7
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		7.1		0.2	0.0		5.8	0.1			2.0	0.1
Delay (s)		21.9		14.8	14.7		20.7	5.7			15.7	4.8
Level of Service		C		B	B		C	A			B	A
Approach Delay (s)		21.9			14.7			6.2				5.5
Approach LOS		C			B			A				A

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	30.9	Sum of lost time (s)	14.5
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

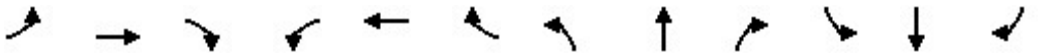
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	16
Future Volume (vph)	16
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	36	8	67	32	9	61	68	283	61	16	86	473
Future Volume (vph)	36	8	67	32	9	61	68	283	61	16	86	473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6	4.6	4.0	5.0			4.6	5.3
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95			1.00	0.95
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97			1.00	0.99
Flt Protected		0.96	1.00	0.95	0.97	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)		1789	1583	1681	1719	1583	1770	3445			1770	3499
Flt Permitted		0.96	1.00	0.95	0.97	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)		1789	1583	1681	1719	1583	1770	3445			1770	3499
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	8	71	34	9	64	72	298	64	17	91	498
RTOR Reduction (vph)	0	0	64	0	0	58	0	10	0	0	0	3
Lane Group Flow (vph)	0	46	7	21	22	6	72	352	0	0	108	536
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	Prot	NA
Protected Phases	7	7		8	8		5	2		1	1	6
Permitted Phases			7			8						
Actuated Green, G (s)		5.7	5.7	4.9	4.9	4.9	6.5	19.6			7.5	20.9
Effective Green, g (s)		5.7	5.7	4.9	4.9	4.9	6.5	19.6			7.5	20.9
Actuated g/C Ratio		0.10	0.10	0.09	0.09	0.09	0.12	0.35			0.13	0.37
Clearance Time (s)		4.6	4.6	4.6	4.6	4.6	4.0	5.0			4.6	5.3
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		180	159	145	149	137	203	1195			234	1294
v/s Ratio Prot		c0.03		0.01	c0.01		0.04	0.10			c0.06	c0.15
v/s Ratio Perm			0.00			0.00						
v/c Ratio		0.26	0.05	0.14	0.15	0.04	0.35	0.29			0.46	0.41
Uniform Delay, d1		23.4	22.9	23.9	23.9	23.6	23.1	13.4			22.6	13.2
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2		0.8	0.1	0.5	0.5	0.1	1.1	0.1			1.4	0.2
Delay (s)		24.2	23.1	24.3	24.3	23.8	24.1	13.6			24.1	13.5
Level of Service		C	C	C	C	C	C	B			C	B
Approach Delay (s)		23.5			24.0			15.3				15.2
Approach LOS		C			C			B				B

