SunPointe

Transportation Impact Analysis Report

Prepared for:

June, 2016

OC15-0405

FEHR PEERS
Improving Communities Since 1985

TABLE OF CONTENTS

1. Executive Summary 1

2. Introduction and Analysis Methodologies 2
Proposed Project 2
Project Study Area 2
Analysis Scenarios 2
Analysis Methodologies 5
Future Forecasting 6
Significance Criteria 7

3. Existing (2015) Conditions 8
Existing Roadway Facilities 8
Existing Transit Facilities 9
Rail Network 10
Bicycle Network 10
Pedestrian Network 10
Traffic Volumes and Lane Configurations 11
Existing Intersection Operations 11

4. Existing (2015) Plus Project Traffic Conditions 14
Traffic Volumes 14
Intersection Operations 15
Impact Assessment 19

5. Project Opening Year (2018) No Project Traffic Conditions 20
Traffic Volumes 20
Roadway Improvements 23
Intersection Operations 23

6. Project Opening Year (2018) Plus Project Traffic Conditions 24
Traffic Volumes 24
Roadway Improvements 24
Intersection Operations 24
Impact Assessment 27

7. General Plan Buildout Year (2035) No Project Traffic Conditions 28
Traffic Volumes 28
Roadway Improvements 28
Intersection Operations 28

8. General Plan Buildout Year (2035) Plus Project Traffic Conditions 32
Traffic Volumes 32
Roadway Improvements 32
Intersection Operations 32
Impact Assessment 35

9. Mitigation Measures 36

10. Parking, Site Access, and On-Site Circulation 37
Parking 37
Site Access 37
On-Site Circulation 39

LIST OF FIGURES

Figure 2-1 – Project Site Plan 3

Figure 2-2 – Project Site and Study Intersections 4

Figure 3-1 – Existing (2015) Peak Hour Traffic Volumes 12

Figure 4-1 – Trip Distribution 16

Figure 4-2 – Project Only Traffic Volumes 17

Figure 4-3 – Existing (2015) Plus Project Peak Hour Traffic Volumes 18

Figure 5-1 – Local Pending and Approved Projects 21

Figure 5-2 – Project Opening Year (2018) No Project Peak Hour Traffic Volumes 22

Figure 6-1 – Project Opening Year (2018) Plus Project Peak Hour Traffic Volumes 25

Figure 7-1 – General Plan Buildout (Year 2035) No Project Peak Hour Traffic Volumes 30

Figure 8-1 – General Plan Buildout (Year 2035) Plus Project Peak Hour Traffic Volumes 33

LIST OF TABLES

Table 2-1 Intersection Level of Service Criteria 6

Table 3-1 Intersection Level of Service Existing (2015) Conditions 13

Table 4-1 Sunpointe Residential Development Trip Generation Rates and Estimates 14

Table 4-2 Intersection Level of Service Existing (2015) Plus Project Conditions 19

Table 5-1 Local Pending and Approved Projects 20

Table 5-2 Intersection Level of Service Opening Year (2018) Conditions 23

Table 6-1 Intersection Level of Service Opening Year (2018) Plus Project Conditions 26

Table 6-2 Opening Year (2018) Plus Project Intersection Impacts 27

Table 7-1 Intersection Level Of Service General Plan Buildout Year (2035) No Project Conditions 31

Table 8-1 Intersection Level of Service General Plan Buildout Year (2035) Plus Project Conditions 34

Table 8-2 General Plan Buildout (2035) Plus Project Intersection Impacts..... 35

Table 10-1 SunPointe Neighborhood Intrusion Summary 38

APPENDICES

Appendix A: Analysis and Methodology Memo

Appendix B: Traffic Count Sheets

Appendix C: Level of Service Calculation Sheets

1. EXECUTIVE SUMMARY

Fehr & Peers has completed an assessment for the proposed SunPointe project in Laguna Niguel, CA. The proposed project consists of 71 residential housing units in a community constructed at the end of Avenida Del Caballo, just west of Interstate 5 (I-5).

As part of Fehr & Peers' assessment, the following scenarios were evaluated:

- Existing (2015) Conditions – Consists of existing (August 2015) counts collected at the study intersections.

- Existing (2015) Plus Project Conditions – Project trips were assigned to the study intersections in addition to the existing counts.

- Opening Year (2018) No Project Conditions – A two percent per year growth rate was applied to the Existing Conditions counts along with expected traffic generated from local pending and approved development projects.

- Opening Year (2018) Plus Project Conditions – Project trips were assigned to the study intersections in addition to the Opening Year No Project Conditions forecasts.

- General Plan Buildout (2035) Conditions – The Orange County Transportation Model (OCTAM) was used to develop a future growth rate of 0.5%. This growth rate was applied to Existing Conditions counts along with any local pending and approved projects. Caltrans funded roadway improvements are expected to be in operation by 2019 and are assumed in this scenario.

- General Plan Buildout Plus Project (2035) Conditions – Project trips were assigned to the study intersections on top of the General Plan Buildout Conditions forecasts.

No significant impacts were identified at any analyzed intersections based on the Orange County Congestion Management Program (CMP) and the City of Laguna Niguel criteria.

2. INTRODUCTION AND ANALYSIS METHODOLOGIES

This chapter outlines the scope of the traffic impact analysis, including the study area, analysis methodologies, and significance criteria employed in the study.

PROPOSED PROJECT

Project Description

The proposed SunPointe development consists of 71 residential lots in the City of Laguna Niguel. The project site is located at the end of Avenida Del Caballo, just west of the I-5 and State Route 73 (SR-73) junction. Southern California Regional Rail Authority (Metrolink) railroad tracks lie at the eastern border of the project site. The proposed development's site plan is shown on Figure 2-1.

PROJECT STUDY AREA

The following seven intersections were approved by city staff for inclusion in the study and are shown on Figure 2-2:

1. Cabot Road at Crown Valley Parkway
2. Camino Capistrano at Paseo De La Colinas
3. Cabot Road at Paseo De La Colinas
4. Star Drive at Paseo De La Colinas
5. Camino Capistrano at Avery Parkway
6. I-5 Southbound Ramps at Avery Parkway
7. I-5 Northbound Ramps at Avery Parkway

ANALYSIS SCENARIOS

The following analysis scenarios were evaluated consistent with the Orange County Congestion Management Program (CMP) guidelines:

- Existing (2015) Conditions – Consists of existing (August 2015) counts collected at the study intersections.

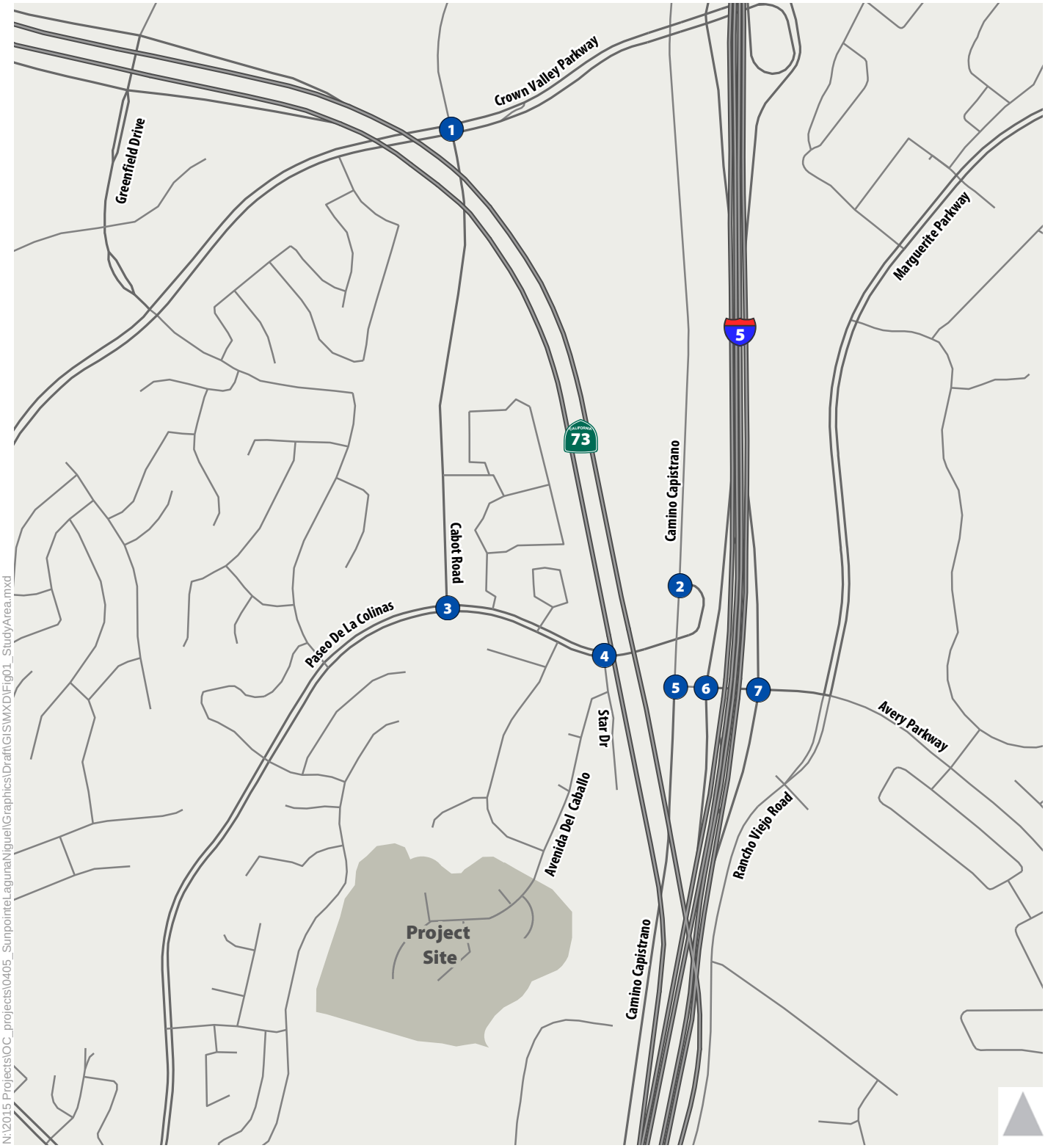
- Existing (2015) Plus Project Conditions – Project trips were assigned to the study intersections in addition to the existing counts.

- Opening Year (2018) No Project Conditions – A two percent per year growth rate was applied to the Existing Conditions counts along with expected traffic generated from local pending and approved development projects.

Source: Hunsaker & Associates

Figure 2-1

Project Site Plan



1 Study Intersection

Project Site

Figure 2-2

Project Site and Study Intersections

- Opening Year (2018) Plus Project Conditions – Project trips were assigned to the study intersections in addition to the Opening Year No Project Conditions forecasts.

- General Plan Buildout (2035) Conditions – The Orange County Transportation Model (OCTAM) was used to develop a future growth rate of 0.5% per year. This growth rate was applied to Existing Conditions counts along with any local pending and approved projects. Caltrans funded roadway improvements are expected to be in operation by 2019 and are assumed in this scenario.

- General Plan Buildout Plus Project (2035) Conditions – Project trips were assigned to study intersections on top of the General Plan Buildout Conditions forecasts.

ANALYSIS METHODOLOGIES

Traffic Analysis

For signalized intersections, the traffic analysis of this project was evaluated in accordance with the CMP guidelines using the Intersection Capacity Utilization (ICU) methodology. All seven of the study intersections are signalized. Delay is generally reported for intersections under the jurisdiction of Caltrans.

The ICU methodology is considered a standard approach for evaluating signalized intersection operations in Orange County and the City of Laguna Niguel. The ICU methodology evaluates the critical movements of each signal and compares that to the critical movement capacity of the intersection, resulting in a volume-to-capacity estimate. After the quantitative V/C estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from Level of Service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. For the City of Laguna Niguel, LOS D or better is considered acceptable. Descriptions of the LOS letter grades for intersections are provided in Table 2-1.

The following parameters, based on the Orange County CMP guidelines and the Laguna Niguel General Plan, were used in this traffic analysis:

- Through and turn lane capacities of 1,700 vehicles per hour per lane (3,400 vehicles per hour was used for dual left-turn lanes) for ICU.

- A five percent yellow clearance cycle was included for ICU calculations.

TABLE 2-1 INTERSECTION LEVEL OF SERVICE CRITERIA

Level of Service	Description	Signalized Intersections Volume-to-Capacity (V/C) Ratio	Signalized Intersection Delay (sec)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	0.000-0.600	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	0.601-0.700	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	0.701-0.800	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	0.801-0.900	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	0.901-1.000	> 55.0 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	Greater than 1.000	> 80.0

Source: City of Laguna Niguel Circulation Element, Highway Capacity Manual 2010

FUTURE FORECASTING

Project Opening Year (2018) Conditions

Future volumes for Project Opening Year (2018) Conditions were developed by applying a 2.0% per year growth rate to existing volumes. Any pending and approved project trips assumed to be in operation by the opening year were also added to forecast opening year volumes. These pending and approved projects are listed in Table 5-1 and were provided by the City of Laguna Niguel in the form of the *Three Forbes Traffic Study*, *2015*. Figure 5-1 shows the location of the pending and approved projects used in the analysis.

General Plan Buildout Year (2035) Conditions

Future volumes for General Plan Buildout Year (2035) Conditions were developed from application of OCTAM. Future model forecasts were analyzed with existing volumes to estimate a network wide average growth rate of 0.5% from 2015 to 2035. The 0.5% growth rate and any local pending and approved project trips were applied to the existing counts to produce the General Plan Buildout Year (2035) traffic volumes.

SIGNIFICANCE CRITERIA

The following LOS significance criteria was employed to determine if the project causes significant traffic impacts to the study area.

City of Laguna Niguel

For intersections under the City of Laguna Niguel's jurisdiction, the significance criteria is consistent with the City's Circulation Element's LOS policy and the Orange County CMP Guidelines. A significant impact would occur at a study intersection when the project-related traffic causes:

- A signalized intersection to degrade from an acceptable LOS D or better to LOS E or LOS F; or
- The V/C ratio to increase by more than 0.01 at a signalized intersection operating at LOS E or LOS F.

If a City of Laguna Niguel intersection is operating at LOS E or worse and a significant impact is anticipated, mitigation is needed to improve the "plus project" delay to the existing "no project" delay. If an impact drops an acceptable LOS to a below than acceptable LOS, mitigation is required to bring the LOS back to the acceptable threshold level. No mitigation is required for intersections operating at or above the acceptable threshold (LOS D).

3. EXISTING (2015) CONDITIONS

This chapter discusses the existing transportation conditions in the project study area. This discussion addresses the roadway, transit, rail, bicycle, and pedestrian networks.

EXISTING ROADWAY FACILITIES

Primary regional access to the project site is provided by the San Diego Freeway (I-5) and the San Joaquin Hills Transportation Corridor (SR-73). Just east of the project site is the I-5 and SR-73 junction, where the two freeways meet. Local access is provided by Paseo De La Colinas, Camino Capistrano, Cabot Road, Crown Valley Parkway, and Avery Parkway. These roadways are classified in the City of Laguna Niguel General Plan and are described in detail below.

Regional Roads

- Interstate 5 (I-5) Freeway – The I-5 freeway is a north-south facility spanning over 1,300 miles through the states of California, Oregon, and Washington. The freeway begins south of San Diego, California and ends north of Bellingham, Washington. Near the study area, I-5 has ten lanes with a posted speed limit of 65 miles per hour.

- State Route 73 (SR-73) Freeway – The SR-73 freeway is a north-south facility, beginning in Laguna Niguel (next to the project site) and terminating in Costa Mesa. The freeway spans the Cities of Laguna Niguel, Aliso Viejo, Irvine, and Costa Mesa. Near the project site, SR-73 has six lanes with a posted speed limit of 65 miles per hour.

Local Access Roads

- Paseo De La Colinas – Paseo De La Colinas is classified as a Primary roadway. The roadway is a north-south facility and provides the main access to the project site. Near the study location, Paseo De La Colinas is a four lane divided roadway with a posted speed limit of 45 miles per hour.

- Camino Capistrano – Camino Capistrano is classified as a Secondary roadway and is a north-south facility. The roadway is adjacent to the railroad tracks east of the project site. Near the study location, Camino Capistrano is a two lane undivided roadway with a posted speed limit of 40 miles per hour.

- Cabot Road – Cabot Road is classified as a Primary roadway and is a north-south facility. Near the study location, the roadway is a divided four-lane facility with a posted speed limit of 45 miles per hour.

- Crown Valley Parkway – Crown Valley Parkway is classified as a Major roadway and is an east-west facility. The roadway provides access to I-5. Crown Valley Parkway has six lanes and is a divided facility. Near the study location, the posted speed limit is 40-45 miles per hour.

- Avery Parkway – Avery Parkway is classified as a Primary roadway and is an east-west facility. The roadway provides access to I-5. Near the study area, Avery Parkway is an undivided four lane facility with a posted speed limit of 35 miles per hour.

EXISTING TRANSIT FACILITIES

There are six transit lines that currently operate in the study area. The lines, operated by the Orange County Transportation Authority (OCTA), are described in detail below:

Local Fixed Routes

- Route 82 (Mission Viejo to Rancho Santa Margarita) – Route 82 travels in the north-south direction from the Foothill Ranch Towne Center in Lake Forest to the Shops at Mission Viejo. Near the project site, Route 82 runs along Crown Valley Parkway. The route operates on 60 minute headways during weekdays and about 80 minute headways on Saturdays.

- Route 91 (Laguna Hills to San Clemente) – Route 91 travels in the north-south direction from Los Molinos at Pico in San Clemente to the Laguna Hills Mall. Near the project site, Route 91 runs through Avery Parkway. The route operates with 35 minute heads on weekdays and 40 minute headways on weekends.

Community and Shuttle Routes

- Route 191 (Mission Viejo to San Clemente) – Route 191 travels in the north-south direction, beginning at Saddleback College in Mission Viejo and ending at the intersection of El Camino Real at Ave Santa Margarita in San Clemente. Near the project site, Route 191 travels through Avery Parkway. The route operates with 30-60 minute headways on weekdays and 60 minute headways on weekends.

Intracounty Express Routes

- Route 212 (Irvine to San Juan Capistrano Express) – Route 212 travels in the north-south direction, beginning at John Wayne Airport in Irvine and ending at the intersection of Rancho Viejo at Junipero Sierra in San Juan Capistrano. Near the project site, Route 212 travels through Avery Parkway. The route only provides two departure times from each location and only operates on weekdays.

- Route 216 (Costa Mesa to San Juan Capistrano Express) – Route 216 travels in the north-south direction, beginning at Hyland & Scenic in Costa Mesa and ending at the intersection of Rancho Viejo at Junipero Sierra in San Juan Capistrano. Near the project site, Route 216 travels through Avery Parkway. The route provides only one departure from each location and only operates on weekdays.

Stationlink Metrolink Rail Feeder Routes

- Route 490 (Aliso Viejo to Laguna Niguel Train Station) – Route 490 travels in the north-south direction, beginning at the intersection of Aliso Creek at Park Plaza in Aliso Viejo and ending at the Laguna Niguel Metrolink Station. Near the project site, Route 490 travels along Crown Valley Parkway. The route operates 40-70 minute headways on weekdays only.

There are no planned transit improvements near the study area.

RAIL NETWORK

Just east of the project site is a Metrolink station. Metrolink is the only operator at the Laguna Niguel/Mission Viejo station. The Metrolink trains serve the Orange County, Inland Empire, and Los Angeles areas, traveling as far south as Oceanside and as far north as Los Angeles. The Metrolink Inland Empire line operates with 10 minute headways on weekdays and weekends and travels between Oceanside and San Bernardino. The Orange County line operates on 10 minute headways on weekdays and weekends and travels between Oceanside and Los Angeles.

BICYCLE NETWORK

The bicycle network in the study area consists of dedicated bicycle facilities. The City of Laguna Niguel has three bikeway classifications.

- Class I Path – Dedicated travel-way for bicyclists, separated from any roadway. Most common applications of Class I Bikeways are along rivers, canals, utility right-of-ways, college campuses and within parks.
- Class II Lane – Delineated right-of-way assigned to bicyclists along roadways. Signs and pavement markings help define bike lanes.
- Class III Lane – Bicycle routes that are roadways deemed safe for bicyclists, but have no designated lane.

Existing Class II bikeways are located along Crown Valley Parkway, Camino Capistrano, Cabot Road, and Paseo De La Colinas.

The OCTA has proposed new bikeways in the study area in the following locations:

- Class I (San Juan Capistrano Path) adjacent to Camino Capistrano and the railroad tracks.
- Class III on Camino Capistrano extending from the existing Class II bikeway (existing Class II bikeway ends at the intersection of Camino Capistrano and Paseo De La Colinas).

PEDESTRIAN NETWORK

The pedestrian network in the study area consists of sidewalks, pedestrian crosswalks, and pedestrian crossing controls. Sidewalks are generally provided throughout the study area along with crosswalks at signalized intersections. Sidewalks are not located adjacent to the railroad tracks along Camino Capistrano or along the I-5 ramps.

According to the Laguna Niguel Trails Master Plan, the Colinas Bluff Trail begins just north of the project site and runs adjacent to three sides of the site before heading south generally along Golden Lantern Street.

TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Existing morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak period intersection counts were conducted at the seven study intersections on August 27, 2015. These time periods generally correspond to peak period traffic conditions on typical roadways. Counts were collected after the start of the school year for schools within the Capistrano Unified School District.

Existing peak hour traffic volumes for study intersections are shown on Figure 3-1. Lane configurations and existing traffic counts are provided in Appendix B.

As part of the field inventory, Fehr & Peers also collected the following information:

- Lane configurations
- Signal phasing
- Land uses in the study area
- Existing pedestrian and bicycle facilities (sidewalks, crosswalks and bike lanes)
- Public transit service

EXISTING INTERSECTION OPERATIONS

Fehr & Peers utilized the existing traffic volumes, lane configurations, and signal phasing information collected in the field to evaluate traffic operations at the study intersections during the peak hours. The results are summarized in Table 3-1. The technical calculations are presented in Appendix C.

As shown in Table 3-1, no intersections are operating at a deficient LOS during the AM or PM peak period.

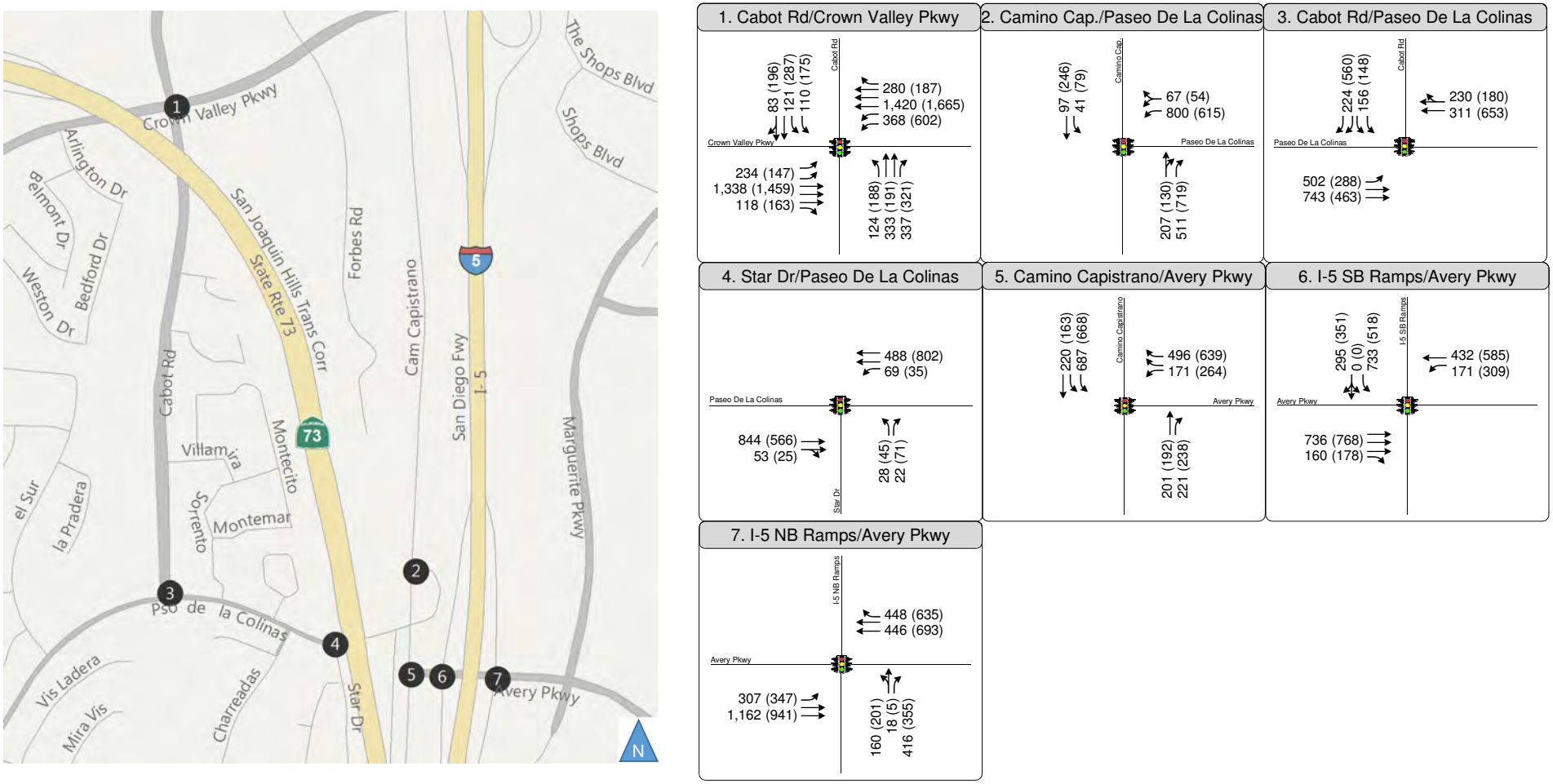


Figure 3-1
Peak Hour Traffic Volumes and Lane Configurations
Existing (2015) Conditions

TABLE 3-1 INTERSECTION LEVEL OF SERVICE EXISTING (2015) CONDITIONS

Intersection		Control	AM Peak		PM Peak	
			V/C[1] (Delay[2])	LOS	V/C[1] (Delay[2])	LOS
1.	Cabot Road at Crown Valley Parkway	Signal	0.651	B	0.766	C
2.	Camino Capistrano at Paseo De La Colinas	Signal	0.540	A	0.543	A
3.	Cabot Road at Paseo De La Colinas	Signal	0.546	A	0.576	A
4.	Star Drive at Paseo De La Colinas	Signal	0.355	A	0.328	A
5.	Camino Capistrano at Avery Parkway	Signal	0.528	A	0.574	A
6.	I-5 Southbound Ramps at Avery Parkway	Signal	0.606 (67.5)	B (E)	0.650 (39.9)	B (D)
7.	I-5 Northbound Ramps at Avery Parkway	Signal	0.636 (45.1)	B (D)	0.667 (24.6)	B (C)

Notes:

1- V/C for signalized intersections is based on application of the Intersection Capacity Utilization methodology using Traffix 7.9 software. V/C = Volume / Capacity Ratio.

2- Delay is average intersection delay (seconds) based on application of the Highway Capacity Manual 2010 methodology using Synchro 8 Build 806 software. Delay is reported for intersections under the jurisdiction of Caltrans for informational purposes only.

Source: Fehr & Peers, 2016

4. EXISTING (2015) PLUS PROJECT TRAFFIC CONDITIONS

This chapter evaluates the Existing Year (2015) Plus Project Conditions. This scenario includes the addition of traffic generated from the proposed project.

TRAFFIC VOLUMES

Traffic was estimated for the proposed project using a three step process. First, the numbers of project trips were estimated using the Institute of Transportation Engineers' (ITE) *Trip Generation*. Next, the distribution of those trips to the broader network was estimated. Finally, the trips were assigned to the study network based on the distribution of those trips. This process is described in detail below.

Trip Generation

The proposed project consists of 71 single family homes. The trip generation is summarized below in Table 4-1 and was estimated using 9.52 trips per dwelling unit as displayed in the ITE *Trip Generation* manual. As shown, the project is estimated to generate 676 daily trips, 53 AM peak hour trips (13 inbound and 40 outbound) and 71 PM peak hour trips (45 inbound and 26 outbound).

TABLE 4-1 SUNPOINTE RESIDENTIAL DEVELOPMENT TRIP GENERATION RATES AND ESTIMATES

TRIP GENERATION RATES [a]										
					AM Peak			PM Peak		
Proposed Project	**Land Use**	**ITE#**	**Rate**	**Daily**	**In %**	**Out %**	**Total**	**In %**	**Out %**	**Total**
SunPointe Residential Development	Single-Family Detached Housing	210	per dwelling unit	9.52	25%	75%	0.75	63%	37%	1.00
TRIP GENERATION ESTIMATES										
					AM Peak			PM Peak		
Proposed Project	**Land Use**	**ITE#**	**Size**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
SunPointe Residential Development	Single-Family Detached Housing	210	71	676	13	40	53	45	26	71

[a] Source: *Trip Generation, 9th Edition* (ITE, 2012). August, 2015

Trip Distribution

Based on our knowledge of the study area and utilization of Census journey-to-work travel data, Fehr & Peers estimated the trip distribution for the proposed project. Our estimated trip distribution, as approved by the City of Laguna Niguel, is shown on Figure 4-1 and is summarized below:

- 65% of trips coming from/going to the North
    - 40% accessing I-5
    - 25% accessing SR-73
- 20% of trips coming from/going to the South using I-5
- 10% of trips coming from/going to the East using Avery Parkway
- 5% of trips coming from/going to the West using Paseo De La Colinas

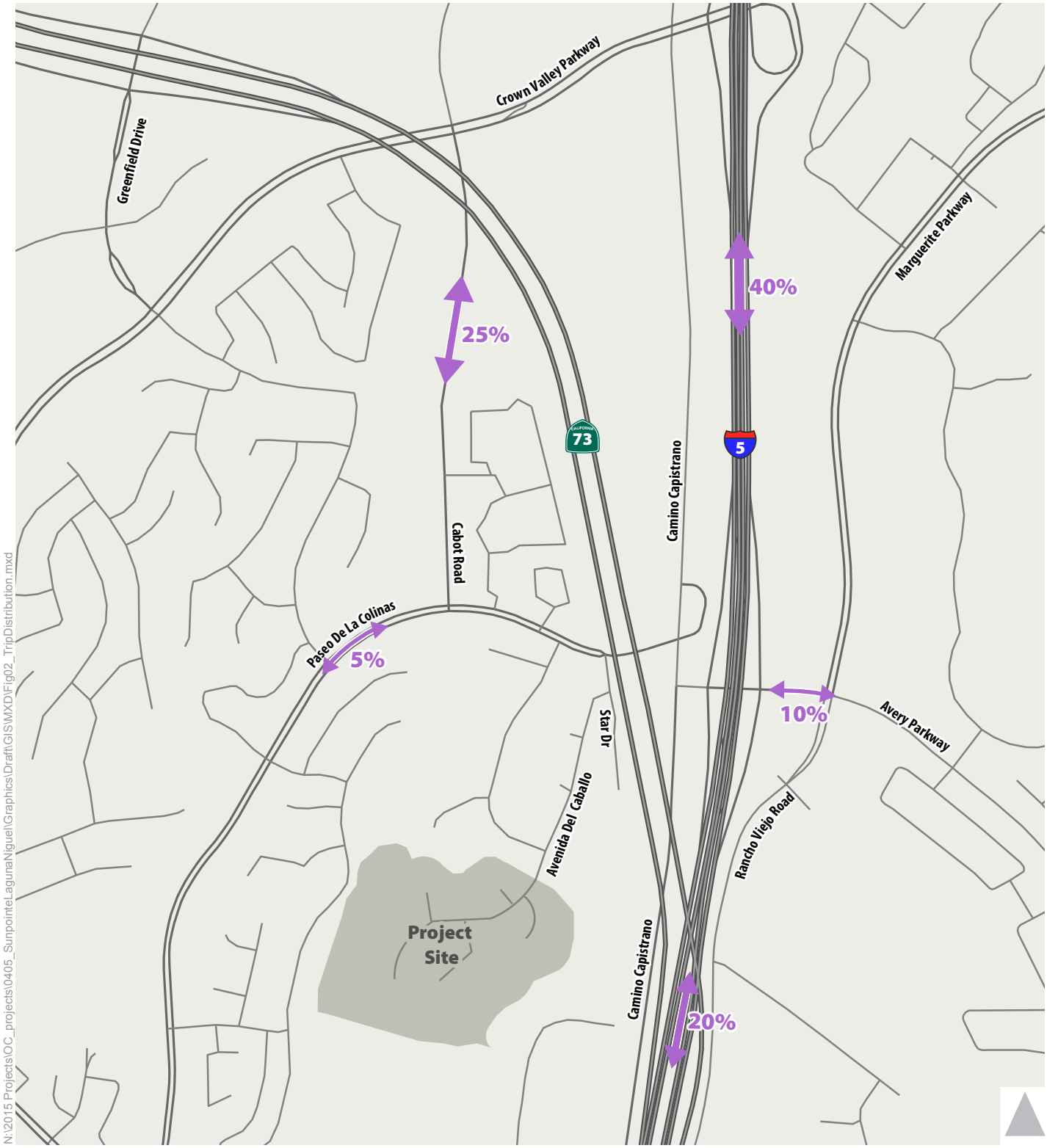
Trip Assignment

Fehr & Peers used the trip generation and trip distribution estimates to assign project trips to the study intersections. The project only trip assignment volumes are presented in Figure 4-2. The project trips were added to the Existing (2015) traffic volumes to develop Existing (2015) Plus Project traffic volumes presented on Figure 4-3.

INTERSECTION OPERATIONS

Intersection level of service analysis results for Existing (2015) Plus Project Conditions are summarized in Table 4-2. Level of service analysis sheets are provided in Appendix C.

As shown in Table 4-2, there are no intersections that are operating deficiently.



5% Trip Distribution

Project Site

Figure 4-1

Trip Distribution

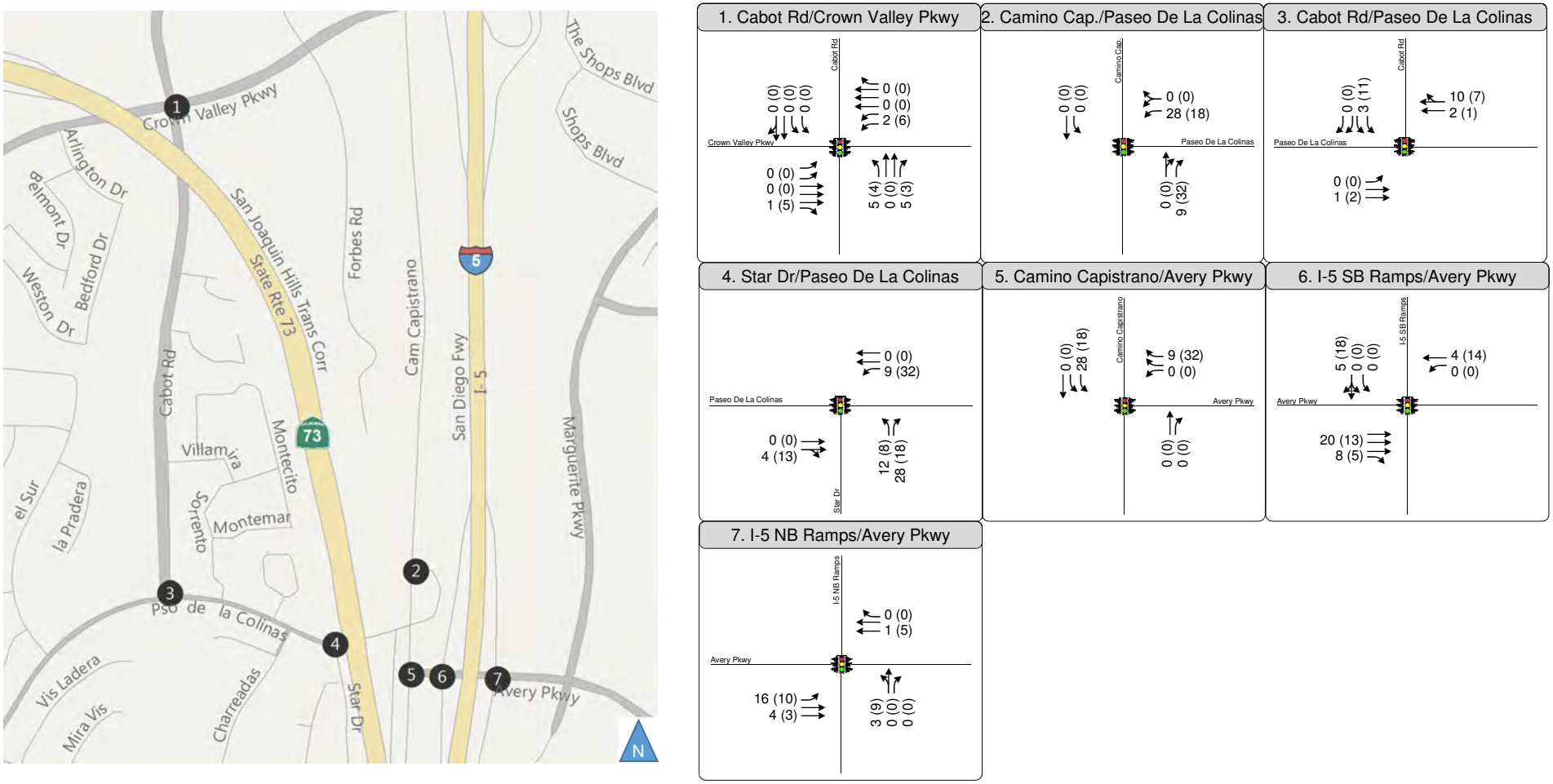


Figure 4-2
Peak Hour Traffic Volumes and Lane Configurations
Project Only Traffic

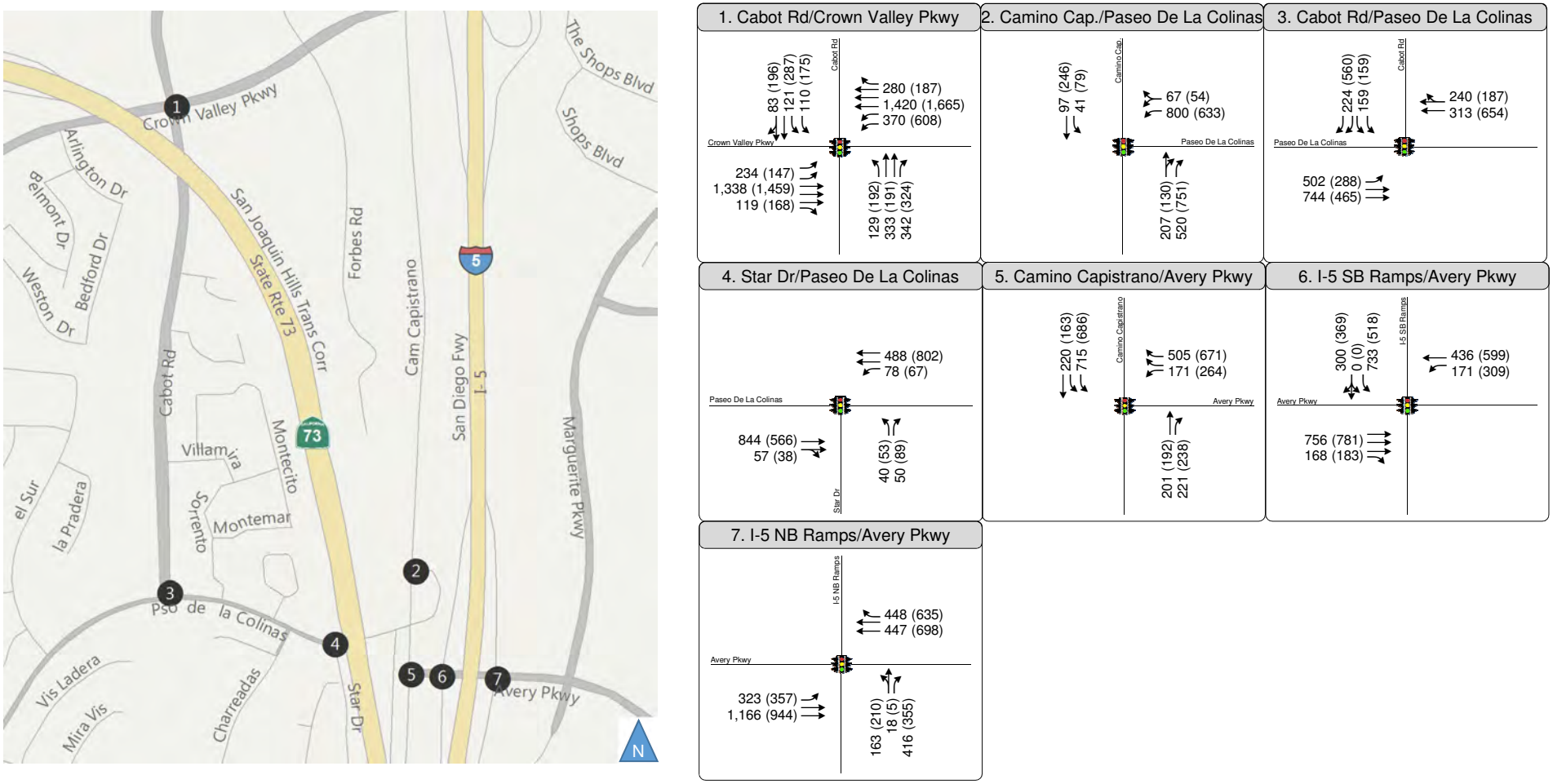


Figure 4-3
Peak Hour Traffic Volumes and Lane Configurations
Existing (2015) Plus Project Conditions

TABLE 4-2 INTERSECTION LEVEL OF SERVICE EXISTING (2015) PLUS PROJECT CONDITIONS

Intersection		Control	AM Peak		PM Peak	
			V/C[1] (Delay[2])	LOS	V/C[1] (Delay[2])	LOS
1.	Cabot Road at Crown Valley Parkway	Signal	0.655	B	0.770	C
2.	Camino Capistrano at Paseo De La Colinas	Signal	0.559	A	0.558	A
3.	Cabot Road at Paseo De La Colinas	Signal	0.552	A	0.576	A
4.	Star Drive at Paseo De La Colinas	Signal	0.374	A	0.338	A
5.	Camino Capistrano at Avery Parkway	Signal	0.539	A	0.589	A
6.	I-5 Southbound Ramps at Avery Parkway	Signal	0.610 (67.8)	B (E)	0.663 (42.5)	B (D)
7.	I-5 Northbound Ramps at Avery Parkway	Signal	0.638 (44.9)	B (D)	0.674 (26.7)	B (C)

Notes:

1- V/C for signalized intersections is based on application of the Intersection Capacity Utilization methodology using Traffix 7.9 software. V/C = Volume / Capacity Ratio.

2- Delay is average intersection delay (seconds) based on application of the Highway Capacity Manual 2010 methodology using Synchro 8 Build 806 software. Delay is reported for intersections under the jurisdiction of Caltrans for informational purposes only.