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	56.5	Sum of lost time (s)	20.8
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	39
Future Volume (vph)	39
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	41
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	787	71	410	564	339	24	79	239	526	122	69
Future Volume (vph)	53	787	71	410	564	339	24	79	239	526	122	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3495		3433	3340		1770	1863	2787	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3495		3433	3340		1770	1863	2787	3433	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	55	820	74	427	588	353	25	82	249	548	127	72
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	225	0	0	56
Lane Group Flow (vph)	55	890	0	427	941	0	25	82	24	548	127	16
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases									2			1
Actuated Green, G (s)	7.6	32.6		19.5	44.6		10.7	10.7	10.7	25.2	25.2	25.2
Effective Green, g (s)	7.6	32.6		19.5	44.6		10.7	10.7	10.7	25.2	25.2	25.2
Actuated g/C Ratio	0.07	0.29		0.17	0.40		0.10	0.10	0.10	0.23	0.23	0.23
Clearance Time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	120	1021		600	1336		169	178	267	775	421	357
v/s Ratio Prot	0.03	c0.25		c0.12	c0.28		0.01	c0.04		c0.16	0.07	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.46	0.87		0.71	0.70		0.15	0.46	0.09	0.71	0.30	0.05
Uniform Delay, d1	50.0	37.5		43.4	27.9		46.2	47.7	46.0	39.8	35.8	33.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	8.3		4.0	1.7		0.4	1.9	0.1	3.0	0.4	0.1
Delay (s)	52.7	45.8		47.3	29.7		46.6	49.6	46.1	42.7	36.2	33.8
Level of Service	D	D		D	C		D	D	D	D	D	C
Approach Delay (s)		46.2			35.2			46.9			40.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	23.5
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	11	50	279	521
Demand Flow Rate, veh/h	11	51	284	532
Vehicles Circulating, veh/h	539	279	42	19
Vehicles Exiting, veh/h	12	47	508	311
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.7	4.9	5.9	8.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	11	51	284	532
Cap Entry Lane, veh/h	659	855	1083	1109
Entry HV Adj Factor	0.996	0.980	0.981	0.980
Flow Entry, veh/h	11	50	279	521
Cap Entry, veh/h	657	837	1063	1087
V/C Ratio	0.017	0.060	0.262	0.480
Control Delay, s/veh	5.7	4.9	5.9	8.7
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	5	110	21	78	92	388	6	34	384	129	16	295
Future Volume (vph)	5	110	21	78	92	388	6	34	384	129	16	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00	0.95	1.00		1.00
Frt		0.98		1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected		1.00		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1821		1770	1863	1583		1770	3539	1583		1770
Flt Permitted		0.99		0.70	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		1803		1304	1863	1583		1770	3539	1583		1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	116	22	82	97	408	6	36	404	136	17	311
RTOR Reduction (vph)	0	7	0	0	0	331	0	0	0	102	0	0
Lane Group Flow (vph)	0	136	0	82	97	77	0	42	404	34	0	328
Turn Type	Perm	NA		Perm	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4			4		5	5	2		1	1
Permitted Phases	4			4		4				2		
Actuated Green, G (s)		12.5		12.5	12.5	12.5		4.5	16.6	16.6		20.7
Effective Green, g (s)		12.5		12.5	12.5	12.5		4.5	16.6	16.6		20.7
Actuated g/C Ratio		0.19		0.19	0.19	0.19		0.07	0.25	0.25		0.31
Clearance Time (s)		5.9		5.9	5.9	5.9		4.6	5.9	5.9		4.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		340		246	351	298		120	887	396		553
v/s Ratio Prot					0.05			0.02	c0.11			c0.19
v/s Ratio Perm		c0.08		0.06		0.05				0.02		
v/c Ratio		0.40		0.33	0.28	0.26		0.35	0.46	0.09		0.59
Uniform Delay, d1		23.6		23.2	23.0	22.9		29.5	21.0	19.0		19.2
Progression Factor		1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.8		0.8	0.4	0.5		1.8	0.4	0.1		1.7
Delay (s)		24.3		24.0	23.4	23.4		31.2	21.3	19.1		20.9
Level of Service		C		C	C	C		C	C	B		C
Approach Delay (s)		24.3			23.5				21.5			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	66.2	Sum of lost time (s)	16.4
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	222	11
Future Volume (vph)	222	11
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3513	
Flt Permitted	1.00	
Satd. Flow (perm)	3513	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	234	12
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	242	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	32.8	
Effective Green, g (s)	32.8	
Actuated g/C Ratio	0.50	
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1740	
v/s Ratio Prot	0.07	
v/s Ratio Perm		
v/c Ratio	0.14	
Uniform Delay, d1	9.1	
Progression Factor	1.00	
Incremental Delay, d2	0.0	
Delay (s)	9.1	
Level of Service	A	
Approach Delay (s)	15.8	
Approach LOS	B	

Intersection Summary

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Vol, veh/h	102	0	16	4	0	2	4	11	384	2	4	3
Future Vol, veh/h	102	0	16	4	0	2	4	11	384	2	4	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	0	17	4	0	2	4	12	413	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	11.4	9.5	17.4	9.2
HCM LOS	B	A	C	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	86%	67%	100%	0%	0%
Vol Thru, %	0%	99%	0%	0%	0%	100%	0%
Vol Right, %	0%	1%	14%	33%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	386	118	6	7	141	100
LT Vol	15	0	102	4	7	0	0
Through Vol	0	384	0	0	0	141	0
RT Vol	0	2	16	2	0	0	100
Lane Flow Rate	16	415	127	6	8	152	108
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.027	0.637	0.234	0.012	0.012	0.227	0.14
Departure Headway (Hd)	6.033	5.526	6.636	6.69	5.905	5.4	4.694
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	588	647	544	538	600	658	754
Service Time	3.829	3.322	4.336	4.395	3.701	3.196	2.489
HCM Lane V/C Ratio	0.027	0.641	0.233	0.011	0.013	0.231	0.143
HCM Control Delay	9	17.7	11.4	9.5	8.8	9.8	8.3
HCM Lane LOS	A	C	B	A	A	A	A
HCM 95th-tile Q	0.1	4.6	0.9	0	0	0.9	0.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBT	SBR
Lane Configurations		
Traffic Vol, veh/h	141	100
Future Vol, veh/h	141	100
Peak Hour Factor	0.93	0.93
Heavy Vehicles, %	2	2
Mvmt Flow	152	108
Number of Lanes	1	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	22	0	17	17	0	16	5	8	1099	19	34	19
Future Volume (vph)	22	0	17	17	0	16	5	8	1099	19	34	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6			4.0	5.3			4.6
Lane Util. Factor		1.00		1.00	1.00			1.00	0.95			1.00
Frt		0.94		1.00	0.85			1.00	1.00			1.00
Flt Protected		0.97		0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)		1706		1770	1583			1770	3530			1770
Flt Permitted		1.00		1.00	1.00			0.95	1.00			0.95
Satd. Flow (perm)		1755		1863	1583			1770	3530			1770
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)	24	0	18	18	0	17	5	9	1195	21	37	21
RTOR Reduction (vph)	0	40	0	0	16	0	0	0	1	0	0	0
Lane Group Flow (vph)	0	2	0	18	1	0	0	14	1215	0	0	58
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8								
Actuated Green, G (s)		3.0		3.0	3.0			1.4	37.3			5.2
Effective Green, g (s)		3.0		3.0	3.0			1.4	37.3			5.2
Actuated g/C Ratio		0.05		0.05	0.05			0.02	0.62			0.09
Clearance Time (s)		4.6		4.6	4.6			4.0	5.3			4.6
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		87		93	79			41	2194			153
v/s Ratio Prot					0.00			0.01	c0.34			c0.03
v/s Ratio Perm		0.00		c0.01								
v/c Ratio		0.02		0.19	0.01			0.34	0.55			0.38
Uniform Delay, d1		27.1		27.3	27.1			28.8	6.5			25.9
Progression Factor		1.00		1.00	1.00			0.83	1.79			1.00
Incremental Delay, d2		0.1		1.0	0.1			4.5	0.9			1.6
Delay (s)		27.2		28.4	27.1			28.5	12.7			27.4
Level of Service		C		C	C			C	B			C
Approach Delay (s)		27.2			27.8				12.8			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	495	21
Future Volume (vph)	495	21
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3517	
Flt Permitted	1.00	
Satd. Flow (perm)	3517	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	538	23
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	559	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	41.7	
Effective Green, g (s)	41.7	
Actuated g/C Ratio	0.70	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2444	
v/s Ratio Prot	c0.16	
v/s Ratio Perm		
v/c Ratio	0.23	
Uniform Delay, d1	3.3	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	3.5	
Level of Service	A	
Approach Delay (s)	5.8	
Approach LOS	A	