Source: Fehr & Peers, 2016

IMPACT ASSESSMENT

None of the study intersections are forecast to operate deficiently in the Existing (2015) Plus Project scenario and the project level impact is considered to be **less-than-significant**.

5. PROJECT OPENING YEAR (2018) NO PROJECT TRAFFIC CONDITIONS

This chapter evaluates the Project Opening Year (2018) No Project Conditions. This scenario includes the addition of ambient growth from Existing (2015) volumes to Year 2018 and traffic generated from pending and approved development projects.

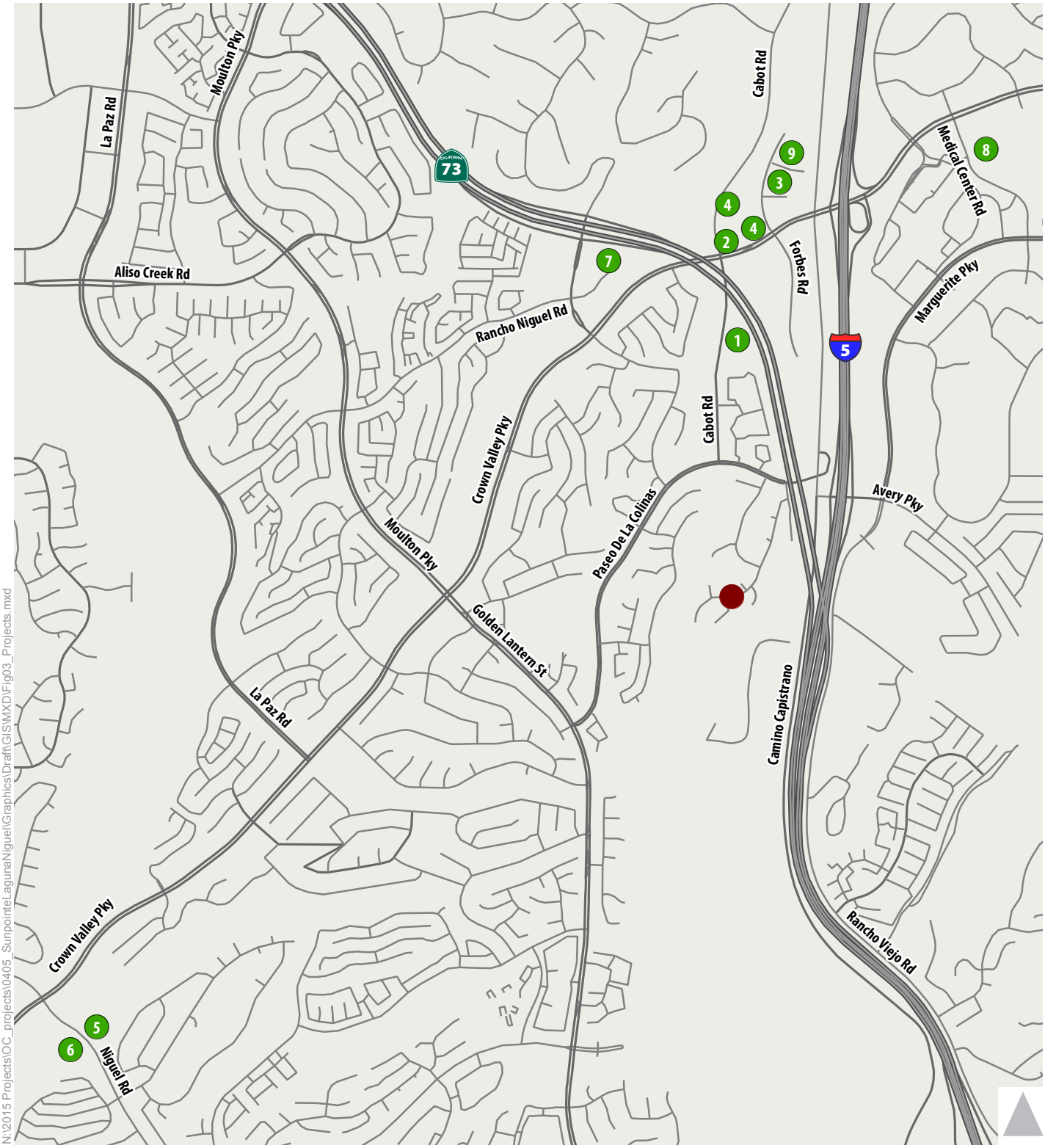
TRAFFIC VOLUMES

Traffic was estimated using a 2.0% per year growth rate to account for ambient growth in the area. Any traffic from pending or approved development projects assumed to be in operation by the project opening year was estimated and added to the network. The City of Laguna Niguel directed Fehr & Peers to use the list of pending and approved development projects assumed in the *Three Forbes Traffic Study, 2015*. As shown in Table 5-1, there are 9 pending or approved development projects in the Laguna Niguel area. The same trip generation estimates assumed in the *Three Forbes Traffic Study* were assumed in this study. Trip assignment was conducted using similar trip distribution patterns assumed for the proposed project based on our knowledge of the study area and utilization of Census journey-to-work travel data. Project Opening Year (2018) No Project peak traffic volumes for the study intersections are shown on Table 5-2.

TABLE 5-1 LOCAL PENDING AND APPROVED PROJECTS

Project	Time	Trips In	Trips Out
Forbes Road Apartments *(Apartments and Retail)*	AM PM	13 153	115 77
Skye Apartments *(Apartments)*	AM PM	18 75	71 40
Apex Apartments *(Apartments)*	AM PM	37 151	142 80
Broadstone Apartments *(Apartments and Retail)*	AM PM	19 176	159 86
Picerne Apartments *(Apartments)*	AM PM	54 224	214 120
Laguna Summit Apartments *(Apartments/Attached Multi-Family)*	AM PM	18 72	73 39
Crestavilla Retirement and Assisted Living Community *(Senior Housing/Assisting Living/Congregate Care)*	AM PM	56 31	25 65
Starbucks *(Coffee Shop with Drive-Thru/Retail Food Sales/Restaurant)*	AM PM	46 17	44 16
Mission Viejo Medical Center Project *(Medical Office Building)*	AM PM	208 110	55 283

Source: City of Laguna Niguel, Three Forbes Traffic Study,2015



N:\2015 Projects\OC_projects\0405_SunpointeLagunaNiguel\Graphics\Draft\GIS\MXD\Fig03_Projects.mxd

1. Skye Apartments
2. Apex Apartments
3. Broadstone Apartments
4. Picerne Apartments
5. Laguna Summit Apartments
6. Crestavilla Retirement and Assisted Living Community
7. Starbucks
8. Mission Viejo Medical Center Project
9. Forbes Road Apartments

Proposed SunPointe Project Site

Figure 5-1

Local Pending and Approved Projects

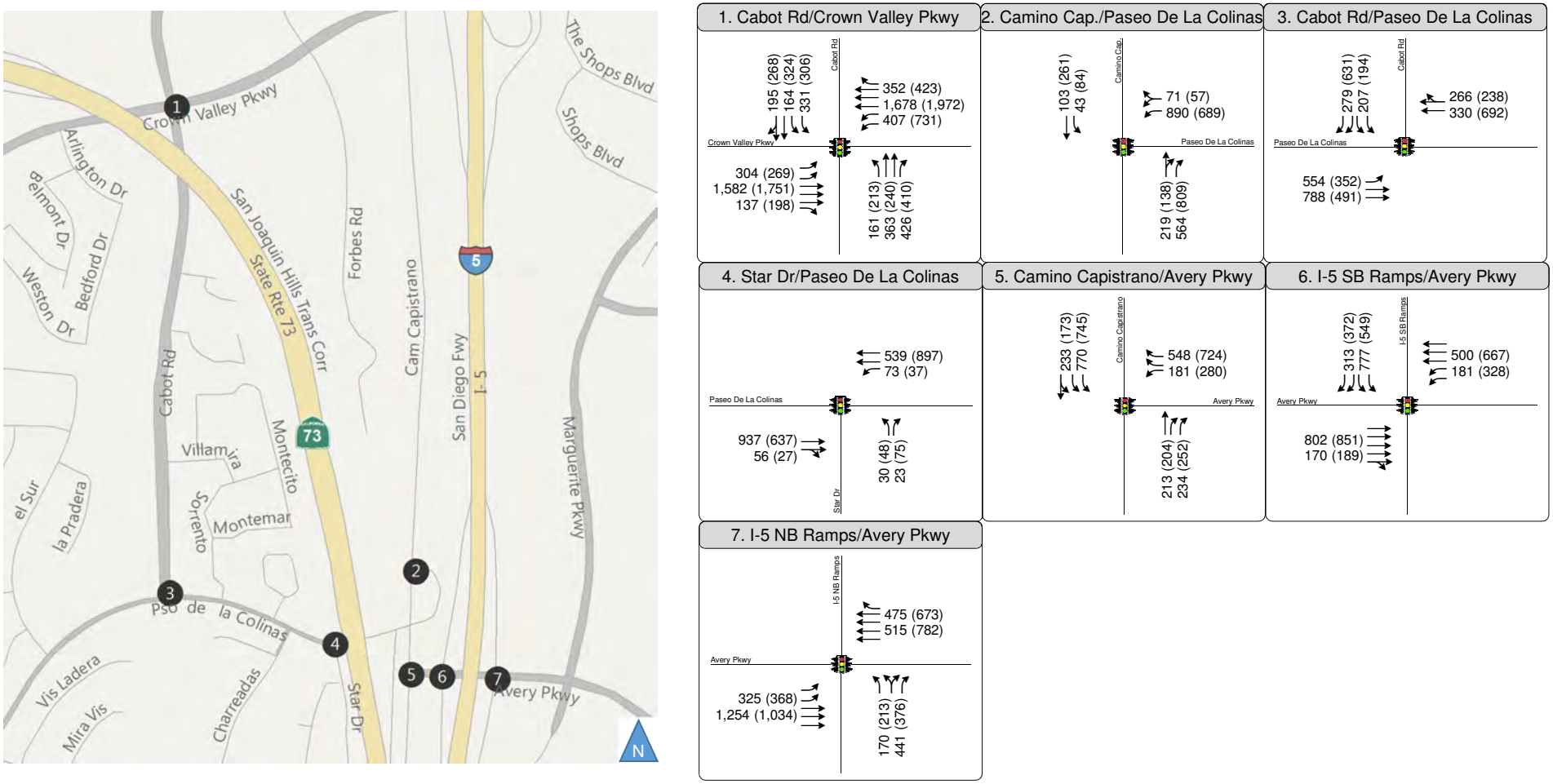


Figure 5-2
Peak Hour Traffic Volumes and Lane Configurations
Project Opening Year (2018) No Project Conditions

ROADWAY IMPROVEMENTS

There are no roadway improvements scheduled to take place by 2018 in the study area that would affect operations at the study intersections.

INTERSECTION OPERATIONS

Intersection level of service analysis results for Project Opening Year (2018) No Project Conditions are summarized in Table 5-2. Level of service analysis sheets are provided in Appendix C.

As shown in Table 5-2, the following intersections are operating at a deficient LOS during the peak hours for Opening Year (2018) No Project Conditions:

- Cabot Road at Crown Valley Parkway – PM Peak Hour (LOS E)

TABLE 5-2 INTERSECTION LEVEL OF SERVICE OPENING YEAR (2018) CONDITIONS

Intersection		Control	AM Peak		PM Peak	
			V/C[1] (Delay[2])	LOS	V/C[1] (Delay[2])	LOS
1.	Cabot Road at Crown Valley Parkway	Signal	0.828	D	**0.939**	**E**
2.	Camino Capistrano at Paseo De La Colinas	Signal	0.589	A	0.597	A
3.	Cabot Road at Paseo De La Colinas	Signal	0.614	B	0.646	B
4.	Star Drive at Paseo De La Colinas	Signal	0.386	A	0.358	A
5.	Camino Capistrano at Avery Parkway	Signal	0.533	A	0.563	A
6.	I-5 Southbound Ramps at Avery Parkway	Signal	0.665 (>80.0)	B (F)	0.713 (53.0)	C (D)
7.	I-5 Northbound Ramps at Avery Parkway	Signal	0.678 (50.1)	B (D)	0.718 (32.0)	C (C)

Notes:
1- V/C for signalized intersections is based on application of the Intersection Capacity Utilization methodology using Traffix 7.9 software. V/C = Volume / Capacity Ratio.
2- Delay is average intersection delay (seconds) based on application of the Highway Capacity Manual 2010 methodology using Synchro 8 Build 806 software. Delay is reported for intersections under the jurisdiction of Caltrans for informational purposes only.

Source: Fehr & Peers, 2016

6. PROJECT OPENING YEAR (2018) PLUS PROJECT TRAFFIC CONDITIONS

This chapter evaluates the Project Opening Year (2018) Plus Project Conditions. This scenario analyzes the intersection conditions with the addition of ambient growth from Existing (2015) to Opening Year (2018), traffic generated from assumed pending or approved projects, and the proposed project. This scenario is used to evaluate the net change in traffic conditions and to identify potential traffic impacts associated with the proposed project.

TRAFFIC VOLUMES

Traffic was estimated by adding the project only trips to the Project Opening Year (2018) Plus Project Conditions. Project Opening Year (2018) Plus Project peak hour traffic volumes for the study intersections as shown on Figure 6-1.

ROADWAY IMPROVEMENTS

There are no roadway improvements scheduled to take place by 2018 in the study area that would affect operations at the study intersections.

INTERSECTION OPERATIONS

Intersection LOS results for Project Opening Year (2018) Plus Project Conditions are summarized in Table 6-1. Level of service analysis sheets are provided in Appendix C.

As shown in Table 6-1, the following intersections are operating at a deficient LOS during the peak hours for Opening Year (2018) Plus Project Conditions:

- Cabot Road at Crown Valley Parkway – PM Peak Hour (LOS E)

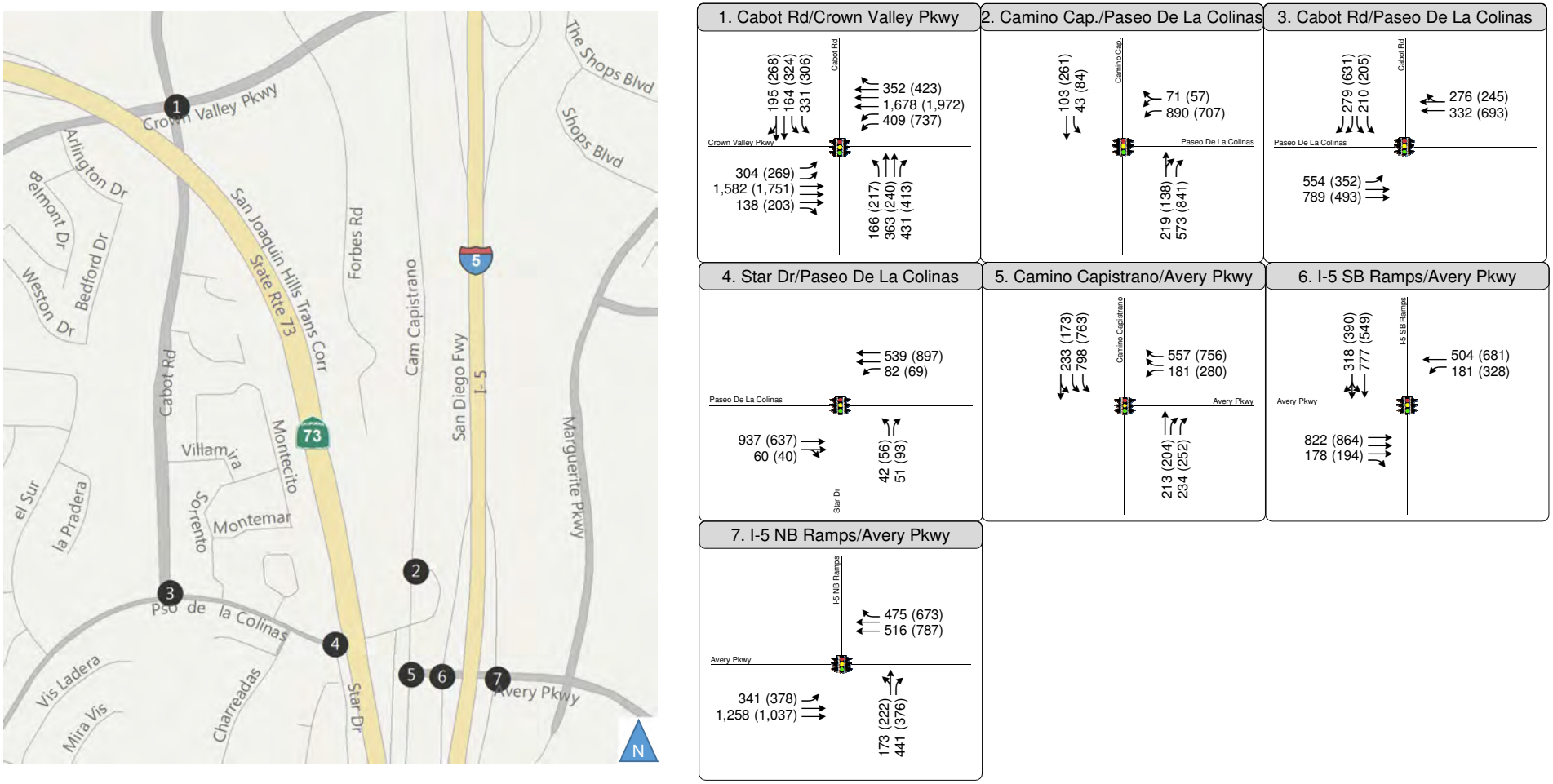


Figure 6-1
Peak Hour Traffic Volumes and Lane Configurations
Project Opening Year (2018) Plus Project Conditions

TABLE 6-1 INTERSECTION LEVEL OF SERVICE OPENING YEAR (2018) PLUS PROJECT CONDITIONS

Intersection		Control	AM Peak		PM Peak	
			V/C[1] (Delay[2])	LOS	V/C[1] (Delay[2])	LOS
1.	Cabot Road at Crown Valley Parkway	Signal	0.831	D	**0.943**	**E**
2.	Camino Capistrano at Paseo De La Colinas	Signal	0.608	B	0.612	B
3.	Cabot Road at Paseo De La Colinas	Signal	0.620	B	0.647	B
4.	Star Drive at Paseo De La Colinas	Signal	0.404	A	0.369	A
5.	Camino Capistrano at Avery Parkway	Signal	0.541	A	0.576	A
6.	I-5 Southbound Ramps at Avery Parkway	Signal	0.668 (>80.0)	B (F)	0.727 (56.3)	C (E)
7.	I-5 Northbound Ramps at Avery Parkway	Signal	0.679 (53.1)	B (D)	0.725 (34.2)	C (C)

Notes:

1- V/C for signalized intersections is based on application of the Intersection Capacity Utilization methodology using Traffix 7.9 software. V/C = Volume / Capacity Ratio.

2- Delay is average intersection delay (seconds) based on application of the Highway Capacity Manual 2010 methodology using Synchro 8 Build 806 software. Delay is reported for intersections under the jurisdiction of Caltrans for informational purposes only.

Source: Fehr & Peers, 2016

IMPACT ASSESSMENT

Table 6-2 compares the changes in V/C ratio, delay, and LOS at intersections that operate deficiently between the No Project and Plus Project scenarios to determine project impacts.

TABLE 6-2 OPENING YEAR (2018) PLUS PROJECT INTERSECTION IMPACTS

Intersection	Traffic Control	Peak Hour	Opening Year (2018)		Opening Year (2018) Plus Project		Change	Significant Impact?
			V/C[1] or Delay[2]	LOS	V/C[1] or Delay[2]	LOS		
1. Cabot Road at Crown Valley Parkway	Signal	AM	0.828	D	0.831	D	0.003	No
		PM	**0.939**	**E**	**0.943**	**E**	0.004	No

Notes:

1- V/C for signalized intersections is based on application of the Intersection Capacity Utilization methodology using Traffix 7.9 software. V/C = Volume / Capacity Ratio.

2- **Bold** indicates a deficient LOS.

3- A significant impact is designated at an intersection within City of Laguna Niguel jurisdiction in the event that project-related traffic causes a signalized intersection to degrade from an acceptable LOS D or better to LOS E or LOS F; or The V/C ratio to increase by more than 0.01 at a signalized intersection operating at LOS E or LOS F.

Source: Fehr & Peers, 2016

As shown in Table 6-2, no study intersections are forecast to result in a significant impact based on City thresholds of significance for Opening Year (2018) Plus Project Conditions.

7. GENERAL PLAN BUILDOUT YEAR (2035) NO PROJECT TRAFFIC CONDITIONS

This chapter evaluates the General Plan Buildout Year (2035) No Project Conditions.

TRAFFIC VOLUMES

Future volumes for the General Plan Buildout No Project Conditions were developed based on a network-wide average growth rate as determined from OCTAM link level growth. A growth rate of 0.5% per year was applied to the Existing Year (2015) traffic volumes in addition to pending or approved projects. This growth rate assumes growth for the Gateway Specific Plan. The resulting General Plan Buildout No Project Conditions volumes are shown on Figure 7-1.

ROADWAY IMPROVEMENTS

The following roadway improvements are assumed to be completed by 2019, according to Caltrans I-5 Widening Project preliminary construction plans provided by the City of Laguna Niguel. The new lane configurations are also shown on Figure 5-2.

- Camino Capistrano at Avery Parkway
    - Southbound through lane converted to a shared through-left turn lane
    - Addition of a northbound right turn lane
- I-5 Southbound Ramps at Avery Parkway
    - Southbound approach improved from one shared left-through-right lane and one left turn lane to two left turn lanes and two right turn lanes
    - Eastbound approach improved from three through lanes and one right turn lane to four through lanes and a shared through-right turn lane
    - Addition of one westbound left turn lane and two eastbound through lanes
- I-5 Northbound Ramps at Avery Parkway
    - Northbound approach improved from one shared left-through lane and one right turn lane to two left turn lanes and two right turn lanes
    - Addition of one eastbound left turn lane and one eastbound through lane
    - Addition of two westbound through lanes

INTERSECTION OPERATIONS

Intersection level of service analysis results for the General Plan Buildout No Project Conditions are summarized in Table 7-1. Level of service analysis sheets are provided in Appendix C.

As shown in Table 7-1, the following intersections are operating at a deficient LOS during the peak hours for General Plan Buildout Year (2035) Conditions:

- Cabot Road at Crown Valley Parkway – PM Peak Hour (LOS E)

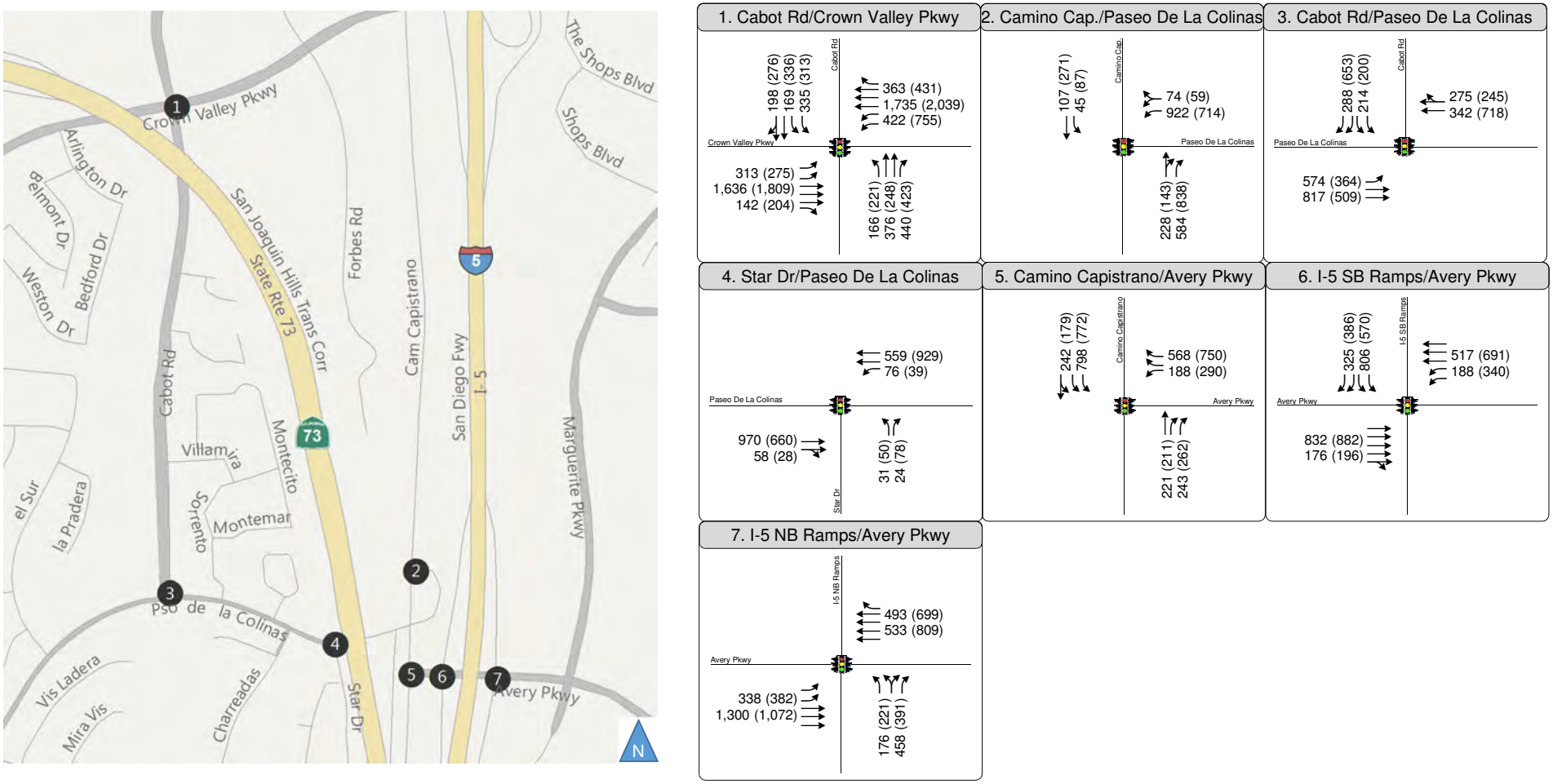


Figure 7-1
Peak Hour Traffic Volumes and Lane Configurations
General Plan Buildout (2035) No Project Conditions

TABLE 7-1 INTERSECTION LEVEL OF SERVICE GENERAL PLAN BUILDOUT YEAR (2035) NO PROJECT CONDITIONS

Intersection		Control	AM Peak		PM Peak	
			V/C[1] (Delay[2])	LOS	V/C[1] (Delay[2])	LOS
1.	Cabot Road at Crown Valley Parkway	Signal	0.852	D	**0.968**	**E**
2.	Camino Capistrano at Paseo De La Colinas	Signal	0.608	B	0.617	B
3.	Cabot Road at Paseo De La Colinas	Signal	0.634	B	0.667	B
4.	Star Drive at Paseo De La Colinas	Signal	0.398	A	0.369	A
5.	Camino Capistrano at Avery Parkway	Signal	0.551	A	0.581	A
6.	I-5 Southbound Ramps at Avery Parkway	Signal	0.461 (20.7)	A (C)	0.444 (17.1)	A (B)
7.	I-5 Northbound Ramps at Avery Parkway	Signal	0.445 (15.9)	A (B)	0.402 (12.9)	A (B)

Notes:

1- V/C for signalized intersections is based on application of the Intersection Capacity Utilization methodology using Traffix 7.9 software. V/C = Volume / Capacity Ratio.

2- Delay is average intersection delay (seconds) based on application of the Highway Capacity Manual 2010 methodology using Synchro 8 Build 806 software. Delay is reported for intersections under the jurisdiction of Caltrans for informational purposes only.

Source: Fehr & Peers, 2016

8. GENERAL PLAN BUILDOUT YEAR (2035) PLUS PROJECT TRAFFIC CONDITIONS

This chapter evaluates the General Plan Buildout (Year 2035) Plus Project Conditions. This scenario analyzes the intersection conditions with the addition of traffic generated from the proposed project under the General Plan Buildout Condition.

TRAFFIC VOLUMES

To estimate the General Plan Buildout Plus Project traffic volumes, the project-only traffic volumes shown on Figure 4-2 were added to the General Plan Buildout No Project traffic volumes shown on Figure 7-1. The resulting General Plan Buildout Plus Project traffic volumes are shown on Figure 8-1.

ROADWAY IMPROVEMENTS

The same roadway improvements from the General Plan Buildout Year (2035) No Project scenario are assumed in the General Plan Buildout Year (2035) Plus Project scenario.

INTERSECTION OPERATIONS

Intersection LOS results for the General Plan Buildout Plus Project Conditions are summarized in Table 8-1. Level of service analysis sheets are provided in Appendix C.

As shown in Table 8-1, the following intersections are operating at a deficient LOS during the peak hours for General Plan Buildout Year (2035) Plus Project Conditions:

- Cabot Road at Crown Valley Parkway – PM Peak Hour (LOS E)

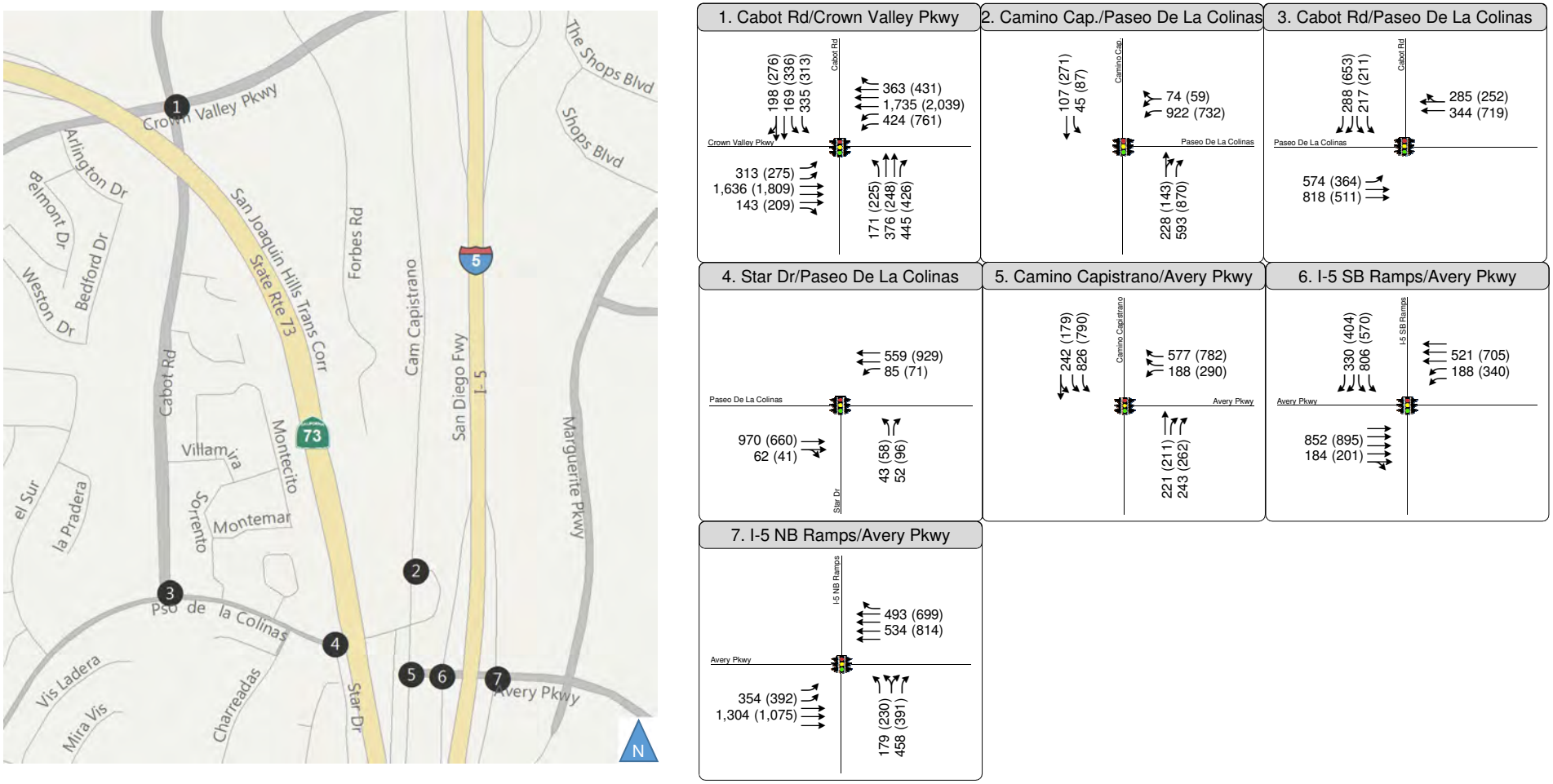


Figure 8-1
Peak Hour Traffic Volumes and Lane Configurations
General Plan Buildout (2035) Plus Project Conditions

TABLE 8-1 INTERSECTION LEVEL OF SERVICE GENERAL PLAN BUILDOUT YEAR (2035) PLUS PROJECT CONDITIONS

Intersection		Control	AM Peak		PM Peak	
			V/C[1] (Delay[2])	LOS	V/C[1] (Delay[2])	LOS
1.	Cabot Road at Crown Valley Parkway	Signal	0.856	D	**0.971**	**E**
2.	Camino Capistrano at Paseo De La Colinas	Signal	0.627	B	0.632	B
3.	Cabot Road at Paseo De La Colinas	Signal	0.640	B	0.668	B
4.	Star Drive at Paseo De La Colinas	Signal	0.416	A	0.380	A
5.	Camino Capistrano at Avery Parkway	Signal	0.559	A	0.594	A
6.	I-5 Southbound Ramps at Avery Parkway	Signal	0.464 (20.6)	A (C)	0.446 (17.0)	A (B)
7.	I-5 Northbound Ramps at Avery Parkway	Signal	0.446 (16.0)	A (B)	0.408 (13.2)	A (B)

Notes:

1- V/C for signalized intersections is based on application of the Intersection Capacity Utilization methodology using Traffix 7.9 software. V/C = Volume / Capacity Ratio.

2- Delay is average intersection delay (seconds) based on application of the Highway Capacity Manual 2010 methodology using Synchro 8 Build 806 software. Delay is reported for intersections under the jurisdiction of Caltrans for informational purposes only.

Source: Fehr & Peers, 2016

IMPACT ASSESSMENT

Table 8-2 compares the changes in V/C ratio, delay, and LOS at intersections that operate deficiently between the No Project and Plus Project scenarios to determine project impacts.

TABLE 8-2 GENERAL PLAN BUILDOUT (2035) PLUS PROJECT INTERSECTION IMPACTS

Intersection	Traffic Control	Peak Hour	Buildout (2035)		Buildout (2035) Plus Project		Change	Significant Impact?
			V/C[1] or Delay[2]	LOS	V/C[1] or Delay[2]	LOS		
1. Cabot Road at Crown Valley Parkway	Signal	AM	0.852	D	0.856	D	0.004	No
		PM	**0.968**	**E**	**0.971**	**E**	0.003	No

Notes:

1- V/C for signalized intersections is based on application of the Intersection Capacity Utilization methodology using Traffix 7.9 software. V/C = Volume / Capacity Ratio.

2- **Bold** indicates a deficient LOS.

3- A significant impact is designated at an intersection within City of Laguna Niguel jurisdiction in the event that project-related traffic causes a signalized intersection to degrade from an acceptable LOS D or better to LOS E or LOS F; or The V/C ratio to increase by more than 0.01 at a signalized intersection operating at LOS E or LOS F.

Source: Fehr & Peers, 2016

As shown in Table 8-2, no study intersections are forecast to result in a significant impact based on agency thresholds of significance for General Plan Buildout Year (2035) Plus Project Conditions.

9. MITIGATION MEASURES

This chapter is intended to discuss measures developed to mitigate project impacts to a less-than-significant level. The analysis resulted in no impacted locations for any of the analyzed scenarios. As a result, the impacts are deemed as **less-than-significant**.

10. PARKING, SITE ACCESS, AND ON-SITE CIRCULATION

This chapter summarizes our review of parking, site access, and on-site circulation. Fehr & Peers' review is based on the site plan for the project dated January 20, 2015.

PARKING

To address the adequacy of parking, we reviewed the City of Laguna Niguel Municipal Code parking requirements. For single-family dwellings, the following parking should be provided:

- 2.00 enclosed residential spaces per unit
- 1.00 additional off-street parking space either on-site or within 100' of the dwelling.
- 0.50 guest spaces per unit (or one space per two units) either on-site or within 100' of the dwelling

As such the project must supply 3.50 spaces per unit. Multiplying the parking requirement by the 71 proposed residential units yields a requirement of 249 on-site parking spaces, with 36 being guest spaces. The project site plan shows a total of 261 guest spaces with 48 being guest spaces, which equates to a 3.7 parking ratio of parking spaces per unit. As such, the proposed project provides more than enough on-site parking for the project based on the City's parking requirements.

However, while two-car garages are proposed for each unit, approximately half of the required additional dedicated parking would be provided on-street at distances up to 200 to 300 feet from the related dwelling unit. Guest parking, the large majority of which would be located along Avenida Del Caballo (within the project boundary), would be provided at even larger distances from dwelling units. Therefore, approval of an alternative parking plan is requested. While the proposed parking configuration deviates from baseline standards, the overall number of spaces provided is anticipated to adequately meet the needs of the community. Though, these spaces are farther than the City typically requires, they are still closer and more convenient to use than the on-street spaces in the adjacent neighborhood. Additionally, staff anticipates working with the applicant to develop appropriate operational conditions, including a parking management plan, to further safeguard against potential spill over into the adjoining neighborhood.

SITE ACCESS

Vehicle Access

Vehicle access to the project site is provided by Avenida Del Caballo, a residential street which dead ends at the project site under existing conditions. Access to the nearest major roadway is provided by Star Drive and Paseo De La Colinas. The only entrance to the community is gated, which will serve as the only traffic control on-site. Given the direct access to the site, vehicle access is deemed adequate.

Since there is only one roadway serving as the access for the SunPointe development, vehicle intrusion was analyzed for the adjacent neighborhoods. HCM 2010 Roadway Analysis methodologies do not have specific Average Daily Traffic (ADT) thresholds for local residential streets, nor does the City of Laguna Niguel, therefore local street ADT thresholds recently developed by the City of Glendale (comparable to Laguna Niguel for the purposes of this study) were used. An upper limit of 2,500 daily trips is assumed, meaning that more than 2,500 trips per day on a local residential street is uncomfortable for residents.

As shown in Table 10-1, the City of Laguna Niguel provided two comparable neighborhoods to the SunPointe development. Daily trip generation estimates were developed for these neighborhoods based on the number of housing units each neighborhood contains. For neighborhoods with multiple access points, we assumed a conservative 80%/20% split to the major access point to analyze the effects of the daily traffic volumes on the local roadways using the above referenced neighborhood intrusion methodology. The results show that neighborhoods larger than SunPointe are still below the threshold of residential comfort.

Additionally, the same methodology was used to analyze the existing neighborhood surrounding the Sunpointe development before and after the addition of project traffic. As a conservative approach, all traffic was assumed to use Avenida Del Caballo to access the project site. As shown in Table 10-1, after the addition of project traffic, Avenida Del Caballo and Charreadas are both forecast to operate below the upper limit, indicating that the effects neighborhood of neighborhood intrusion will be less-than-significant.

TABLE 10-1 SUNPOINTE NEIGHBORHOOD INTRUSION SUMMARY

Neighborhood Roadway	Roadway Type	Existing (2015) Conditions			
		Number of Existing Housing Units	ADT Upper Limit	ADT	Above or Below Upper Limit
Ivy Glen Drive	2-lane Residential	201	2,500	1,920	Below
La Hermosa	2-lane Residential	307	2,500	2,340	Below
Los Arboles Drive			2,500	590	Below
Ave Del Caballo	2-lane Residential	95	2,500	730	Below
Charreadas			2,500	190	Below
Neighborhood Roadway	**Roadway Type**	**Existing (2015) Plus Project Conditions**			
		Number of Housing Units	**ADT Upper Limit**	**ADT**	**Above or Below Upper Limit**
Ave Del Caballo	2-lane Residential	166 (95 Existing +71 Proposed)	2,500	1,406	Below
Charreadas			2,500	190	Below

Notes:

1- For neighborhoods with 2 access points, a conservative 80-20 percent split was estimated, with 20 percent using the smaller connection
2- Numbers are based on the Institute of Transportation Engineers' *Trip Generation Manual* (9th Edition)
3- Upper limit of residential traffic volume comfortability is based on the *City of Glendale's Circulation Element of the General Plan* methodology

Source: Fehr & Peers, 2016

Bicycle Access

The Colinas Bluff multi-use trail and the nearby Class II bikepaths on Paseo De La Colinas and Cabot Road provide local bicycle access. The project is also in proximity to the proposed San Juan Capistrano Class I Bicycle Trail which would be located along the existing Union Pacific rail road tracks just east of the project site. Given the available bicycle facilities in the area, the bicycle access to the site is deemed adequate.

Pedestrian Access

Pedestrian access is provided by existing sidewalks in the surrounding community that connect to on-site sidewalks at the main entrance. The project sponsor will also maintain the existing route of the Colinas Bluff Trail which provides local connectivity to activity centers and residential communities. The Colinas Bluff Trail wraps around the project site (adjacent to three sides) and crosses Avenida Del Caballo at the project entrance providing direct access to the site. Given the number of options to access the site on foot, the pedestrian access is deemed adequate.

ON-SITE CIRCULATION

On-site circulation is provided by a road connecting the residential units to Avenida Del Cabillo. 10-foot wide lanes provide access to the individual properties where primary residential access would occur. Use of 10-foot wide lanes should minimize speeding adjacent to the residential driveways and activity areas. The site plan does not identify the location of proposed stop signs, if any, within the community but the residential nature and low traffic volumes deem the use of stop signs as unnecessary. Many of the drive alleys dead end at residential units/garages but provide a minimum of 24 feet of roadway width to turn around. Given that the provided lanes are wide enough to accommodate resident vehicular needs, on-site circulation is deemed adequate.

APPENDIX A:
ANALYSIS AND METHODOLOGY MEMO

FEHR PEERS
Improving Communities Since 1985

MEMORANDUM

Date: July 10, 2015

To: Jonathan Orduna, City of Laguna Niguel
Robert Olsen, HR Green

From: Jason D. Pack, P.E.
Paul Hermann

Subject: ***Sunpointe Transportation Impact Analysis Methodologies and Assumptions***

OC15-0403

Fehr & Peers has been retained by ICF, International to conduct a transportation impact analysis for the Sunpointe Residential Development on behalf of the City of Laguna Niguel, California. The purpose of this memorandum is to summarize our proposed methodologies and assumptions used to perform the analysis. This memo also summarizes data we will need form the City to complete the study.

The remainder of the memorandum is divided into the following sections: Study Area, Data Collection, Project Trip Generation, Project Trip Distribution, Impact Analysis Guidelines, and Operations Methodologies and Assumptions.

STUDY AREA

Our six proposed study intersections are summarized below:

1. Cabot Road & Paseo De La Colinas
2. Star Drive & Paseo De La Colinas
3. Camino Capistrano & Paseo De La Colinas
4. Camino Capistrano & Avery Parkway
5. I-5 Southbound Ramps & Avery Parkway
6. I-5 Northbound Ramps & Avery Parkway

Figure 1 displays the proposed project location, study area, and proposed intersections.