Intersection Summary

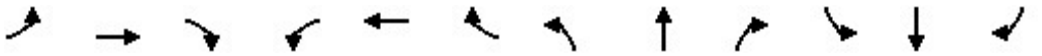
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	54	10	84	40	22	116	4	78	940	40	14	80
Future Volume (vph)	54	10	84	40	22	116	4	78	940	40	14	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00		1.00	0.95			1.00
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.99			1.00
Flt Protected		0.96	1.00	0.95	0.99	1.00		0.95	1.00			0.95
Satd. Flow (prot)		1788	1583	1681	1743	1583		1770	3518			1770
Flt Permitted		0.96	1.00	0.95	0.99	1.00		0.95	1.00			0.95
Satd. Flow (perm)		1788	1583	1681	1743	1583		1770	3518			1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	11	88	42	23	122	4	82	989	42	15	84
RTOR Reduction (vph)	0	0	81	0	0	114	0	0	1	0	0	0
Lane Group Flow (vph)	0	68	7	32	33	8	0	86	1030	0	0	99
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	7	7		8	8		5	5	2		1	1
Permitted Phases			7			8						
Actuated Green, G (s)		9.9	9.9	7.8	7.8	7.8		14.4	71.5			12.0
Effective Green, g (s)		9.9	9.9	7.8	7.8	7.8		14.4	71.5			12.0
Actuated g/C Ratio		0.08	0.08	0.06	0.06	0.06		0.12	0.60			0.10
Clearance Time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		147	130	109	113	102		212	2096			177
v/s Ratio Prot		c0.04		c0.02	0.02			0.05	c0.29			c0.06
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.46	0.06	0.29	0.29	0.08		0.41	0.49			0.56
Uniform Delay, d1		52.5	50.7	53.5	53.5	52.7		48.8	13.9			51.5
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.10
Incremental Delay, d2		2.3	0.2	1.5	1.4	0.3		1.3	0.8			3.8
Delay (s)		54.8	50.9	55.0	54.9	53.0		50.1	14.7			60.4
Level of Service		D	D	D	D	D		D	B			E
Approach Delay (s)		52.6			53.7				17.4			
Approach LOS		D			D				B			