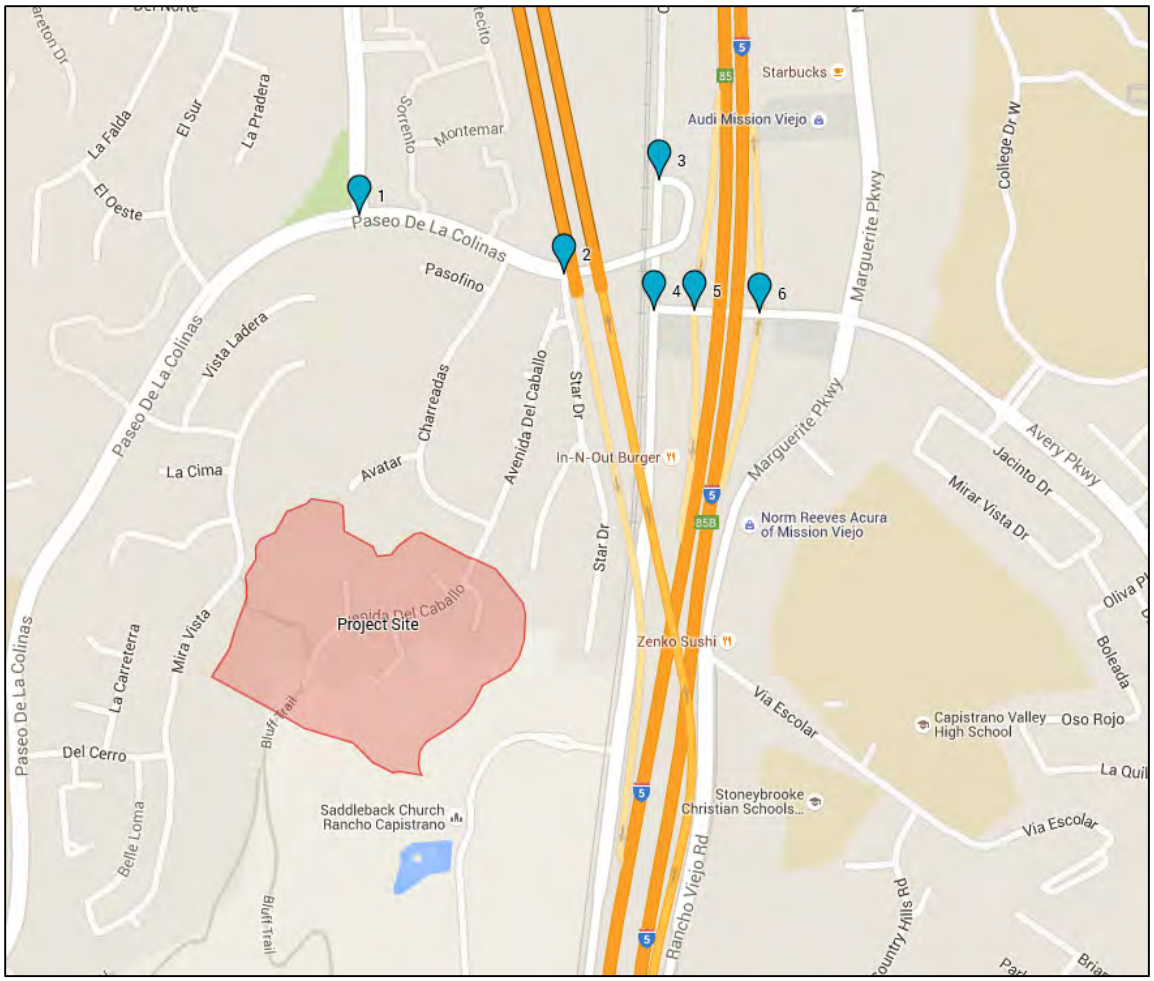


FIGURE 1: STUDY INTERSECTIONS

DATA COLLECTION

We were able to track down the following historical counts for use in the study:

- Camino Capistrano & Avery Parkway, 9/10/2014
- I-5 Southbound Ramps & Avery Parkway, 5/11/2010
- I-5 Northbound Ramps & Avery Parkway, 5/11/2010

The counts from 2010 may be too old for use in this study. Given the proposed project schedule, it would be beneficial to use existing counts in the area for this project. If the City has any existing counts that can be utilized, please let us know.

If new counts are needed, morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection counts will be collected. New count data will be collected after the Capistrano Unified

School District is back in session on August 25, 2015. Data will also be collected for intersection geometry, signal phasing, and any other intersection information needed for the analysis. Additionally, Fehr & Peers requests the following information from City of Laguna Niguel staff:

- Upcoming funded roadway improvement projects in the study area that should be considered for future analysis
- Upcoming funded bicycle/pedestrian/transit improvements in the study area that should be considered for future analysis

PROJECT TRIP GENERATION

The traffic volumes expected to be generated by the proposed project during the morning and afternoon peak periods were projected using the *Trip Generation Manual*, 9th Edition, published by the Institute of Transportation Engineers (ITE). The weekday daily, morning peak, and afternoon peak generation rates were used for the single-dwelling housing project. Table 1 summarizes these trip generation results.

TABLE 1 – SUNPOINTE RESIDENTIAL DEVELOPMENT
TRIP GENERATION RATES AND ESTIMATES

TRIP GENERATION RATES [a]

Proposed Project	Land Use	ITE#	Rate	Daily	AM Peak			PM Peak		
					In %	Out %	Total	In %	Out %	Total
Sunpointe Residential Development	Single-Family Detached Housing	210	per Dwelling Unit	9.52	25%	75%	0.75	63%	37%	1.00

TRIP GENERATION ESTIMATES

Proposed Project	Land Use	ITE#	Size	Daily	AM Peak			PM Peak		
					In	Out	Total	In	Out	Total
Sunpointe Residential Development	Single-Family Detached Housing	210	71 Dwelling Units	676	13	40	53	45	26	71

[a] Source: *Trip Generation, 9th Edition* (ITE, 2012). July, 2015

PROJECT TRIP DISTRIBUTION

The project trip distribution percentages were developed based on our knowledge of the study area and from the U.S. Census Bureau Longitudinal Employer-Household Dynamics data. Residents of the Sunpointe Residential Development are expected to mostly travel regionally for work during

peak periods. An expected 90% will travel regionally (using SR-73 or I-5), while 10% will travel locally (using Avery Parkway). Most of the regional travel is northbound while the local travel is eastbound.

Below is the generalized trip distribution.

- 65% of trips coming from/going to the North
- 20% of trips coming from/going to the South
- 10% of trips coming from/going to the East
- 5% of trips coming from/going to the West

Figure 2 shows the trip distribution with respect to the project site.

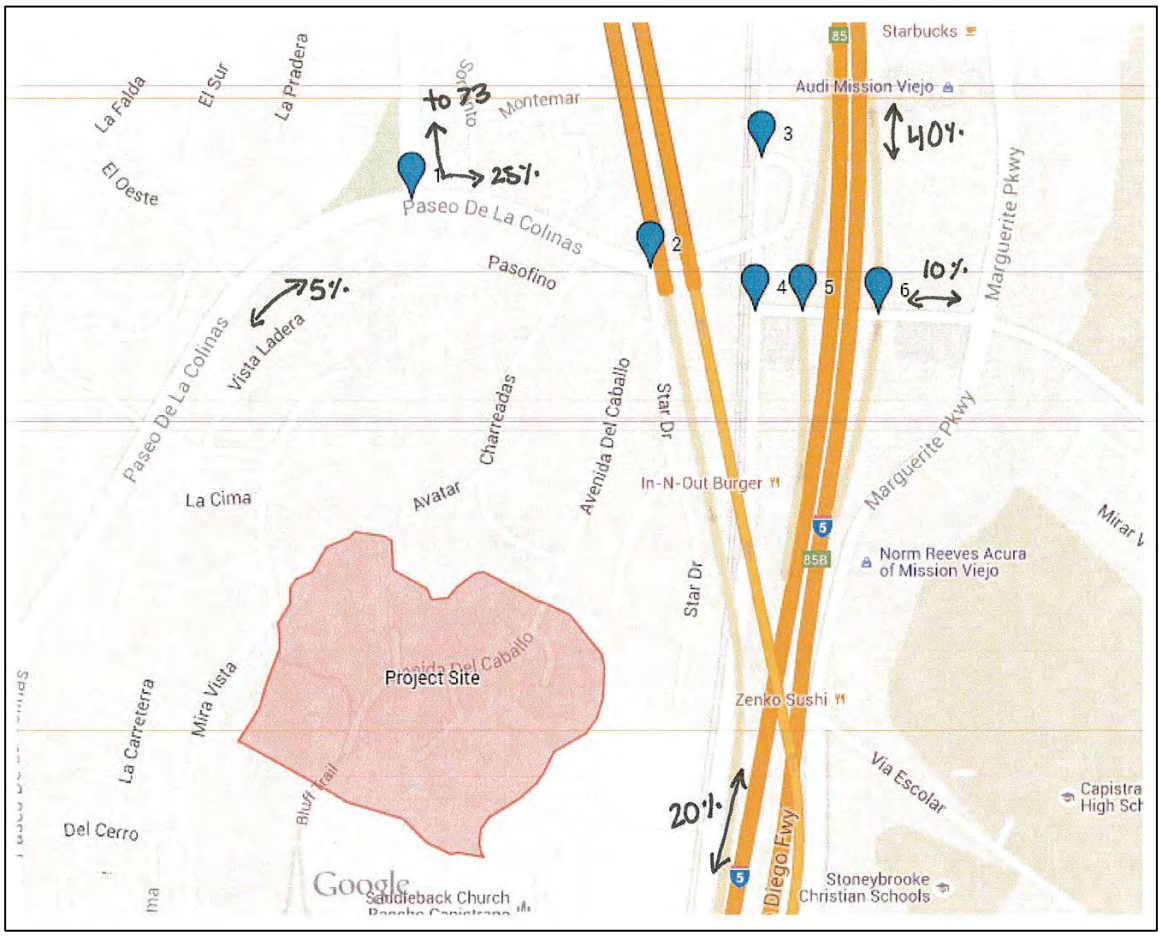


FIGURE 2: PROJECT TRIP DISTRIBUTION

IMPACT ANALYSIS GUIDELINES

The following scenarios will be analyzed in the study:

- Existing Conditions – Consists of recent count data at study intersections
- Existing Plus Project Conditions – Project trips will be assigned to study intersections on top of the existing counts
- Opening Year No Project Conditions – A two percent per year growth rate will be applied to the Existing Condition counts along with expected traffic generated from local pending and approved development projects
- Opening Year Plus Project Conditions – Project trips will be assigned to study intersections on top of the Opening Year No Project Conditions forecasts
- General Plan Buildout Conditions – The Orange County Transportation Analysis Model (OCTAM) will be used to develop 2035 traffic forecasts
- General Plan Buildout Puls Project Conditions – Project trips will be assigned to study intersections on top of the General Plan Buildout Conditions forecasts

Operational analysis will be performed on the study intersections for each of the above scenarios using the Intersection Capacity Utilization (ICU) and the Orange County Congestion Management Agency (CMA) methods. The *General Plan for the City of Laguna Niguel, 1992,* has established a level of service (LOS) C as the target LOS and LOS D as the threshold standard. For the purposes of this study, LOS D will be used as the minimum threshold to designate impacts at the study intersections.

OPERATIONS METHODOLOGIES AND ASSUMPTIONS

As part of the analysis, Fehr & Peers will conduct a level of service assessment for each study intersection. The assessment will be conducted consistent with the Orange County CMA and the City of Laguna Niguel General Plan.

The following parameters will be used in our operations analysis:

- Use the Traffix software and ICU methodology to analyze signalized study intersections, and Traffix software and HCM methodology to analyze unsignalized study intersections
- Volume to capacity (V/C) ratios will be reported for signalized study intersections. Worst-case control delay will be reported for unsignalized study intersections
- Through lane capacities of 1,700 vehicles per hour per turn lane (vphpl), turn lane capacities of 1,600 vphpl, and dual left-turn lane capacities of 2,880 vphpl will be assumed in the ICU assessment.

- A five percent yellow clearance cycle will be included.
- A peak hour factor (PHF) of 1.00 will be used for the ICU analysis under Existing and Cumulative Conditions
- De facto right-turn lanes will be assumed for a lane widths of at least 20 feet and wider and 150 feet and longer

Please review the information provided and let us know if you have any comments or concerns with the methodology or assumptions proposed. We look forward to receiving and reviewing the requested data. Please contact Paul Herrmann at (714) 941-8776 if you have any questions.

APPENDIX B:
TRAFFIC COUNT SHEETS

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-001 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

AM

NS/EW Streets:	Cabot Rd			Cabot Rd			Crown Valley Pkwy			Crown Valley Pkwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Completed	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	2	2	0	2	3	1	2	3	1	
7:00 AM	9	44	93	13	24	18	23	225	16	50	212	33	760
7:15 AM	24	50	70	15	21	17	30	321	18	59	343	42	1010
7:30 AM	32	87	87	20	34	22	57	284	29	98	342	60	1152
7:45 AM	30	100	89	27	35	20	74	391	28	89	408	94	1385
8:00 AM	38	65	92	30	25	23	53	298	31	92	315	53	1115
8:15 AM	24	81	69	33	27	18	50	365	30	89	355	73	1214
8:30 AM	19	57	77	19	24	19	38	273	24	97	397	64	1108
8:45 AM	33	66	94	32	34	38	44	300	29	73	310	46	1099
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	209	550	671	189	224	175	369	2457	205	647	2682	465	8843
APPROACH %'s :	14.62%	38.46%	46.92%	32.14%	38.10%	29.76%	12.17%	81.06%	6.76%	17.05%	70.69%	12.26%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	124	333	337	110	121	83	234	1338	118	368	1420	280	4866
PEAK HR FACTOR :		0.906			0.957			0.857			0.875		0.878

UTURNS			
NB	SB	EB	WB
	1	0	16
	0	0	13
	0	0	23
	0	2	9
	0	1	20
	0	0	13
	0	0	20
	0	1	20
NB	SB	EB	WB
0	1	4	134

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-001 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

PM

NS/EW Streets:	Cabot Rd			Cabot Rd			Crown Valley Pkwy			Crown Valley Pkwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	2	2	0	2	3	1	2	3	1	
4:00 PM	37	35	70	37	64	41	33	317	36	123	408	33	1234
4:15 PM	37	66	92	38	80	46	41	305	34	138	382	39	1298
4:30 PM	49	47	75	46	68	41	34	346	37	161	430	52	1386
4:45 PM	55	69	87	35	60	44	31	332	29	130	349	60	1281
5:00 PM	42	40	81	46	75	45	41	353	39	165	444	41	1412
5:15 PM	54	54	78	48	83	49	41	390	59	140	392	50	1438
5:30 PM	47	49	79	34	78	55	37	348	30	150	390	44	1341
5:45 PM	45	48	83	47	51	47	28	368	35	147	439	52	1390
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	366	408	645	331	559	368	286	2759	299	1154	3234	371	10780
APPROACH %'s :	25.79%	28.75%	45.45%	26.31%	44.44%	29.25%	8.55%	82.51%	8.94%	24.25%	67.96%	7.80%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	188	191	321	175	287	196	147	1459	163	602	1665	187	5581
PEAK HR FACTOR :		0.941			0.914			0.903			0.944		0.970

UTURNS			
NB	SB	EB	WB
		2	32
		3	31
		0	29
		1	32
		1	34
		3	20
		0	25
		1	24
NB	SB	EB	WB
0	0	11	227

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-002 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

AM

NS/EW Streets:	Camino Capistrano			Camino Capistrano			Paseo De La Colinas			Paseo De La Colinas			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0.5	1.5	1	1	0	0	0	0	1.5	0	1	
7:00 AM	0	44	60	4	25	0	0	0	0	166	0	10	309
7:15 AM	0	55	98	4	17	0	0	0	0	207	0	13	394
7:30 AM	0	41	91	6	10	0	0	0	0	252	0	14	414
7:45 AM	0	74	139	14	25	0	0	0	0	215	0	22	489
8:00 AM	0	58	144	10	19	0	0	0	0	163	0	20	414
8:15 AM	0	34	137	11	43	0	0	0	0	170	0	11	406
8:30 AM	0	45	96	18	24	0	0	0	0	174	0	8	365
8:45 AM	0	42	109	13	21	0	0	0	0	166	0	12	363
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	393	874	80	184	0	0	0	0	1513	0	110	3154
APPROACH %'s :	0.00%	31.02%	68.98%	30.30%	69.70%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	93.22%	0.00%	6.78%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	207	511	41	97	0	0	0	0	800	0	67	1723
PEAK HR FACTOR :		0.843			0.639			0.000			0.815		0.881

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-002 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

PM

NS/EW Streets:	Camino Capistrano			Camino Capistrano			Paseo De La Colinas			Paseo De La Colinas			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0.5	1.5	1	1	0	0	0	0	1.5	0	1	
4:00 PM	0	34	142	25	61	0	0	0	0	145	0	7	414
4:15 PM	0	34	154	14	47	0	0	0	0	128	0	18	395
4:30 PM	0	43	168	22	49	0	0	0	0	165	0	20	467
4:45 PM	0	34	179	17	51	0	0	0	0	147	0	11	439
5:00 PM	0	28	184	17	72	0	0	0	0	145	0	12	458
5:15 PM	0	25	188	23	74	0	0	0	0	158	0	11	479
5:30 PM	0	29	192	28	56	0	0	0	0	138	0	15	458
5:45 PM	0	26	193	12	53	0	0	0	0	144	0	10	438
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	253	1400	158	463	0	0	0	0	1170	0	104	3548
APPROACH %'s :	0.00%	15.31%	84.69%	25.44%	74.56%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	91.84%	0.00%	8.16%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	130	719	79	246	0	0	0	0	615	0	54	1843
PEAK HR FACTOR :		0.996			0.838			0.000			0.904		0.962

UTURNS			
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-003 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

AM

NS/EW Streets:	Cabot Rd			Cabot Rd			Paseo De La Colinas			Paseo De La Colinas			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	2	0	2	1	2	0	0	2	0	
7:00 AM	0	0	0	13	0	28	108	158	0	0	42	20	369
7:15 AM	0	0	0	21	0	51	112	201	0	0	72	25	482
7:30 AM	0	0	0	46	0	52	142	211	0	0	54	52	557
7:45 AM	0	0	0	51	0	60	145	208	0	0	81	71	616
8:00 AM	0	0	0	32	0	47	113	168	0	0	91	57	508
8:15 AM	0	0	0	27	0	65	102	156	0	0	85	50	485
8:30 AM	0	0	0	16	0	62	115	165	0	0	68	44	470
8:45 AM	0	0	0	36	0	50	125	147	0	0	72	42	472
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	242	0	415	962	1414	0	0	565	361	3959
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	36.83%	0.00%	63.17%	40.49%	59.51%	0.00%	0.00%	61.02%	38.98%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	0	156	0	224	502	743	0	0	311	230	2166
PEAK HR FACTOR :	0.000			0.856			0.882			0.890			0.879

UTURNS			
NB	SB	EB	WB
	0	0	
	0	1	
	0	1	
	1	0	
	1	0	
	0	1	
	0	0	
	0	1	
NB	SB	EB	WB
0	2	4	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-003 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

PM

NS/EW Streets:	Cabot Rd			Cabot Rd			Paseo De La Colinas			Paseo De La Colinas			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	2	0	2	1	2	0	0	2	0	
4:00 PM	0	0	0	40	0	115	62	109	0	0	135	44	505
4:15 PM	0	0	0	42	0	127	72	105	0	0	134	35	515
4:30 PM	0	0	0	44	0	124	72	125	0	0	147	38	550
4:45 PM	0	0	0	31	0	116	82	123	0	0	162	47	561
5:00 PM	0	0	0	32	0	146	64	114	0	0	163	42	561
5:15 PM	0	0	0	47	0	153	58	112	0	0	140	42	552
5:30 PM	0	0	0	38	0	145	84	114	0	0	188	49	618
5:45 PM	0	0	0	49	0	127	71	109	0	0	157	34	547
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	323	0	1053	565	911	0	0	1226	331	4409
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	23.47%	0.00%	76.53%	38.28%	61.72%	0.00%	0.00%	78.74%	21.26%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	0	148	0	560	288	463	0	0	653	180	2292
PEAK HR FACTOR :		0.000			0.885			0.916			0.879		0.927

UTURNS

	NB	SB	EB	WB
4:00 PM		1	1	
4:15 PM		0	0	
4:30 PM		0	0	
4:45 PM		1	0	
5:00 PM		0	0	
5:15 PM		1	1	
5:30 PM		1	3	
5:45 PM		1	1	
	NB	SB	EB	WB
	0	5	6	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-004 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

AM

NS/EW Streets:	Star Dr			Star Dr			Paseo De La Colinas			Paseo De La Colinas			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
7:00 AM	2	0	4	0	0	0	0	167	7	10	55	0	245
7:15 AM	5	0	6	0	0	0	0	219	3	17	85	0	335
7:30 AM	10	0	7	0	0	0	0	257	5	11	82	0	372
7:45 AM	6	0	8	0	0	0	0	231	24	19	145	0	433
8:00 AM	8	0	2	0	0	0	0	180	15	18	131	0	354
8:15 AM	4	0	5	0	0	0	0	176	9	21	130	0	345
8:30 AM	4	0	4	0	0	0	0	182	8	10	100	0	308
8:45 AM	8	0	8	0	0	0	0	166	15	17	109	0	323
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	47	0	44	0	0	0	0	1578	86	123	837	0	2715
APPROACH %'s :	51.65%	0.00%	48.35%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	94.83%	5.17%	12.81%	87.19%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	28	0	22	0	0	0	0	844	53	69	488	0	1504
PEAK HR FACTOR :		0.735			0.000			0.856			0.849		0.868