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	395	64
Future Volume (vph)	395	64
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	3466	
Flt Permitted	1.00	
Satd. Flow (perm)	3466	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	416	67
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	476	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	69.4	
Effective Green, g (s)	69.4	
Actuated g/C Ratio	0.58	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2004	
v/s Ratio Prot	0.14	
v/s Ratio Perm		
v/c Ratio	0.24	
Uniform Delay, d1	12.4	
Progression Factor	1.07	
Incremental Delay, d2	0.3	
Delay (s)	13.5	
Level of Service	B	
Approach Delay (s)	21.5	
Approach LOS	C	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	560	95	706	638	379	116	202	685	358	136	66
Future Volume (vph)	39	560	95	706	638	379	116	202	685	358	136	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3462		3433	3341		1770	1863	2787	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3462		3433	3341		1770	1863	2787	3433	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	41	596	101	751	679	403	123	215	729	381	145	70
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	547	0	0	59
Lane Group Flow (vph)	41	689	0	751	1082	0	123	215	182	381	145	11
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases									2			1
Actuated Green, G (s)	4.8	31.7		32.9	59.9		24.1	24.1	24.1	21.3	21.3	21.3
Effective Green, g (s)	4.8	31.7		32.9	59.9		24.1	24.1	24.1	21.3	21.3	21.3
Actuated g/C Ratio	0.04	0.24		0.25	0.45		0.18	0.18	0.18	0.16	0.16	0.16
Clearance Time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	63	822		846	1499		319	336	503	547	297	252
v/s Ratio Prot	0.02	c0.20		c0.22	0.32		0.07	c0.12		c0.11	0.08	
v/s Ratio Perm									0.07			0.01
v/c Ratio	0.65	0.84		0.89	0.72		0.39	0.64	0.36	0.70	0.49	0.04
Uniform Delay, d1	63.5	48.5		48.5	30.0		48.2	50.7	48.0	53.0	51.1	47.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.5	7.5		11.1	1.7		0.8	4.0	0.4	3.8	1.3	0.1
Delay (s)	85.1	55.9		59.7	31.8		49.0	54.7	48.4	56.9	52.4	47.6
Level of Service	F	E		E	C		D	D	D	E	D	D
Approach Delay (s)		57.5			43.2			49.7			54.7	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	133.5	Sum of lost time (s)	23.5
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

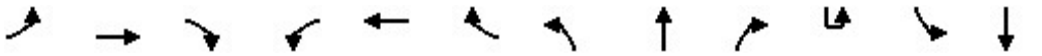
Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	14	52	817	393
Demand Flow Rate, veh/h	14	53	833	401
Vehicles Circulating, veh/h	404	825	60	10
Vehicles Exiting, veh/h	7	68	358	868
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.0	8.8	18.5	6.9
Approach LOS	A	A	C	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	14	53	833	401
Cap Entry Lane, veh/h	754	495	1064	1119
Entry HV Adj Factor	1.000	0.981	0.981	0.980
Flow Entry, veh/h	14	52	817	393
Cap Entry, veh/h	754	486	1044	1097
V/C Ratio	0.019	0.107	0.783	0.358
Control Delay, s/veh	5.0	8.8	18.5	6.9
LOS	A	A	C	A
95th %tile Queue, veh	0	0	8	2

Appendix F

Full Closure Construction Scenario HCM Analysis Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	161	1	7	106	244	0	7	6	11	620	20
Future Volume (vph)	2	161	1	7	106	244	0	7	6	11	620	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9		5.9	5.9	5.9		5.9	5.9		4.6	5.9
Lane Util. Factor		1.00		1.00	1.00	1.00		0.95	1.00		1.00	0.95
Frt		1.00		1.00	1.00	0.85		1.00	0.85		1.00	0.94
Flt Protected		1.00		0.95	1.00	1.00		1.00	1.00		0.95	1.00
Satd. Flow (prot)		1860		1770	1863	1583		3539	1583		1770	3333
Flt Permitted		1.00		0.60	1.00	1.00		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1855		1123	1863	1583		3539	1583		1770	3333
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	175	1	8	115	265	0	8	7	12	674	22
RTOR Reduction (vph)	0	0	0	0	0	214	0	0	7	0	0	5
Lane Group Flow (vph)	0	178	0	8	115	51	0	8	0	0	686	31
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases		4			4		5	2		1	1	6
Permitted Phases	4			4		4			2			
Actuated Green, G (s)		13.0		13.0	13.0	13.0		1.5	1.5		36.6	42.7
Effective Green, g (s)		13.0		13.0	13.0	13.0		1.5	1.5		36.6	42.7
Actuated g/C Ratio		0.19		0.19	0.19	0.19		0.02	0.02		0.54	0.63
Clearance Time (s)		5.9		5.9	5.9	5.9		5.9	5.9		4.6	5.9
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		357		216	358	304		78	35		959	2108
v/s Ratio Prot					0.06			c0.00			c0.39	0.01
v/s Ratio Perm		c0.10		0.01		0.03			0.00			
v/c Ratio		0.50		0.04	0.32	0.17		0.10	0.00		0.72	0.01
Uniform Delay, d1		24.3		22.2	23.5	22.7		32.3	32.3		11.6	4.6
Progression Factor		1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2		1.1		0.1	0.5	0.3		0.6	0.1		2.6	0.0
Delay (s)		25.4		22.2	24.0	23.0		32.9	32.3		14.1	4.6
Level of Service		C		C	C	C		C	C		B	A
Approach Delay (s)		25.4			23.3			32.6				13.6
Approach LOS		C			C			C				B

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	67.5	Sum of lost time (s)	16.4
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	13
Future Volume (vph)	13
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	14
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	0	1	67	12	0	0	73	7	6	0	0	22
Future Vol, veh/h	0	1	67	12	0	0	73	7	6	0	0	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	73	13	0	0	79	8	7	0	0	24
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	1

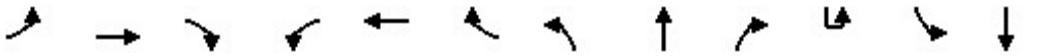
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	7.3	8.2	8.5	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	0%
Vol Thru, %	0%	54%	1%	0%	100%	100%	100%
Vol Right, %	0%	46%	99%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	13	68	12	0	22	0
LT Vol	73	0	0	12	0	0	0
Through Vol	0	7	1	0	0	22	0
RT Vol	0	6	67	0	0	0	0
Lane Flow Rate	79	14	74	13	0	24	0
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.115	0.017	0.086	0.02	0	0.031	0
Departure Headway (Hd)	5.236	4.412	4.167	5.402	4.738	4.738	4.738
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	679	802	865	666	0	747	0
Service Time	3.012	2.187	1.867	3.104	2.524	2.524	2.524
HCM Lane V/C Ratio	0.116	0.017	0.086	0.02	0	0.032	0
HCM Control Delay	8.7	7.3	7.3	8.2	7.5	7.7	7.5
HCM Lane LOS	A	A	A	A	N	A	N
HCM 95th-tile Q	0.4	0.1	0.3	0.1	0	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	0
Future Vol, veh/h	0
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	0
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	18	1	13	1	0	5	14	328	12	103	13	443
Future Volume (vph)	18	1	13	1	0	5	14	328	12	103	13	443
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6		4.0	5.3			4.6	5.3
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95			1.00	0.95
Frt		0.94		1.00	0.85		1.00	0.99			1.00	0.99
Flt Protected		0.97		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)		1711		1770	1583		1770	3520			1770	3521
Flt Permitted		1.00		1.00	1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)		1759		1863	1583		1770	3520			1770	3521
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)	19	1	14	1	0	5	15	353	13	111	14	476
RTOR Reduction (vph)	0	14	0	0	5	0	0	2	0	0	0	2
Lane Group Flow (vph)	0	20	0	1	0	0	15	364	0	0	125	491
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Actuated Green, G (s)		0.9		0.9	0.9		0.8	13.8			4.5	18.1
Effective Green, g (s)		0.9		0.9	0.9		0.8	13.8			4.5	18.1
Actuated g/C Ratio		0.03		0.03	0.03		0.02	0.41			0.13	0.54
Clearance Time (s)		4.6		4.6	4.6		4.0	5.3			4.6	5.3
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		46		49	42		42	1441			236	1891
v/s Ratio Prot					0.00		0.01	0.10			c0.07	c0.14
v/s Ratio Perm		c0.01		0.00								
v/c Ratio		0.44		0.02	0.00		0.36	0.25			0.53	0.26
Uniform Delay, d1		16.2		16.0	16.0		16.2	6.6			13.6	4.2
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		6.7		0.2	0.0		5.1	0.1			2.1	0.1
Delay (s)		22.8		16.1	16.0		21.3	6.6			15.8	4.3
Level of Service		C		B	B		C	A			B	A
Approach Delay (s)		22.8			16.0			7.2				6.6
Approach LOS		C			B			A				A

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	33.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	16
Future Volume (vph)	16
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

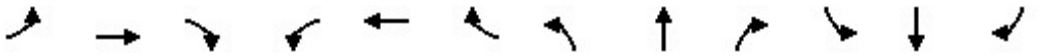
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	36	8	67	32	9	61	68	229	61	65	86	297
Future Volume (vph)	36	8	67	32	9	61	68	229	61	65	86	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6	4.6	4.0	5.0			4.6	5.3
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95			1.00	0.95
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97			1.00	0.98
Flt Protected		0.96	1.00	0.95	0.97	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)		1789	1583	1681	1719	1583	1770	3428			1770	3478
Flt Permitted		0.96	1.00	0.95	0.97	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)		1789	1583	1681	1719	1583	1770	3428			1770	3478
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	8	71	34	9	64	72	241	64	68	91	313
RTOR Reduction (vph)	0	0	64	0	0	58	0	16	0	0	0	6
Lane Group Flow (vph)	0	46	7	21	22	6	72	289	0	0	159	348
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	Prot	NA
Protected Phases	7	7		8	8		5	2		1	1	6
Permitted Phases			7			8						
Actuated Green, G (s)		5.5	5.5	4.8	4.8	4.8	6.3	13.7			11.2	18.9
Effective Green, g (s)		5.5	5.5	4.8	4.8	4.8	6.3	13.7			11.2	18.9
Actuated g/C Ratio		0.10	0.10	0.09	0.09	0.09	0.12	0.25			0.21	0.35
Clearance Time (s)		4.6	4.6	4.6	4.6	4.6	4.0	5.0			4.6	5.3
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		182	161	149	152	140	206	869			367	1217
v/s Ratio Prot		c0.03		0.01	c0.01		0.04	c0.08			c0.09	0.10
v/s Ratio Perm			0.00			0.00						
v/c Ratio		0.25	0.04	0.14	0.14	0.04	0.35	0.33			0.43	0.29
Uniform Delay, d1		22.4	21.9	22.7	22.7	22.5	22.0	16.4			18.6	12.7
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2		0.7	0.1	0.4	0.4	0.1	1.0	0.2			0.8	0.1
Delay (s)		23.1	22.0	23.1	23.1	22.6	23.0	16.7			19.5	12.8
Level of Service		C	C	C	C	C	C	B			B	B
Approach Delay (s)		22.4			22.8			17.9				14.9
Approach LOS		C			C			B				B