UTURNS			
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-004 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

PM

NS/EW Streets:	Star Dr			Star Dr			Paseo De La Colinas			Paseo De La Colinas			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
4:00 PM	19	0	15	0	0	0	0	129	15	10	158	0	346
4:15 PM	10	0	15	0	0	0	0	137	11	9	159	0	341
4:30 PM	12	0	13	0	0	0	0	166	4	6	175	0	376
4:45 PM	12	0	13	0	0	0	0	145	8	8	191	0	377
5:00 PM	13	0	24	0	0	0	0	137	6	8	193	0	381
5:15 PM	9	0	17	0	0	0	0	147	6	12	196	0	387
5:30 PM	11	0	17	0	0	0	0	137	5	7	222	0	399
5:45 PM	4	0	6	0	0	0	0	147	7	4	200	0	368
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	90	0	120	0	0	0	0	1145	62	64	1494	0	2975
APPROACH %'s :	42.86%	0.00%	57.14%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	94.86%	5.14%	4.11%	95.89%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	45	0	71	0	0	0	0	566	25	35	802	0	1544
PEAK HR FACTOR :		0.784			0.000			0.966			0.914		0.967

UTURNS			
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-005 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

AM

NS/EW Streets:	Camino Capistrano			Camino Capistrano			Avery Pkwy			Avery Pkwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1.5	0.5	0	0	0	0	1	0	2	
7:00 AM	0	21	26	156	40	0	0	0	0	23	0	79	345
7:15 AM	0	30	29	169	59	0	0	0	0	40	0	112	439
7:30 AM	0	41	55	172	98	0	0	0	0	50	0	100	516
7:45 AM	0	53	76	166	66	0	0	0	0	57	0	153	571
8:00 AM	0	70	56	164	28	0	0	0	0	31	0	119	468
8:15 AM	0	37	34	185	28	0	0	0	0	33	0	124	441
8:30 AM	0	36	21	174	20	0	0	0	0	24	0	102	377
8:45 AM	0	23	24	165	26	0	0	0	0	29	0	113	380
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	311	321	1351	365	0	0	0	0	287	0	902	3537
APPROACH %'s :	0.00%	49.21%	50.79%	78.73%	21.27%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	24.14%	0.00%	75.86%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	201	221	687	220	0	0	0	0	171	0	496	1996
PEAK HR FACTOR :		0.818			0.840			0.000			0.794		0.874

UTURNS			
NB	SB	EB	WB
			0
			0
			0
			1
			1
			0
			2
			1
NB	SB	EB	WB
0	0	0	5

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-005 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

AM

NS/EW Streets:	Camino Capistrano			Camino Capistrano			Avery Pkwy			Avery Pkwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1.5	0.5	0	0	0	0	1	0	2	
7:00 AM	0	21	26	156	40	0	0	0	0	23	0	79	345
7:15 AM	0	30	29	169	59	0	0	0	0	40	0	112	439
7:30 AM	0	41	55	172	98	0	0	0	0	50	0	100	516
7:45 AM	0	53	76	166	66	0	0	0	0	57	0	153	571
8:00 AM	0	70	56	164	28	0	0	0	0	31	0	119	468
8:15 AM	0	37	34	185	28	0	0	0	0	33	0	124	441
8:30 AM	0	36	21	174	20	0	0	0	0	24	0	102	377
8:45 AM	0	23	24	165	26	0	0	0	0	29	0	113	380
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	311	321	1351	365	0	0	0	0	287	0	902	3537
APPROACH %'s :	0.00%	49.21%	50.79%	78.73%	21.27%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	24.14%	0.00%	75.86%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	201	221	687	220	0	0	0	0	171	0	496	1996
PEAK HR FACTOR :		0.818			0.840			0.000			0.794		0.874

UTURNS			
NB	SB	EB	WB
			0
			0
			0
			1
			1
			0
			2
			1
NB	SB	EB	WB
0	0	0	5

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-006 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

AM

NS/EW Streets:	I-5 SB Ramps			I-5 SB Ramps			Avery Pkwy			Avery Pkwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	1.3	0.3	0.3	0	3	1	1	1	0	
7:00 AM	0	0	0	118	2	50	0	149	36	18	68	0	441
7:15 AM	0	0	0	187	0	78	0	155	39	45	89	0	593
7:30 AM	0	0	0	230	0	54	0	187	44	23	103	0	641
7:45 AM	0	0	0	165	0	102	0	203	44	59	122	0	695
8:00 AM	0	0	0	151	0	61	0	191	33	44	118	0	598
8:15 AM	0	0	0	142	0	58	0	186	44	32	94	0	556
8:30 AM	0	0	0	170	0	51	0	168	34	41	79	0	543
8:45 AM	0	0	0	151	6	54	0	174	22	51	98	0	556
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	1314	8	508	0	1413	296	313	771	0	4623
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	71.80%	0.44%	27.76%	0.00%	82.68%	17.32%	28.87%	71.13%	0.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	0	0	733	0	295	0	736	160	171	432	0	2527
PEAK HR FACTOR :	0.000			0.905			0.907			0.833			0.909

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-006 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

PM

NS/EW Streets:	I-5 SB Ramps			I-5 SB Ramps			Avery Pkwy			Avery Pkwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	1.3	0.3	0.3	0	3	1	1	1	0	
4:00 PM	0	0	0	105	0	77	0	139	54	74	124	0	573
4:15 PM	0	0	0	128	0	87	0	137	40	71	152	0	615
4:30 PM	0	0	0	112	0	86	0	179	43	83	153	0	656
4:45 PM	0	0	0	131	1	104	0	166	25	56	141	0	624
5:00 PM	0	0	0	132	0	87	0	181	46	89	126	0	661
5:15 PM	0	0	0	132	0	95	0	206	48	66	140	0	687
5:30 PM	0	0	0	141	0	81	0	199	41	79	158	0	699
5:45 PM	0	0	0	113	0	88	0	182	43	75	161	0	662
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	994	1	705	0	1389	340	593	1155	0	5177
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	58.47%	0.06%	41.47%	0.00%	80.34%	19.66%	33.92%	66.08%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	0	518	0	351	0	768	178	309	585	0	2709
PEAK HR FACTOR :		0.000			0.957			0.931			0.943		0.969

UTURNS

	NB	SB	EB	WB
4:00 PM				0
4:15 PM				0
4:30 PM				0
4:45 PM				0
5:00 PM				0
5:15 PM				0
5:30 PM				1
5:45 PM				0
	NB	SB	EB	WB
TOTAL VOLUMES :	0	0	0	1

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-007 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

AM

NS/EW Streets:	I-5 NB Ramps			I-5 NB Ramps			Avery Pkwy			Avery Pkwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0.5	0.5	1	0	0	0	1	2	0	0	2	1	
7:00 AM	18	1	102	0	0	0	96	176	0	0	66	70	529
7:15 AM	33	1	101	0	0	0	66	269	0	0	101	122	693
7:30 AM	35	1	95	0	0	0	77	347	0	0	93	133	781
7:45 AM	47	13	108	0	0	0	81	283	0	0	133	118	783
8:00 AM	45	3	112	0	0	0	83	263	0	0	119	75	700
8:15 AM	28	1	123	0	0	0	77	252	0	0	96	70	647
8:30 AM	34	1	125	0	0	0	54	275	0	0	89	98	676
8:45 AM	33	1	124	0	0	0	57	277	0	0	113	60	665
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	273	22	890	0	0	0	591	2142	0	0	810	746	5474
APPROACH %'s :	23.04%	1.86%	75.11%	#DIV/0!	#DIV/0!	#DIV/0!	21.62%	78.38%	0.00%	0.00%	52.06%	47.94%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	160	18	416	0	0	0	307	1162	0	0	446	448	2957
PEAK HR FACTOR :		0.884			0.000			0.866			0.890		0.944

UTURNS

NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5504-007 **Day:** Thursday

City: Laguna Niguel **Date:** 8/27/2015

PM

NS/EW Streets:	I-5 NB Ramps			I-5 NB Ramps			Avery Pkwy			Avery Pkwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0.5	0.5	1	0	0	0	1	2	0	0	2	1	
4:00 PM	26	0	80	0	0	0	74	172	0	0	171	165	688
4:15 PM	48	1	75	0	0	0	59	205	0	0	178	151	717
4:30 PM	56	0	71	0	0	0	79	214	0	0	177	173	770
4:45 PM	50	0	87	0	0	0	72	223	0	0	149	119	700
5:00 PM	41	0	88	0	0	0	93	222	0	0	171	171	786
5:15 PM	46	4	88	0	0	0	88	250	0	0	163	159	798
5:30 PM	61	1	94	0	0	0	82	251	0	0	173	156	818
5:45 PM	53	0	85	0	0	0	84	218	0	0	186	149	775
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	381	6	668	0	0	0	631	1755	0	0	1368	1243	6052
APPROACH %'s :	36.11%	0.57%	63.32%	#DIV/0!	#DIV/0!	#DIV/0!	26.45%	73.55%	0.00%	0.00%	52.39%	47.61%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	201	5	355	0	0	0	347	941	0	0	693	635	3177
PEAK HR FACTOR :		0.899			0.000			0.953			0.971		0.971

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

APPENDIX C:
LEVEL OF SERVICE CALCULATION SHEETS

Opening Year No Project AM Conditions

Sunpointe Laguna Niguel

Summary Scenario Comparison Report (With Average Critical Delay)
Future Volume Alternative

Intersection		Existing AM				Existing PM				Existing Plus Project AM						Existing Plus Project PM			
		LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)	LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)	LOS	Avg Del (sec)	Crit V/C	Crit V/C Change	Avg Crit Del (sec)	Avg Crit Del Change	LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)
#1	Cabot Rd/Crown Valley Pkwy	B	20.5	0.651	22.6	C	22.6	0.766	27.3	B	20.6	0.655	- 0.111	22.8	- 4.6	C	22.8	0.770	27.5
#2	Camino Capistrano/Paseo De La Colinas	A	10.8	0.540	16.2	A	11.1	0.543	19.2	A	12.1	0.559	+ 0.016	17.6	- 1.6	A	11.1	0.558	18.0
#3	Cabot Rd/Paseo De La Colinas	A	14.7	0.546	19.4	A	18.4	0.576	22.2	A	14.7	0.552	- 0.024	19.5	- 2.7	A	18.4	0.576	22.2
#4	Star Rd/Paseo De La Colinas	A	4.3	0.355	5.7	A	10.7	0.328	3.8	A	5.9	0.374	+ 0.046	7.5	+ 3.7	A	11.3	0.338	4.5
#5	Camino Capistrano/Avery Pkwy	A	14.8	0.528	14.1	A	15.6	0.574	14.6	A	14.8	0.539	- 0.036	14.0	- 0.6	A	15.6	0.589	14.6
#6	I-5 SB Ramps/Avery Pkwy	B	23.0	0.606	20.3	B	24.1	0.650	20.3	B	23.2	0.610	- 0.039	18.5	- 1.8	B	24.7	0.663	20.9
#7	I-5 NB Ramps/Avery Pkwy	B	17.7	0.636	13.4	B	17.7	0.667	24.1	B	17.7	0.638	- 0.029	13.4	- 10.7	B	17.8	0.674	24.3

Copyright (c) 2008 Dowling Associates, Inc.

Opening Year No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #1: Cabot Rd/Crown Valley Pkwy

Scenario #1: Existing AM

Signal=Protect/Rights=Include

Initial Vol:	83	121	110***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
234	2		Vol Cnt Date:	n/a		1	280
	0		Cycle Time (sec):	100		0	
1338***	3		Loss Time (sec):	5		3	1420
	0		Critical V/C:	0.651		0	
118	1		Avg Crit Del (sec/veh):	22.6		2	368***
			Avg Delay (sec/veh):	20.5			
			LOS:	B			

Lanes:	1 0	2	0 1	
Initial Vol:	124	333	337***	

Signal=Protect/Rights=Include

Scenario #2: Existing PM

Signal=Protect/Rights=Include

Initial Vol:	196	287***	175	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
147	2		Vol Cnt Date:	n/a		1	187
	0		Cycle Time (sec):	100		0	
1459***	3		Loss Time (sec):	5		3	1665
	0		Critical V/C:	0.766		0	
163	1		Avg Crit Del (sec/veh):	27.3		2	602***
			Avg Delay (sec/veh):	22.6			
			LOS:	C			

					Change
Lanes:	1 0	2	0 1		Crit V/C: + 0.115
Initial Vol:	188***	191	321		Avg Crit Del: + 4.7
					Avg Del: + 2.1

Signal=Protect/Rights=Include

Scenario #3: Existing Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	83	121	110***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
234	2		Vol Cnt Date:	n/a		1	280
	0		Cycle Time (sec):	100		0	
1338***	3		Loss Time (sec):	5		3	1420
	0		Critical V/C:	0.655		0	
119	1		Avg Crit Del (sec/veh):	22.8		2	370***
			Avg Delay (sec/veh):	20.6			
			LOS:	B			

					Change
Lanes:	1 0	2	0 1		Crit V/C: - 0.111
Initial Vol:	129	333	342***		Avg Crit Del: - 4.6
					Avg Del: - 2.0

Signal=Protect/Rights=Include

Scenario #4: Existing Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	196	287***	175	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
147	2		Vol Cnt Date:	n/a		1	187
	0		Cycle Time (sec):	100		0	
1459***	3		Loss Time (sec):	5		3	1665
	0		Critical V/C:	0.770		0	
168	1		Avg Crit Del (sec/veh):	27.5		2	608***
			Avg Delay (sec/veh):	22.8			
			LOS:	C			

					Change
Lanes:	1 0	2	0 1		Crit V/C: + 0.115
Initial Vol:	192***	191	324		Avg Crit Del: + 4.8
					Avg Del: + 2.2

Signal=Protect/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #2: Camino Capistrano/Paseo De La Colinas

Scenario #1: Existing AM

Signal=Protect/Rights=Include

Initial Vol:	0		97		41***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0			0	67
	0			0	
0	0			1!	0
	0			0	
0	0			1	800***

Vol Cnt Date:	n/a
Cycle Time (sec):	100
Loss Time (sec):	5
Critical V/C:	0.540
Avg Crit Del (sec/veh):	16.2
Avg Delay (sec/veh):	10.8
LOS:	A

Lanes:	0	0	0	1	1
Initial Vol:	0		207***		511

Signal=Permit/Rights=Overlap

Scenario #2: Existing PM

Signal=Protect/Rights=Include

Initial Vol:	0		246		79***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0			0	54***
	0			0	
0	0			1!	0
	0			0	
0	0			1	615

Vol Cnt Date:	n/a
Cycle Time (sec):	100
Loss Time (sec):	5
Critical V/C:	0.543
Avg Crit Del (sec/veh):	19.2
Avg Delay (sec/veh):	11.1
LOS:	A

						Change
Lanes:	0	0	0	1	1	Crit V/C: + 0.003
Initial Vol:	0		130***		719	Avg Crit Del: + 3.0

Signal=Permit/Rights=Overlap Avg Del: + 0.2

Scenario #3: Existing Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	0		97		41***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
28***	0			0	67
	0			0	
0	0			1!	0
	0			0	
0	0			1	800***

Vol Cnt Date:	n/a
Cycle Time (sec):	100
Loss Time (sec):	5
Critical V/C:	0.559
Avg Crit Del (sec/veh):	17.6
Avg Delay (sec/veh):	12.1
LOS:	A

						Change
Lanes:	0	0	0	1	1	Crit V/C: + 0.016
Initial Vol:	0		207***		520	Avg Crit Del: - 1.6

Signal=Permit/Rights=Overlap Avg Del: + 1.0

Scenario #4: Existing Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	0		246		79***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0			0	54
	0			0	
0	0			1!	0
	0			0	
0	0			1	633***

Vol Cnt Date:	n/a
Cycle Time (sec):	100
Loss Time (sec):	5
Critical V/C:	0.558
Avg Crit Del (sec/veh):	18.0
Avg Delay (sec/veh):	11.1
LOS:	A

						Change
Lanes:	0	0	0	1	1	Crit V/C: - 0.002
Initial Vol:	0		130***		751	Avg Crit Del: + 0.4

Signal=Permit/Rights=Overlap Avg Del: - 1.0

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #3: Cabot Rd/Paseo De La Colinas

Scenario #1: Existing AM

Signal=Split/Rights=Include

Initial Vol:	224***		0		156
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Permit Rights=Include	Lanes:	Initial Vol:
502***	1		Cycle Time (sec): 100		1	230***
	0		Loss Time (sec): 5		0	
743	2		Critical V/C: 0.546		2	311
	0		Avg Crit Del (sec/veh): 19.4		0	
0	0		Avg Delay (sec/veh): 14.7		0	0
			LOS: A			

Vol Cnt Date: n/a

Lanes:	0	0	0	0	0
Initial Vol:	0		0		0

Signal=Split/Rights=Include

Scenario #2: Existing PM

Signal=Split/Rights=Include

Initial Vol:	560***		0		148
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Permit Rights=Include	Lanes:	Initial Vol:
288***	1		Cycle Time (sec): 100		1	180
	0		Loss Time (sec): 5		0	
463	2		Critical V/C: 0.576		2	653***
	0		Avg Crit Del (sec/veh): 22.2		0	
0	0		Avg Delay (sec/veh): 18.4		0	0
			LOS: A			

Vol Cnt Date: n/a

						Change
Lanes:	0	0	0	0	0	Crit V/C: + 0.030
Initial Vol:	0		0		0	Avg Crit Del: + 2.8
			Signal=Split/Rights=Include			Avg Del: + 3.7

Scenario #3: Existing Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	224***		0		159
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Permit Rights=Include	Lanes:	Initial Vol:
502***	1		Cycle Time (sec): 100		1	240***
	0		Loss Time (sec): 5		0	
744	2		Critical V/C: 0.552		2	313
	0		Avg Crit Del (sec/veh): 19.5		0	
0	0		Avg Delay (sec/veh): 14.7		0	0
			LOS: A			

Vol Cnt Date: n/a

						Change
Lanes:	0	0	0	0	0	Crit V/C: - 0.024
Initial Vol:	0		0		0	Avg Crit Del: - 2.7
			Signal=Split/Rights=Include			Avg Del: - 3.6

Scenario #4: Existing Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	560***		0		159
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Permit Rights=Include	Lanes:	Initial Vol:
288***	1		Cycle Time (sec): 100		1	187
	0		Loss Time (sec): 5		0	
465	2		Critical V/C: 0.576		2	654***
	0		Avg Crit Del (sec/veh): 22.2		0	
0	0		Avg Delay (sec/veh): 18.4		0	0
			LOS: A			

Vol Cnt Date: n/a

						Change
Lanes:	0	0	0	0	0	Crit V/C: + 0.024
Initial Vol:	0		0		0	Avg Crit Del: + 2.7
			Signal=Split/Rights=Include			Avg Del: + 3.6

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #4: Star Rd/Paseo De La Colinas

Scenario #1: Existing AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
	0		Cycle Time (sec):	100		0	
844***	2		Loss Time (sec):	5		2	488
	0		Critical V/C:	0.355		0	
53	1		Avg Crit Del (sec/veh):	5.7		1	69***
			Avg Delay (sec/veh):	4.3			
			LOS:	A			

Lanes:	1	0	0	0	1
Initial Vol:	28***	0			22

Signal=Split/Rights=Include

Scenario #2: Existing PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
	0		Cycle Time (sec):	100		0	
566	2		Loss Time (sec):	5		2	802***
	0		Critical V/C:	0.328		0	
25	1		Avg Crit Del (sec/veh):	3.8		1	35
			Avg Delay (sec/veh):	10.7			
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: - 0.028
Initial Vol:	45	0			71***	Avg Crit Del: - 2.0
						Avg Del: + 6.3

Signal=Split/Rights=Include

Scenario #3: Existing Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
	0		Cycle Time (sec):	100		0	
844***	2		Loss Time (sec):	5		2	488
	0		Critical V/C:	0.374		0	
57	1		Avg Crit Del (sec/veh):	7.5		1	78***
			Avg Delay (sec/veh):	5.9			
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: + 0.046
Initial Vol:	40	0			50***	Avg Crit Del: + 3.7
						Avg Del: - 4.8

Signal=Split/Rights=Include

Scenario #4: Existing Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
	0		Cycle Time (sec):	100		0	
566	2		Loss Time (sec):	5		2	802***
	0		Critical V/C:	0.338		0	
38	1		Avg Crit Del (sec/veh):	4.5		1	67
			Avg Delay (sec/veh):	11.3			
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: - 0.035
Initial Vol:	53	0			89***	Avg Crit Del: - 2.9
						Avg Del: + 5.4

Signal=Split/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #5: Camino Capistrano/Avery Pkwy

Scenario #1: Existing AM

Signal=Protect/Rights=Include

Initial Vol:	0		220		687***
Lanes:	0	0	1	0	2

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	496***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.528		0	0
	0		Avg Crit Del (sec/veh): 14.1		0	
0	0		Avg Delay (sec/veh): 14.8		1	171
			LOS: A			

Lanes:	0	0	1	0	1
Initial Vol:	0		201		221***

Signal=Permit/Rights=Include

Scenario #2: Existing PM

Signal=Protect/Rights=Include

Initial Vol:	0		163		668***
Lanes:	0	0	1	0	2

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	639***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.574		0	0
	0		Avg Crit Del (sec/veh): 14.6		0	
0	0		Avg Delay (sec/veh): 15.6		1	264
			LOS: A			

						Change
Lanes:	0	0	1	0	1	Crit V/C: + 0.046
Initial Vol:	0		192		238***	Avg Crit Del: + 0.6

Signal=Permit/Rights=Include Avg Del: + 0.8

Scenario #3: Existing Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	0		220		715***
Lanes:	0	0	1	0	2