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	54.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	39
Future Volume (vph)	39
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	41
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	689	211	469	505	339	98	86	351	526	122	69
Future Volume (vph)	53	689	211	469	505	339	98	86	351	526	122	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.96		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3415		3433	3326		1770	1863	2787	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3415		3433	3326		1770	1863	2787	3433	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	55	718	220	489	526	353	102	90	366	548	127	72
RTOR Reduction (vph)	0	19	0	0	0	0	0	0	326	0	0	57
Lane Group Flow (vph)	55	919	0	489	879	0	102	90	40	548	127	15
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases									2			1
Actuated Green, G (s)	7.2	38.1		21.3	52.3		13.4	13.4	13.4	25.6	25.6	25.6
Effective Green, g (s)	7.2	38.1		21.3	52.3		13.4	13.4	13.4	25.6	25.6	25.6
Actuated g/C Ratio	0.06	0.31		0.17	0.43		0.11	0.11	0.11	0.21	0.21	0.21
Clearance Time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	104	1067		599	1426		194	204	306	720	391	332
v/s Ratio Prot	0.03	c0.27		c0.14	0.26		c0.06	0.05		c0.16	0.07	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.53	0.86		0.82	0.62		0.53	0.44	0.13	0.76	0.32	0.05
Uniform Delay, d1	55.7	39.4		48.4	27.0		51.2	50.7	49.0	45.3	40.8	38.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	7.3		8.4	0.8		2.6	1.5	0.2	4.8	0.5	0.1
Delay (s)	60.5	46.7		56.9	27.8		53.8	52.3	49.2	50.0	41.3	38.5
Level of Service	E	D		E	C		D	D	D	D	D	D
Approach Delay (s)		47.5			38.2			50.5			47.4	
Approach LOS		D			D			D			D	

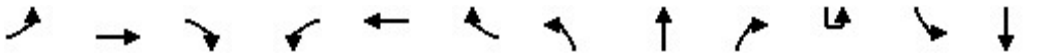
Intersection Summary			
HCM 2000 Control Delay	44.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	121.9	Sum of lost time (s)	23.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	11	50	485	735
Demand Flow Rate, veh/h	11	51	494	750
Vehicles Circulating, veh/h	757	489	42	19
Vehicles Exiting, veh/h	12	47	726	521
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.1	6.1	8.5	13.3
Approach LOS	A	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	11	51	494	750
Cap Entry Lane, veh/h	530	693	1083	1109
Entry HV Adj Factor	0.996	0.980	0.981	0.980
Flow Entry, veh/h	11	50	485	735
Cap Entry, veh/h	528	679	1063	1087
V/C Ratio	0.021	0.074	0.456	0.676
Control Delay, s/veh	7.1	6.1	8.5	13.3
LOS	A	A	A	B
95th %tile Queue, veh	0	0	2	6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	5	130	1	8	126	525	2	27	6	16	364	14
Future Volume (vph)	5	130	1	8	126	525	2	27	6	16	364	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9		5.9	5.9	5.9	4.6	5.9	5.9		4.6	5.9
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	0.95	1.00		1.00	0.95
Frt		1.00		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.93
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)		1858		1770	1863	1583	1770	3539	1583		1770	3303
Flt Permitted		0.99		0.78	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)		1839		1461	1863	1583	1770	3539	1583		1770	3303
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	137	1	8	133	553	2	28	6	17	383	15
RTOR Reduction (vph)	0	0	0	0	0	417	0	0	6	0	0	7
Lane Group Flow (vph)	0	143	0	8	133	136	2	28	0	0	400	20
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases		4			4		5	2		1	1	6
Permitted Phases	4			4		4			2			
Actuated Green, G (s)		13.2		13.2	13.2	13.2	0.5	2.9	2.9		21.1	23.5
Effective Green, g (s)		13.2		13.2	13.2	13.2	0.5	2.9	2.9		21.1	23.5
Actuated g/C Ratio		0.25		0.25	0.25	0.25	0.01	0.05	0.05		0.39	0.44
Clearance Time (s)		5.9		5.9	5.9	5.9	4.6	5.9	5.9		4.6	5.9
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		452		359	458	389	16	191	85		696	1448
v/s Ratio Prot					0.07		0.00	c0.01			c0.23	0.01
v/s Ratio Perm		0.08		0.01		c0.09			0.00			
v/c Ratio		0.32		0.02	0.29	0.35	0.12	0.15	0.00		0.57	0.01
Uniform Delay, d1		16.5		15.3	16.4	16.7	26.3	24.2	24.0		12.7	8.5
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		0.4		0.0	0.4	0.5	3.5	0.4	0.0		1.2	0.0
Delay (s)		16.9		15.3	16.8	17.2	29.8	24.5	24.0		13.9	8.5
Level of Service		B		B	B	B	C	C	C		B	A
Approach Delay (s)		16.9			17.1			24.7				13.5
Approach LOS		B			B			C				B

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	16.4
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	12
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Vol, veh/h	0	0	118	6	0	0	4	111	27	5	0	0
Future Vol, veh/h	0	0	118	6	0	0	4	111	27	5	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	127	6	0	0	4	119	29	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	7.8	8.4	9	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	0%
Vol Thru, %	0%	84%	0%	0%	100%	100%	100%
Vol Right, %	0%	16%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	32	118	6	0	14	0
LT Vol	115	0	0	6	0	0	0
Through Vol	0	27	0	0	0	14	0
RT Vol	0	5	118	0	0	0	0
Lane Flow Rate	124	34	127	6	0	15	0
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.186	0.046	0.152	0.01	0	0.021	0
Departure Headway (Hd)	5.419	4.808	4.306	5.608	4.992	4.992	4.992
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	667	749	836	640	0	719	0
Service Time	3.119	2.508	2.017	3.324	2.708	2.708	2.708
HCM Lane V/C Ratio	0.186	0.045	0.152	0.009	0	0.021	0
HCM Control Delay	9.4	7.7	7.8	8.4	7.7	7.8	7.7
HCM Lane LOS	A	A	A	A	N	A	N
HCM 95th-tile Q	0.7	0.1	0.5	0	0	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBT	SBR
Lane Configurations		
Traffic Vol, veh/h	14	0
Future Vol, veh/h	14	0
Peak Hour Factor	0.93	0.93
Heavy Vehicles, %	2	2
Mvmt Flow	15	0
Number of Lanes	1	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	22	0	17	17	0	16	5	8	825	19	158	19
Future Volume (vph)	22	0	17	17	0	16	5	8	825	19	158	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6			4.0	5.3			4.6
Lane Util. Factor		1.00		1.00	1.00			1.00	0.95			1.00
Frt		0.94		1.00	0.85			1.00	1.00			1.00
Flt Protected		0.97		0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)		1706		1770	1583			1770	3527			1770
Flt Permitted		1.00		1.00	1.00			0.95	1.00			0.95
Satd. Flow (perm)		1755		1863	1583			1770	3527			1770
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)	24	0	18	18	0	17	5	9	897	21	172	21
RTOR Reduction (vph)	0	40	0	0	16	0	0	0	2	0	0	0
Lane Group Flow (vph)	0	2	0	18	1	0	0	14	916	0	0	193
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8								
Actuated Green, G (s)		3.0		3.0	3.0			1.4	24.8			17.7
Effective Green, g (s)		3.0		3.0	3.0			1.4	24.8			17.7
Actuated g/C Ratio		0.05		0.05	0.05			0.02	0.41			0.29
Clearance Time (s)		4.6		4.6	4.6			4.0	5.3			4.6
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		87		93	79			41	1457			522
v/s Ratio Prot					0.00			0.01	c0.26			c0.11
v/s Ratio Perm		0.00		c0.01								
v/c Ratio		0.02		0.19	0.01			0.34	0.63			0.37
Uniform Delay, d1		27.1		27.3	27.1			28.8	13.9			16.7
Progression Factor		1.00		1.00	1.00			0.80	1.43			1.00
Incremental Delay, d2		0.1		1.0	0.1			4.6	1.9			0.4
Delay (s)		27.2		28.4	27.1			27.6	21.9			17.2
Level of Service		C		C	C			C	C			B
Approach Delay (s)		27.2			27.8				22.0			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	425	21
Future Volume (vph)	425	21
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3514	
Flt Permitted	1.00	
Satd. Flow (perm)	3514	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	462	23
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	483	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	41.7	
Effective Green, g (s)	41.7	
Actuated g/C Ratio	0.70	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2442	
v/s Ratio Prot	0.14	
v/s Ratio Perm		
v/c Ratio	0.20	
Uniform Delay, d1	3.2	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	3.4	
Level of Service	A	
Approach Delay (s)	7.3	
Approach LOS	A	