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	505***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.539		0	0
	0		Avg Crit Del (sec/veh): 14.0		0	
0	0		Avg Delay (sec/veh): 14.8		1	171
			LOS: A			

						Change
Lanes:	0	0	1	0	1	Crit V/C: - 0.036
Initial Vol:	0		201		221***	Avg Crit Del: - 0.6

Signal=Permit/Rights=Include Avg Del: - 0.8

Scenario #4: Existing Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	0		163		686***
Lanes:	0	0	1	0	2

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	671***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.589		0	0
	0		Avg Crit Del (sec/veh): 14.6		0	
0	0		Avg Delay (sec/veh): 15.6		1	264
			LOS: A			

						Change
Lanes:	0	0	1	0	1	Crit V/C: + 0.050
Initial Vol:	0		192		238***	Avg Crit Del: + 0.6

Signal=Permit/Rights=Include Avg Del: + 0.8

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #6: I-5 SB Ramps/Avery Pkwy

Scenario #1: Existing AM

Signal=Split/Rights=Include

Initial Vol:	295***	0		733
Lanes:	0 0	1!	0	1

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
	0		Cycle Time (sec):	100		0	
736	3		Loss Time (sec):	5		1	432***
	0		Critical V/C:	0.606		0	
160	1		Avg Crit Del (sec/veh):	20.3		1	171
			Avg Delay (sec/veh):	23.0			
			LOS:	B			

Lanes:	0	0	0	0	0
Initial Vol:	0		0		0

Signal=Split/Rights=Include

Scenario #2: Existing PM

Signal=Split/Rights=Include

Initial Vol:	351	0		518***
Lanes:	0 0	1!	0	1

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
	0		Cycle Time (sec):	100		0	
768	3		Loss Time (sec):	5		1	585***
	0		Critical V/C:	0.650		0	
178	1		Avg Crit Del (sec/veh):	20.3		1	309
			Avg Delay (sec/veh):	24.1			
			LOS:	B			

						Change
Lanes:	0	0	0	0	0	Crit V/C: + 0.043
Initial Vol:	0		0		0	Avg Crit Del: + 0.1

Signal=Split/Rights=Include Avg Del: + 1.1

Scenario #3: Existing Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	300	0		733***
Lanes:	0 0	1!	0	1

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
	0		Cycle Time (sec):	100		0	
756	3		Loss Time (sec):	5		1	436***
	0		Critical V/C:	0.610		0	
168	1		Avg Crit Del (sec/veh):	18.5		1	171
			Avg Delay (sec/veh):	23.2			
			LOS:	B			

						Change
Lanes:	0	0	0	0	0	Crit V/C: - 0.039
Initial Vol:	0		0		0	Avg Crit Del: - 1.8

Signal=Split/Rights=Include Avg Del: - 0.9

Scenario #4: Existing Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	369	0		518***
Lanes:	0 0	1!	0	1

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
	0		Cycle Time (sec):	100		0	
781	3		Loss Time (sec):	5		1	599***
	0		Critical V/C:	0.663		0	
183	1		Avg Crit Del (sec/veh):	20.9		1	309
			Avg Delay (sec/veh):	24.7			
			LOS:	B			

						Change
Lanes:	0	0	0	0	0	Crit V/C: + 0.053
Initial Vol:	0		0		0	Avg Crit Del: + 2.4

Signal=Split/Rights=Include Avg Del: + 1.4

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #7: I-5 NB Ramps/Avery Pkwy

Scenario #1: Existing AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
307	1		Vol Cnt Date:	n/a		1	448
	0		Cycle Time (sec):	100		0	
1162***	2		Loss Time (sec):	5		2	446
	0		Critical V/C:	0.636		0	
0	0		Avg Crit Del (sec/veh):	13.4		0	0
			Avg Delay (sec/veh):	17.7			
			LOS:	B			

Lanes:	0	1	0	0	1
Initial Vol:	160	18			416***

Signal=Split/Rights=Include

Scenario #2: Existing PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
347***	1		Vol Cnt Date:	n/a		1	635
	0		Cycle Time (sec):	100		0	
941	2		Loss Time (sec):	5		2	693***
	0		Critical V/C:	0.667		0	
0	0		Avg Crit Del (sec/veh):	24.1		0	0
			Avg Delay (sec/veh):	17.7			
			LOS:	B			

						Change
Lanes:	0	1	0	0	1	Crit V/C: + 0.030
Initial Vol:	201	5			355***	Avg Crit Del: + 10.7
						Avg Del: + 0.0

Signal=Split/Rights=Include

Scenario #3: Existing Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
323	1		Vol Cnt Date:	n/a		1	448
	0		Cycle Time (sec):	100		0	
1166***	2		Loss Time (sec):	5		2	447
	0		Critical V/C:	0.638		0	
0	0		Avg Crit Del (sec/veh):	13.4		0	0
			Avg Delay (sec/veh):	17.7			
			LOS:	B			

						Change
Lanes:	0	1	0	0	1	Crit V/C: - 0.029
Initial Vol:	163	18			416***	Avg Crit Del: - 10.7
						Avg Del: + 0.0

Signal=Split/Rights=Include

Scenario #4: Existing Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
357***	1		Vol Cnt Date:	n/a		1	635
	0		Cycle Time (sec):	100		0	
944	2		Loss Time (sec):	5		2	698***
	0		Critical V/C:	0.674		0	
0	0		Avg Crit Del (sec/veh):	24.3		0	0
			Avg Delay (sec/veh):	17.8			
			LOS:	B			

						Change
Lanes:	0	1	0	0	1	Crit V/C: + 0.036
Initial Vol:	210	5			355***	Avg Crit Del: + 10.9
						Avg Del: + 0.1

Signal=Split/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project PM Conditions

Sunpointe Laguna Niguel

Summary Scenario Comparison Report (With Average Critical Delay)
Future Volume Alternative

Intersection		Opening Year No Project AM				Opening Year No Project PM				Opening Year Plus Project AM						Opening Year Plus Project PM			
		LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)	LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)	LOS	Avg Del (sec)	Crit V/C	Crit V/C Change	Avg Crit Del (sec)	Avg Crit Del Change	LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)
#1	Cabot Rd/Crown Valley Pkwy	D	26.0	0.828	29.3	E	30.5	0.939	38.2	D	26.2	0.831	- 0.108	29.5	- 8.7	E	30.8	0.943	38.7
#2	Camino Capistrano/Paseo De La Colinas	A	11.2	0.589	19.0	A	11.4	0.597	18.8	B	12.5	0.608	+ 0.010	20.8	+ 1.9	B	11.5	0.612	21.6
#3	Cabot Rd/Paseo De La Colinas	B	15.9	0.614	20.9	B	19.6	0.646	23.5	B	15.9	0.620	- 0.026	21.1	- 2.4	B	19.6	0.647	23.5
#4	Star Rd/Paseo De La Colinas	A	4.2	0.386	5.6	A	10.8	0.358	3.7	A	5.7	0.404	+ 0.046	7.2	+ 3.5	A	11.4	0.369	4.4
#5	Camino Capistrano/Avery Pkwy	A	14.9	0.533	14.8	A	15.5	0.563	15.0	A	14.9	0.541	- 0.021	14.7	- 0.3	A	15.5	0.576	15.0
#6	I-5 SB Ramps/Avery Pkwy	A	16.9	0.446	18.7	A	17.3	0.430	20.5	A	16.9	0.449	+ 0.019	18.7	- 1.8	A	17.2	0.432	20.4
#7	I-5 NB Ramps/Avery Pkwy	A	14.8	0.431	13.6	A	15.3	0.390	20.2	A	14.8	0.432	+ 0.042	13.6	- 6.6	A	15.4	0.395	22.3

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project PM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #1: Cabot Rd/Crown Valley Pkwy

Scenario #1: Opening Year No Project AM

Signal=Protect/Rights=Include

Initial Vol:	195	164	331***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
304	2		Vol Cnt Date: n/a		1	352
	0		Cycle Time (sec): 100		0	
1582***	3		Loss Time (sec): 5		3	1678
	0		Critical V/C: 0.828		0	
137	1		Avg Crit Del (sec/veh): 29.3		2	407***
			Avg Delay (sec/veh): 26.0			
			LOS: D			

Lanes:	1 0	2	0 1	
Initial Vol:	161	363	426***	

Signal=Protect/Rights=Include

Scenario #2: Opening Year No Project PM

Signal=Protect/Rights=Include

Initial Vol:	268	324	306***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
269	2		Vol Cnt Date: n/a		1	423
	0		Cycle Time (sec): 100		0	
1751***	3		Loss Time (sec): 5		3	1972
	0		Critical V/C: 0.939		0	
198	1		Avg Crit Del (sec/veh): 38.2		2	731***
			Avg Delay (sec/veh): 30.5			
			LOS: E			

					Change
Lanes:	1 0	2	0 1		Crit V/C: + 0.112
Initial Vol:	213	240	410***		Avg Crit Del: + 8.9
					Avg Del: + 4.5

Signal=Protect/Rights=Include

Scenario #3: Opening Year Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	195	164	331***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
304	2		Vol Cnt Date: n/a		1	352
	0		Cycle Time (sec): 100		0	
1582***	3		Loss Time (sec): 5		3	1678
	0		Critical V/C: 0.831		0	
138	1		Avg Crit Del (sec/veh): 29.5		2	409***
			Avg Delay (sec/veh): 26.2			
			LOS: D			

					Change
Lanes:	1 0	2	0 1		Crit V/C: - 0.108
Initial Vol:	166	363	431***		Avg Crit Del: - 8.7
					Avg Del: - 4.3

Signal=Protect/Rights=Include

Scenario #4: Opening Year Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	268	324	306***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
269	2		Vol Cnt Date: n/a		1	423
	0		Cycle Time (sec): 100		0	
1751***	3		Loss Time (sec): 5		3	1972
	0		Critical V/C: 0.943		0	
203	1		Avg Crit Del (sec/veh): 38.7		2	737***
			Avg Delay (sec/veh): 30.8			
			LOS: E			

					Change
Lanes:	1 0	2	0 1		Crit V/C: + 0.112
Initial Vol:	217	240	413***		Avg Crit Del: + 9.2
					Avg Del: + 4.6

Signal=Protect/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project PM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #2: Camino Capistrano/Paseo De La Colinas

Scenario #1: Opening Year No Project AM

Signal=Protect/Rights=Include

Initial Vol:	0		103		43***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a	0	71***
	0		Cycle Time (sec): 100	0	
0	0		Loss Time (sec): 5	1!	0
	0		Critical V/C: 0.589	0	
0	0		Avg Crit Del (sec/veh): 19.0	1	890
			Avg Delay (sec/veh): 11.2		
			LOS: A		

Lanes:	0	0	0	1	1
Initial Vol:	0		219***		564

Signal=Permit/Rights=Overlap

Scenario #2: Opening Year No Project PM

Signal=Protect/Rights=Include

Initial Vol:	0		261		84***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a	0	57
	0		Cycle Time (sec): 100	0	
0	0		Loss Time (sec): 5	1!	0
	0		Critical V/C: 0.597	0	
0	0		Avg Crit Del (sec/veh): 18.8	1	689***
			Avg Delay (sec/veh): 11.4		
			LOS: A		

						Change
Lanes:	0	0	0	1	1	Crit V/C: + 0.009
Initial Vol:	0		138***		809	Avg Crit Del: - 0.1

Signal=Permit/Rights=Overlap Avg Del: + 0.2

Scenario #3: Opening Year Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	0		103		43***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
28***	0		Vol Cnt Date: n/a	0	71***
	0		Cycle Time (sec): 100	0	
0	0		Loss Time (sec): 5	1!	0
	0		Critical V/C: 0.608	0	
0	0		Avg Crit Del (sec/veh): 20.8	1	890
			Avg Delay (sec/veh): 12.5		
			LOS: B		

						Change
Lanes:	0	0	0	1	1	Crit V/C: + 0.010
Initial Vol:	0		219***		573	Avg Crit Del: + 1.9

Signal=Permit/Rights=Overlap Avg Del: + 1.0

Scenario #4: Opening Year Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	0		261		84***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a	0	57***
	0		Cycle Time (sec): 100	0	
0	0		Loss Time (sec): 5	1!	0
	0		Critical V/C: 0.612	0	
0	0		Avg Crit Del (sec/veh): 21.6	1	707
			Avg Delay (sec/veh): 11.5		
			LOS: B		

						Change
Lanes:	0	0	0	1	1	Crit V/C: + 0.004
Initial Vol:	0		138***		841	Avg Crit Del: + 0.8

Signal=Permit/Rights=Overlap Avg Del: - 1.0

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project PM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #3: Cabot Rd/Paseo De La Colinas

Scenario #1: Opening Year No Project AM

Signal=Protect/Rights=Include

Initial Vol:	279***	0	207		
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Include	Lanes:	Initial Vol:
554***	1		Vol Cnt Date:	n/a		1	266***
	0		Cycle Time (sec):	100		0	
788	2		Loss Time (sec):	5		2	330
	0		Critical V/C:	0.614		0	
0	0		Avg Crit Del (sec/veh):	20.9		0	0
			Avg Delay (sec/veh):	15.9			
			LOS:	B			

Lanes:	0	0	0	0	0
Initial Vol:	0	0	0		

Signal=Protect/Rights=Include

Scenario #3: Opening Year Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	279***	0	210		
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Include	Lanes:	Initial Vol:
554***	1		Vol Cnt Date:	n/a		1	276***
	0		Cycle Time (sec):	100		0	
789	2		Loss Time (sec):	5		2	332
	0		Critical V/C:	0.620		0	
0	0		Avg Crit Del (sec/veh):	21.1		0	0
			Avg Delay (sec/veh):	15.9			
			LOS:	B			

							Change
Lanes:	0	0	0	0	0	Crit V/C:	- 0.026
Initial Vol:	0	0	0			Avg Crit Del:	- 2.4
						Avg Del:	- 3.7

Signal=Protect/Rights=Include

Scenario #2: Opening Year No Project PM

Signal=Protect/Rights=Include

Initial Vol:	631***	0	194		
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Include	Lanes:	Initial Vol:
352***	1		Vol Cnt Date:	n/a		1	238
	0		Cycle Time (sec):	100		0	
491	2		Loss Time (sec):	5		2	692***
	0		Critical V/C:	0.646		0	
0	0		Avg Crit Del (sec/veh):	23.5		0	0
			Avg Delay (sec/veh):	19.6			
			LOS:	B			

							Change
Lanes:	0	0	0	0	0	Crit V/C:	+ 0.032
Initial Vol:	0	0	0			Avg Crit Del:	+ 2.6
						Avg Del:	+ 3.7

Signal=Protect/Rights=Include

Scenario #4: Opening Year Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	631***	0	205		
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Include	Lanes:	Initial Vol:
352***	1		Vol Cnt Date:	n/a		1	245
	0		Cycle Time (sec):	100		0	
493	2		Loss Time (sec):	5		2	693***
	0		Critical V/C:	0.647		0	
0	0		Avg Crit Del (sec/veh):	23.5		0	0
			Avg Delay (sec/veh):	19.6			
			LOS:	B			

							Change
Lanes:	0	0	0	0	0	Crit V/C:	+ 0.026
Initial Vol:	0	0	0			Avg Crit Del:	+ 2.4
						Avg Del:	+ 3.7

Signal=Protect/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project PM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #4: Star Rd/Paseo De La Colinas

Scenario #1: Opening Year No Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
937***	2		Critical V/C:	0.386		2	539
	0		Avg Crit Del (sec/veh):	5.6		0	
56	1		Avg Delay (sec/veh):	4.2		1	73***
			LOS:	A			

Lanes:	1	0	0	0	1
Initial Vol:	30***	0	23		

Signal=Split/Rights=Include

Scenario #2: Opening Year No Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
637	2		Critical V/C:	0.358		2	897***
	0		Avg Crit Del (sec/veh):	3.7		0	
27	1		Avg Delay (sec/veh):	10.8		1	37
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: - 0.028
Initial Vol:	48	0	75***			Avg Crit Del: - 1.9
						Avg Del: + 6.6

Signal=Split/Rights=Include

Scenario #3: Opening Year Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
937***	2		Critical V/C:	0.404		2	539
	0		Avg Crit Del (sec/veh):	7.2		0	
60	1		Avg Delay (sec/veh):	5.7		1	82***
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: + 0.046
Initial Vol:	42	0	51***			Avg Crit Del: + 3.5
						Avg Del: - 5.1

Signal=Split/Rights=Include

Scenario #4: Opening Year Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
637	2		Critical V/C:	0.369		2	897***
	0		Avg Crit Del (sec/veh):	4.4		0	
40	1		Avg Delay (sec/veh):	11.4		1	69
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: - 0.035
Initial Vol:	56	0	93***			Avg Crit Del: - 2.8
						Avg Del: + 5.7

Signal=Split/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project PM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #5: Camino Capistrano/Avery Pkwy

Scenario #1: Opening Year No Project AM

Signal=Protect/Rights=Include

Initial Vol:	0	233	770***		
Lanes:	0 0	0	1 2		

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	548***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.533		0	0
	0		Avg Crit Del (sec/veh): 14.8		0	
0	0		Avg Delay (sec/veh): 14.9		1	181
			LOS: A			

Lanes:	0 0	1	0 2		
Initial Vol:	0	213***	234		

Signal=Permit/Rights=Include

Scenario #2: Opening Year No Project PM

Signal=Protect/Rights=Include

Initial Vol:	0	173	745***		
Lanes:	0 0	0	1 2		

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	724***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.563		0	0
	0		Avg Crit Del (sec/veh): 15.0		0	
0	0		Avg Delay (sec/veh): 15.5		1	280
			LOS: A			

					Change
Lanes:	0 0	1	0 2	Crit V/C:	+ 0.030
Initial Vol:	0	204***	252	Avg Crit Del:	+ 0.3
				Avg Del:	+ 0.6

Signal=Permit/Rights=Include

Scenario #3: Opening Year Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	0	233	798***		
Lanes:	0 0	0	1 2		

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	557***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.541		0	0
	0		Avg Crit Del (sec/veh): 14.7		0	
0	0		Avg Delay (sec/veh): 14.9		1	181
			LOS: A			

					Change
Lanes:	0 0	1	0 2	Crit V/C:	- 0.021
Initial Vol:	0	213***	234	Avg Crit Del:	- 0.3
				Avg Del:	- 0.6

Signal=Permit/Rights=Include

Scenario #4: Opening Year Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	0	173	763***		
Lanes:	0 0	0	1 2		

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	756***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.576		0	0
	0		Avg Crit Del (sec/veh): 15.0		0	
0	0		Avg Delay (sec/veh): 15.5		1	280
			LOS: A			

					Change
Lanes:	0 0	1	0 2	Crit V/C:	+ 0.034
Initial Vol:	0	204***	252	Avg Crit Del:	+ 0.3
				Avg Del:	+ 0.6

Signal=Permit/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project PM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #6: I-5 SB Ramps/Avery Pkwy

Scenario #1: Opening Year No Project AM

Signal=Split/Rights=Include

Initial Vol:	313	0	777***		
Lanes:	2 0	0	0 2		

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
802***	4		Critical V/C:	0.446		3	500
	1		Avg Crit Del (sec/veh):	18.7		0	
170	0		Avg Delay (sec/veh):	16.9		2	181***
			LOS:	A			

Lanes:	0	0	0	0	0
Initial Vol:	0	0	0		

Signal=Split/Rights=Include

Scenario #2: Opening Year No Project PM

Signal=Split/Rights=Include

Initial Vol:	372	0	549***		
Lanes:	2 0	0	0 2		

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
851***	4		Critical V/C:	0.430		3	667
	1		Avg Crit Del (sec/veh):	20.5		0	
189	0		Avg Delay (sec/veh):	17.3		2	328***
			LOS:	A			

							Change
Lanes:	0	0	0	0	0	Crit V/C:	- 0.016
Initial Vol:	0	0	0			Avg Crit Del:	+ 1.8
						Avg Del:	+ 0.3

Signal=Split/Rights=Include

Scenario #3: Opening Year Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	318	0	777***		
Lanes:	2 0	0	0 2		

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
822***	4		Critical V/C:	0.449		3	504
	1		Avg Crit Del (sec/veh):	18.7		0	
178	0		Avg Delay (sec/veh):	16.9		2	181***
			LOS:	A			

							Change
Lanes:	0	0	0	0	0	Crit V/C:	+ 0.019
Initial Vol:	0	0	0			Avg Crit Del:	- 1.8
						Avg Del:	- 0.4

Signal=Split/Rights=Include

Scenario #4: Opening Year Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	390	0	549***		
Lanes:	2 0	0	0 2		

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
864***	4		Critical V/C:	0.432		3	681
	1		Avg Crit Del (sec/veh):	20.4		0	
194	0		Avg Delay (sec/veh):	17.2		2	328***
			LOS:	A			

							Change
Lanes:	0	0	0	0	0	Crit V/C:	- 0.017
Initial Vol:	0	0	0			Avg Crit Del:	+ 1.7
						Avg Del:	+ 0.3

Signal=Split/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Opening Year No Project PM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #7: I-5 NB Ramps/Avery Pkwy

Scenario #1: Opening Year No Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
325	2		Vol Cnt Date:	n/a		1	475
	0		Cycle Time (sec):	100		0	
1254***	3		Loss Time (sec):	5		4	515
	0		Critical V/C:	0.431		0	
0	0		Avg Crit Del (sec/veh):	13.6		0	0
			Avg Delay (sec/veh):	14.8			
			LOS:	A			

Lanes:	1	0	1!	0	1
Initial Vol:	170		19***		441

Signal=Split/Rights=Include

Scenario #2: Opening Year No Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
368***	2		Vol Cnt Date:	n/a		1	673
	0		Cycle Time (sec):	100		0	
1034	3		Loss Time (sec):	5		4	782***
	0		Critical V/C:	0.390		0	
0	0		Avg Crit Del (sec/veh):	20.2		0	0
			Avg Delay (sec/veh):	15.3			
			LOS:	A			