Intersection Summary

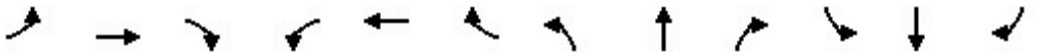
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	54	10	84	40	22	116	4	78	666	40	97	80
Future Volume (vph)	54	10	84	40	22	116	4	78	666	40	97	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00		1.00	0.95			1.00
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.99			1.00
Flt Protected		0.96	1.00	0.95	0.99	1.00		0.95	1.00			0.95
Satd. Flow (prot)		1788	1583	1681	1743	1583		1770	3509			1770
Flt Permitted		0.96	1.00	0.95	0.99	1.00		0.95	1.00			0.95
Satd. Flow (perm)		1788	1583	1681	1743	1583		1770	3509			1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	11	88	42	23	122	4	82	701	42	102	84
RTOR Reduction (vph)	0	0	81	0	0	114	0	0	2	0	0	0
Lane Group Flow (vph)	0	68	7	32	33	8	0	86	741	0	0	186
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	7	7		8	8		5	5	2		1	1
Permitted Phases			7			8						
Actuated Green, G (s)		9.9	9.9	7.8	7.8	7.8		14.4	64.5			19.0
Effective Green, g (s)		9.9	9.9	7.8	7.8	7.8		14.4	64.5			19.0
Actuated g/C Ratio		0.08	0.08	0.06	0.06	0.06		0.12	0.54			0.16
Clearance Time (s)		4.6	4.6	4.6	4.6	4.6		4.0	5.0			4.6
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		147	130	109	113	102		212	1886			280
v/s Ratio Prot		c0.04		c0.02	0.02			0.05	c0.21			c0.11
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.46	0.06	0.29	0.29	0.08		0.41	0.39			0.66
Uniform Delay, d1		52.5	50.7	53.5	53.5	52.7		48.8	16.3			47.5
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			0.96
Incremental Delay, d2		2.3	0.2	1.5	1.4	0.3		1.3	0.6			5.8
Delay (s)		54.8	50.9	55.0	54.9	53.0		50.1	16.9			51.6
Level of Service		D	D	D	D	D		D	B			D
Approach Delay (s)		52.6			53.7				20.3			
Approach LOS		D			D				C			

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	242	64
Future Volume (vph)	242	64
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3429	
Flt Permitted	1.00	
Satd. Flow (perm)	3429	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	255	67
RTOR Reduction (vph)	12	0
Lane Group Flow (vph)	310	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	69.4	
Effective Green, g (s)	69.4	
Actuated g/C Ratio	0.58	
Clearance Time (s)	5.3	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1983	
v/s Ratio Prot	0.09	
v/s Ratio Perm		
v/c Ratio	0.16	
Uniform Delay, d1	11.7	
Progression Factor	1.05	
Incremental Delay, d2	0.2	
Delay (s)	12.4	
Level of Service	B	
Approach Delay (s)	26.8	
Approach LOS	C	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	445	170	776	568	379	287	202	753	358	136	66
Future Volume (vph)	39	445	170	776	568	379	287	202	753	358	136	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.96		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3392		3433	3327		1770	1863	2787	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3392		3433	3327		1770	1863	2787	3433	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	41	473	181	826	604	403	305	215	801	381	145	70
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	571	0	0	59
Lane Group Flow (vph)	41	628	0	826	1007	0	305	215	230	381	145	11
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases									2			1
Actuated Green, G (s)	4.9	31.0		36.7	62.9		29.6	29.6	29.6	22.2	22.2	22.2
Effective Green, g (s)	4.9	31.0		36.7	62.9		29.6	29.6	29.6	22.2	22.2	22.2
Actuated g/C Ratio	0.03	0.22		0.26	0.44		0.21	0.21	0.21	0.16	0.16	0.16
Clearance Time (s)	5.5	5.9		5.5	5.8		5.9	5.9	5.9	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	60	735		881	1463		366	385	576	532	289	245
v/s Ratio Prot	0.02	c0.19		c0.24	0.30		c0.17	0.12		c0.11	0.08	
v/s Ratio Perm									0.08			0.01
v/c Ratio	0.68	0.85		0.94	0.69		0.83	0.56	0.40	0.72	0.50	0.04
Uniform Delay, d1	68.3	53.8		52.0	32.2		54.3	50.8	49.0	57.4	55.3	51.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.6	9.5		17.0	1.4		14.9	1.8	0.5	4.6	1.4	0.1
Delay (s)	95.8	63.4		69.0	33.5		69.3	52.6	49.5	62.0	56.7	51.5
Level of Service	F	E		E	C		E	D	D	E	E	D
Approach Delay (s)		65.3			49.5			54.6			59.5	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	54.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	143.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	36.4
Intersection LOS	E

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	14	52	1061	543
Demand Flow Rate, veh/h	14	53	1082	554
Vehicles Circulating, veh/h	557	1074	60	10
Vehicles Exiting, veh/h	7	68	511	1117
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.8	11.7	52.1	8.9
Approach LOS	A	B	F	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	14	53	1082	554
Cap Entry Lane, veh/h	647	386	1064	1119
Entry HV Adj Factor	1.000	0.981	0.981	0.980
Flow Entry, veh/h	14	52	1061	543
Cap Entry, veh/h	647	379	1044	1097
V/C Ratio	0.022	0.137	1.017	0.495
Control Delay, s/veh	5.8	11.7	52.1	8.9
LOS	A	B	F	A
95th %tile Queue, veh	0	0	21	3