							Change
Lanes:	1	0	1!	0	1	Crit V/C:	- 0.041
Initial Vol:	213		5		376***	Avg Crit Del:	+ 6.6
						Avg Del:	+ 0.4

Signal=Split/Rights=Include

Scenario #3: Opening Year Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
341	2		Vol Cnt Date:	n/a		1	475
	0		Cycle Time (sec):	100		0	
1258***	3		Loss Time (sec):	5		4	516
	0		Critical V/C:	0.432		0	
0	0		Avg Crit Del (sec/veh):	13.6		0	0
			Avg Delay (sec/veh):	14.8			
			LOS:	A			

							Change
Lanes:	1	0	1!	0	1	Crit V/C:	+ 0.042
Initial Vol:	173		19***		441	Avg Crit Del:	- 6.6
						Avg Del:	- 0.5

Signal=Split/Rights=Include

Scenario #4: Opening Year Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
378***	2		Vol Cnt Date:	n/a		1	673
	0		Cycle Time (sec):	100		0	
1037	3		Loss Time (sec):	5		4	787***
	0		Critical V/C:	0.395		0	
0	0		Avg Crit Del (sec/veh):	22.3		0	0
			Avg Delay (sec/veh):	15.4			
			LOS:	A			

							Change
Lanes:	1	0	1!	0	1	Crit V/C:	- 0.037
Initial Vol:	222		5***		376	Avg Crit Del:	+ 8.7
						Avg Del:	+ 0.5

Signal=Split/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to FEHR & PEERS, LAFAYETTE

Buildout (2035) No Project AM Conditions

Sunpointe Laguna Niguel

Summary Scenario Comparison Report (With Average Critical Delay)
Future Volume Alternative

Intersection		Buildout (2035) No Project AM				Buildout (2035) No Project PM				Buildout (2035) Plus Project AM						Buildout (2035) Plus Project PM			
		LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)	LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)	LOS	Avg Del (sec)	Crit V/C	Crit V/C Change	Avg Crit Del (sec)	Avg Crit Del Change	LOS	Avg Del (sec)	Crit V/C	Avg Crit Del (sec)
#1	Cabot Rd/Crown Valley Pkwy	D	26.8	0.852	30.5	E	33.0	0.968	42.5	D	27.0	0.856	- 0.112	30.8	- 11.7	E	33.4	0.971	43.2
#2	Camino Capistrano/Paseo De La Colinas	B	11.4	0.608	17.2	B	11.6	0.617	21.8	B	12.7	0.627	+ 0.010	18.7	- 3.1	B	11.7	0.632	19.7
#3	Cabot Rd/Paseo De La Colinas	B	16.0	0.634	21.2	B	19.9	0.667	23.9	B	16.1	0.640	- 0.027	21.4	- 2.5	B	19.9	0.668	23.9
#4	Star Rd/Paseo De La Colinas	A	4.3	0.398	5.7	A	10.9	0.369	3.8	A	5.7	0.416	+ 0.047	7.2	+ 3.5	A	11.5	0.380	4.5
#5	Camino Capistrano/Avery Pkwy	A	15.0	0.551	14.9	A	15.7	0.581	15.2	A	15.0	0.559	- 0.022	14.9	- 0.3	A	15.7	0.594	15.2
#6	I-5 SB Ramps/Avery Pkwy	A	17.0	0.461	18.8	A	17.4	0.444	20.6	A	17.0	0.464	+ 0.020	18.8	- 1.8	A	17.3	0.446	20.5
#7	I-5 NB Ramps/Avery Pkwy	A	14.9	0.445	14.0	A	15.4	0.402	20.3	A	14.9	0.446	+ 0.044	14.0	- 6.3	A	15.4	0.408	20.5

Copyright (c) 2008 Dowling Associates, Inc.

Buildout (2035) No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #1: Cabot Rd/Crown Valley Pkwy

Scenario #1: Buildout (2035) No Project AM

Signal=Protect/Rights=Include

Initial Vol:	198	169	335***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
313	2		Vol Cnt Date: n/a		1	363
	0		Cycle Time (sec): 100		0	
1636***	3		Loss Time (sec): 5		3	1735
	0		Critical V/C: 0.852		0	
142	1		Avg Crit Del (sec/veh): 30.5		2	422***
			Avg Delay (sec/veh): 26.8			
			LOS: D			

Lanes:	1 0	2	0 1	
Initial Vol:	166	376	440***	

Signal=Protect/Rights=Include

Scenario #2: Buildout (2035) No Project PM

Signal=Protect/Rights=Include

Initial Vol:	276	336	313***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
275	2		Vol Cnt Date: n/a		1	431
	0		Cycle Time (sec): 100		0	
1809***	3		Loss Time (sec): 5		3	2039
	0		Critical V/C: 0.968		0	
204	1		Avg Crit Del (sec/veh): 42.5		2	755***
			Avg Delay (sec/veh): 33.0			
			LOS: E			

					Change
Lanes:	1 0	2	0 1		Crit V/C: + 0.116
Initial Vol:	221	248	423***		Avg Crit Del: + 12.0

Signal=Protect/Rights=Include Avg Del: + 6.2

Scenario #3: Buildout (2035) Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	198	169	335***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
313	2		Vol Cnt Date: n/a		1	363
	0		Cycle Time (sec): 100		0	
1636***	3		Loss Time (sec): 5		3	1735
	0		Critical V/C: 0.856		0	
143	1		Avg Crit Del (sec/veh): 30.8		2	424***
			Avg Delay (sec/veh): 27.0			
			LOS: D			

					Change
Lanes:	1 0	2	0 1		Crit V/C: - 0.112
Initial Vol:	171	376	445***		Avg Crit Del: - 11.7

Signal=Protect/Rights=Include Avg Del: - 6.0

Scenario #4: Buildout (2035) Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	276	336	313***	
Lanes:	0 1	1	0 2	

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
275	2		Vol Cnt Date: n/a		1	431
	0		Cycle Time (sec): 100		0	
1809***	3		Loss Time (sec): 5		3	2039
	0		Critical V/C: 0.971		0	
209	1		Avg Crit Del (sec/veh): 43.2		2	761***
			Avg Delay (sec/veh): 33.4			
			LOS: E			

					Change
Lanes:	1 0	2	0 1		Crit V/C: + 0.116
Initial Vol:	225	248	426***		Avg Crit Del: + 12.4

Signal=Protect/Rights=Include Avg Del: + 6.4

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Buildout (2035) No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #2: Camino Capistrano/Paseo De La Colinas

Scenario #1: Buildout (2035) No Project AM

Signal=Protect/Rights=Include

Initial Vol:	0		107		45***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0			0	74
	0			0	
0	0			1!	0
	0			0	
0	0			1	922***

Vol Cnt Date:	n/a
Cycle Time (sec):	100
Loss Time (sec):	5
Critical V/C:	0.608
Avg Crit Del (sec/veh):	17.2
Avg Delay (sec/veh):	11.4
LOS:	B

Lanes:	0	0	0	1	1
Initial Vol:	0		228***		584

Signal=Permit/Rights=Overlap

Scenario #2: Buildout (2035) No Project PM

Signal=Protect/Rights=Include

Initial Vol:	0		271		87***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0			0	59***
	0			0	
0	0			1!	0
	0			0	
0	0			1	714

Vol Cnt Date:	n/a
Cycle Time (sec):	100
Loss Time (sec):	5
Critical V/C:	0.617
Avg Crit Del (sec/veh):	21.8
Avg Delay (sec/veh):	11.6
LOS:	B

						Change
Lanes:	0	0	0	1	1	Crit V/C: + 0.009
Initial Vol:	0		143***		838	Avg Crit Del: + 4.6

Signal=Permit/Rights=Overlap Avg Del: + 0.2

Scenario #3: Buildout (2035) Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	0		107		45***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
28***	0			0	74
	0			0	
0	0			1!	0
	0			0	
0	0			1	922***

Vol Cnt Date:	n/a
Cycle Time (sec):	100
Loss Time (sec):	5
Critical V/C:	0.627
Avg Crit Del (sec/veh):	18.7
Avg Delay (sec/veh):	12.7
LOS:	B

						Change
Lanes:	0	0	0	1	1	Crit V/C: + 0.010
Initial Vol:	0		228***		593	Avg Crit Del: - 3.1

Signal=Permit/Rights=Overlap Avg Del: + 1.1

Scenario #4: Buildout (2035) Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	0		271		87***
Lanes:	0	0	1	0	1

Initial Vol:	Lanes:	Signal=Split Rights=Include		Lanes:	Initial Vol:
0	0			0	59
	0			0	
0	0			1!	0
	0			0	
0	0			1	732***

Vol Cnt Date:	n/a
Cycle Time (sec):	100
Loss Time (sec):	5
Critical V/C:	0.632
Avg Crit Del (sec/veh):	19.7
Avg Delay (sec/veh):	11.7
LOS:	B

						Change
Lanes:	0	0	0	1	1	Crit V/C: + 0.004
Initial Vol:	0		143***		870	Avg Crit Del: + 1.0

Signal=Permit/Rights=Overlap Avg Del: - 1.0

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Buildout (2035) No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #3: Cabot Rd/Paseo De La Colinas

Scenario #1: Buildout (2035) No Project AM

Signal=Split/Rights=Include

Initial Vol:	288***	0	214		
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Include	Lanes:	Initial Vol:
574***	1		Vol Cnt Date:	n/a		1	275***
	0		Cycle Time (sec):	100		0	
817	2		Loss Time (sec):	5		2	342
	0		Critical V/C:	0.634		0	
0	0		Avg Crit Del (sec/veh):	21.2		0	0
			Avg Delay (sec/veh):	16.0			
			LOS:	B			

Lanes:	0	0	0	0	0
Initial Vol:	0	0	0		

Signal=Split/Rights=Include

Scenario #2: Buildout (2035) No Project PM

Signal=Split/Rights=Include

Initial Vol:	653***	0	200		
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Include	Lanes:	Initial Vol:
364***	1		Vol Cnt Date:	n/a		1	245
	0		Cycle Time (sec):	100		0	
509	2		Loss Time (sec):	5		2	718***
	0		Critical V/C:	0.667		0	
0	0		Avg Crit Del (sec/veh):	23.9		0	0
			Avg Delay (sec/veh):	19.9			
			LOS:	B			

						Change
Lanes:	0	0	0	0	0	Crit V/C: + 0.033
Initial Vol:	0	0	0			Avg Crit Del: + 2.7
						Avg Del: + 3.8

Signal=Split/Rights=Include

Scenario #3: Buildout (2035) Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	288***	0	217		
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Include	Lanes:	Initial Vol:
574***	1		Vol Cnt Date:	n/a		1	285***
	0		Cycle Time (sec):	100		0	
818	2		Loss Time (sec):	5		2	344
	0		Critical V/C:	0.640		0	
0	0		Avg Crit Del (sec/veh):	21.4		0	0
			Avg Delay (sec/veh):	16.1			
			LOS:	B			

						Change
Lanes:	0	0	0	0	0	Crit V/C: - 0.027
Initial Vol:	0	0	0			Avg Crit Del: - 2.5
						Avg Del: - 3.7

Signal=Split/Rights=Include

Scenario #4: Buildout (2035) Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	653***	0	211		
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Protect Rights=Include			Signal=Permit Rights=Include	Lanes:	Initial Vol:
364***	1		Vol Cnt Date:	n/a		1	252
	0		Cycle Time (sec):	100		0	
511	2		Loss Time (sec):	5		2	719***
	0		Critical V/C:	0.668		0	
0	0		Avg Crit Del (sec/veh):	23.9		0	0
			Avg Delay (sec/veh):	19.9			
			LOS:	B			

						Change
Lanes:	0	0	0	0	0	Crit V/C: + 0.027
Initial Vol:	0	0	0			Avg Crit Del: + 2.5
						Avg Del: + 3.8

Signal=Split/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to FEHR & PEERS, LAFAYETTE

Buildout (2035) No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #4: Star Rd/Paseo De La Colinas

Scenario #1: Buildout (2035) No Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
970***	2		Critical V/C:	0.398		2	559
	0		Avg Crit Del (sec/veh):	5.7		0	
58	1		Avg Delay (sec/veh):	4.3		1	76***
			LOS:	A			

Lanes:	1	0	0	0	1
Initial Vol:	31***		0		24

Signal=Split/Rights=Include

Scenario #2: Buildout (2035) No Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
660	2		Critical V/C:	0.369		2	929***
	0		Avg Crit Del (sec/veh):	3.8		0	
28	1		Avg Delay (sec/veh):	10.9		1	39
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: - 0.029
Initial Vol:	50		0		78***	Avg Crit Del: - 1.9
						Avg Del: + 6.6

Signal=Split/Rights=Include

Scenario #3: Buildout (2035) Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
970***	2		Critical V/C:	0.416		2	559
	0		Avg Crit Del (sec/veh):	7.2		0	
62	1		Avg Delay (sec/veh):	5.7		1	85***
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: + 0.047
Initial Vol:	43		0		52***	Avg Crit Del: + 3.5
						Avg Del: - 5.2

Signal=Split/Rights=Include

Scenario #4: Buildout (2035) Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Permit Rights=Include			Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date:	n/a		0	0
			Cycle Time (sec):	100			
	0		Loss Time (sec):	5		0	
660	2		Critical V/C:	0.380		2	929***
	0		Avg Crit Del (sec/veh):	4.5		0	
41	1		Avg Delay (sec/veh):	11.5		1	71
			LOS:	A			

						Change
Lanes:	1	0	0	0	1	Crit V/C: - 0.036
Initial Vol:	58		0		96***	Avg Crit Del: - 2.8
						Avg Del: + 5.8

Signal=Split/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Buildout (2035) No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #5: Camino Capistrano/Avery Pkwy

Scenario #1: Buildout (2035) No Project AM

Signal=Protect/Rights=Include

Initial Vol:	0	242	798***		
Lanes:	0 0	0	1 2		

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	568***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.551		0	0
	0		Avg Crit Del (sec/veh): 14.9		0	
0	0		Avg Delay (sec/veh): 15.0		1	188
			LOS: A			

Lanes:	0 0	1	0 2		
Initial Vol:	0	221***	243		

Signal=Permit/Rights=Include

Scenario #2: Buildout (2035) No Project PM

Signal=Protect/Rights=Include

Initial Vol:	0	179	772***		
Lanes:	0 0	0	1 2		

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	750***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.581		0	0
	0		Avg Crit Del (sec/veh): 15.2		0	
0	0		Avg Delay (sec/veh): 15.7		1	290
			LOS: A			

					Change
Lanes:	0 0	1	0 2	Crit V/C:	+ 0.030
Initial Vol:	0	211***	262	Avg Crit Del:	+ 0.3
				Avg Del:	+ 0.6

Signal=Permit/Rights=Include

Scenario #3: Buildout (2035) Plus Project AM

Signal=Protect/Rights=Include

Initial Vol:	0	242	826***		
Lanes:	0 0	0	1 2		

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	577***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.559		0	0
	0		Avg Crit Del (sec/veh): 14.9		0	
0	0		Avg Delay (sec/veh): 15.0		1	188
			LOS: A			

					Change
Lanes:	0 0	1	0 2	Crit V/C:	- 0.022
Initial Vol:	0	221***	243	Avg Crit Del:	- 0.3
				Avg Del:	- 0.6

Signal=Permit/Rights=Include

Scenario #4: Buildout (2035) Plus Project PM

Signal=Protect/Rights=Include

Initial Vol:	0	179	790***		
Lanes:	0 0	0	1 2		

Initial Vol:	Lanes:	Signal=Split Rights=Include		Signal=Split Rights=Overlap	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a			
			Cycle Time (sec): 100		2	782***
	0		Loss Time (sec): 5		0	
0	0		Critical V/C: 0.594		0	0
	0		Avg Crit Del (sec/veh): 15.2		0	
0	0		Avg Delay (sec/veh): 15.7		1	290
			LOS: A			

					Change
Lanes:	0 0	1	0 2	Crit V/C:	+ 0.035
Initial Vol:	0	211***	262	Avg Crit Del:	+ 0.3
				Avg Del:	+ 0.6

Signal=Permit/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Buildout (2035) No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #6: I-5 SB Ramps/Avery Pkwy

Scenario #1: Buildout (2035) No Project AM

Signal=Split/Rights=Include

Initial Vol:	325	0		806***	
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Permit Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a		0	0
			Cycle Time (sec): 100			
	0		Loss Time (sec): 5		0	
832***	4		Critical V/C: 0.461		3	517
	1		Avg Crit Del (sec/veh): 18.8		0	
176	0		Avg Delay (sec/veh): 17.0		2	188***
			LOS: A			

Lanes:	0	0	0	0	0
Initial Vol:	0	0	0		0

Signal=Split/Rights=Include

Scenario #2: Buildout (2035) No Project PM

Signal=Split/Rights=Include

Initial Vol:	386	0		570***	
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Permit Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a		0	0
			Cycle Time (sec): 100			
	0		Loss Time (sec): 5		0	
882***	4		Critical V/C: 0.444		3	691
	1		Avg Crit Del (sec/veh): 20.6		0	
196	0		Avg Delay (sec/veh): 17.4		2	340***
			LOS: A			

						Change
Lanes:	0	0	0	0	0	Crit V/C: - 0.017
Initial Vol:	0	0	0		0	Avg Crit Del: + 1.8

Signal=Split/Rights=Include Avg Del: + 0.4

Scenario #3: Buildout (2035) Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	330	0		806***	
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Permit Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a		0	0
			Cycle Time (sec): 100			
	0		Loss Time (sec): 5		0	
852***	4		Critical V/C: 0.464		3	521
	1		Avg Crit Del (sec/veh): 18.8		0	
184	0		Avg Delay (sec/veh): 17.0		2	188***
			LOS: A			

						Change
Lanes:	0	0	0	0	0	Crit V/C: + 0.020
Initial Vol:	0	0	0		0	Avg Crit Del: - 1.8

Signal=Split/Rights=Include Avg Del: - 0.4

Scenario #4: Buildout (2035) Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	404	0		570***	
Lanes:	2	0	0	0	2

Initial Vol:	Lanes:	Signal=Permit Rights=Include		Signal=Protect Rights=Include	Lanes:	Initial Vol:
0	0		Vol Cnt Date: n/a		0	0
			Cycle Time (sec): 100			
	0		Loss Time (sec): 5		0	
895***	4		Critical V/C: 0.446		3	705
	1		Avg Crit Del (sec/veh): 20.5		0	
201	0		Avg Delay (sec/veh): 17.3		2	340***
			LOS: A			

						Change
Lanes:	0	0	0	0	0	Crit V/C: - 0.018
Initial Vol:	0	0	0		0	Avg Crit Del: + 1.7

Signal=Split/Rights=Include Avg Del: + 0.3

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE

Buildout (2035) No Project AM Conditions

Sunpointe Laguna Niguel

Detailed Scenario Comparison Report
ICU 1(Loss as Cycle Length %) (Future Volume Alternative)

Intersection #7: I-5 NB Ramps/Avery Pkwy

Scenario #1: Buildout (2035) No Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
338	2		Cycle Time (sec): 100		1	493
	0		Loss Time (sec): 5		0	
1300***	3		Critical V/C: 0.445		4	533
	0		Avg Crit Del (sec/veh): 14.0		0	
0	0		Avg Delay (sec/veh): 14.9		0	0

Vol Cnt Date: n/a
LOS: A

Lanes:	1	0	1!	0	1
Initial Vol:	176		20***		458

Signal=Split/Rights=Include

Scenario #2: Buildout (2035) No Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
382***	2		Cycle Time (sec): 100		1	699
	0		Loss Time (sec): 5		0	
1072	3		Critical V/C: 0.402		4	809***
	0		Avg Crit Del (sec/veh): 20.3		0	
0	0		Avg Delay (sec/veh): 15.4		0	0

Vol Cnt Date: n/a
LOS: A

						Change
Lanes:	1	0	1!	0	1	Crit V/C: - 0.043
Initial Vol:	221		6		391***	Avg Crit Del: + 6.3
						Avg Del: + 0.4

Signal=Split/Rights=Include

Scenario #3: Buildout (2035) Plus Project AM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
354	2		Cycle Time (sec): 100		1	493
	0		Loss Time (sec): 5		0	
1304***	3		Critical V/C: 0.446		4	534
	0		Avg Crit Del (sec/veh): 14.0		0	
0	0		Avg Delay (sec/veh): 14.9		0	0

Vol Cnt Date: n/a
LOS: A

						Change
Lanes:	1	0	1!	0	1	Crit V/C: + 0.044
Initial Vol:	179		20***		458	Avg Crit Del: - 6.3
						Avg Del: - 0.5

Signal=Split/Rights=Include

Scenario #4: Buildout (2035) Plus Project PM

Signal=Split/Rights=Include

Initial Vol:	0	0	0		
Lanes:	0	0	0	0	0

Initial Vol:	Lanes:	Signal=Protect Rights=Include		Signal=Permit Rights=Ignore	Lanes:	Initial Vol:
392***	2		Cycle Time (sec): 100		1	699
	0		Loss Time (sec): 5		0	
1075	3		Critical V/C: 0.408		4	814***
	0		Avg Crit Del (sec/veh): 20.5		0	
0	0		Avg Delay (sec/veh): 15.4		0	0

Vol Cnt Date: n/a
LOS: A

						Change
Lanes:	1	0	1!	0	1	Crit V/C: - 0.038
Initial Vol:	230***		6		391	Avg Crit Del: + 6.4
						Avg Del: + 0.5

Signal=Split/Rights=Include

Copyright (c) 2008 Dowling Associates, Inc. Licensed to FEHR & PEERS, LAFAYETTE