



# City of Encinitas Housing Element Traffic Impact Study

Draft Report | January 27, 2016

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# CITY OF ENCINITAS HOUSING ELEMENT TRAFFIC IMPACT STUDY

## Draft Report

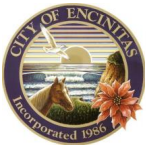
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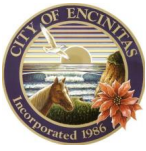
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## 1.0 INTRODUCTION

### 1.1 Study Background and Purpose

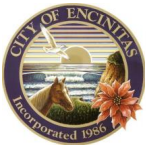
As part of its general plan, jurisdictions are required to prepare a Housing Element consistent with California Government Code *Article 10.6, Sections 65580 through 65589.9*. Among other things, the Housing Element must identify and analyze the community's housing needs and provide a list of scheduled programs for the preservation, improvement and development of housing. In doing so, the element must



identify adequate sites to meet the housing needs of all economic sectors of the community and permit a variety of housing types including rental housing, factory-built housing and mobile homes.

Over the years, the City implemented a number of valuable programs that assist low-income families, as well as approved low-income rental housing projects such as the Iris Apartments. However, with a changing demographic and aging population, it is becoming even more important to properly plan and provide for affordable housing for all income levels. This includes a need to identify sites with appropriate zoning to accommodate a “full” share of future housing needs and meet future housing demand. In the San Diego region, SANDAG is assigned the responsibility by State Housing Element Law to consult with the California Department of Housing and Community Development (HCD) to determine the existing and projected housing needs. Also known as Regional Housing Needs Assessment (RHNA), the RHNA Plan will allocate the total number of housing units by income category – very low, low, moderate, and above moderate – that the 18 cities and County of San Diego will need to plan for in their 2013 – 2021 housing elements. The RHNA Plan was prepared in conjunction with the 2050 Regional Transportation Plan and its Sustainable Communities Strategy (2050 RTP/SCS) to improve the connection between planning for transportation, land use, and housing and to help meet the region's greenhouse gas (GHG) reduction targets set by the California Air Resources Board as required by Senate Bill 375 (SB 375).

Based on the City of Encinitas' ten-year allocation of housing needs, the City has an adequate number of properties zoned to accommodate housing needs that fall under the moderate and above moderate income levels. However, the City does not have enough sites to meet housing obligations for the lower income levels. As such, the City is faced with the task of finding sites to



accommodate 1,283 additional units. In order to accommodate regional housing needs for the lower income households, a default density of 30 units per acre is required.

In 2014, the City of Encinitas initiated a focused update to the Housing Element portion of the General Plan. Since the City of Encinitas does not have an adequate site inventory of residential land that fully accommodates future housing needs, the community is evaluating its existing land use plan and zoning ordinances to see if there are areas of the City that can appropriately accommodate residential growth. Based on recent Council direction, the City share of future housing needs should not be concentrated in any single community or single area of the City. Rather a general distribution throughout the City is the recommended approach to site identification for zone changes. The updated Housing Element process will review and revise the existing Housing Element to reflect current conditions, City policies, and methods to meet the housing requirements mandated by the State of California Department of Housing and Community Development. Staff assumes the vision, goals and a majority of policies of the 1992 Housing Element remain valid and that only a strategic update is needed in order to satisfy California Department of Housing and Community Development rules, procedures, and practices.

The purpose of this Traffic Impact Study (TIS) is to identify and document potential traffic impacts associated with the proposed Housing Element for Encinitas (proposed project), as well as recommend mitigation measures, as necessary, for any identified roadway and intersection deficiencies associated with the project.

## 1.2 Setting

The City of Encinitas is located in northern San Diego County, along the Pacific coastline in Southern California. It lies north of the City of Solana Beach, south of the City of Carlsbad, and west of the San Dieguito Community Planning Area of unincorporated County of San Diego. Interstate 5 provides a regional north-south connection, and North Coast Highway 101 and South Coast Highway 101 provides additional connections to neighboring coastal cities.



According to the American Community Survey, the City of Encinitas population in 2011 was 59,754, a 3% increase from the 2000 Census. In 2011, the majority of the population in the City of Encinitas fell within the 20 to 44 age distribution. Lastly, over 75% of the City's housing stock consists of single family units<sup>1</sup>.

<sup>1</sup> City of Encinitas website: [www.ci.encinitas.ca.us/modules](http://www.ci.encinitas.ca.us/modules)

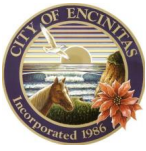
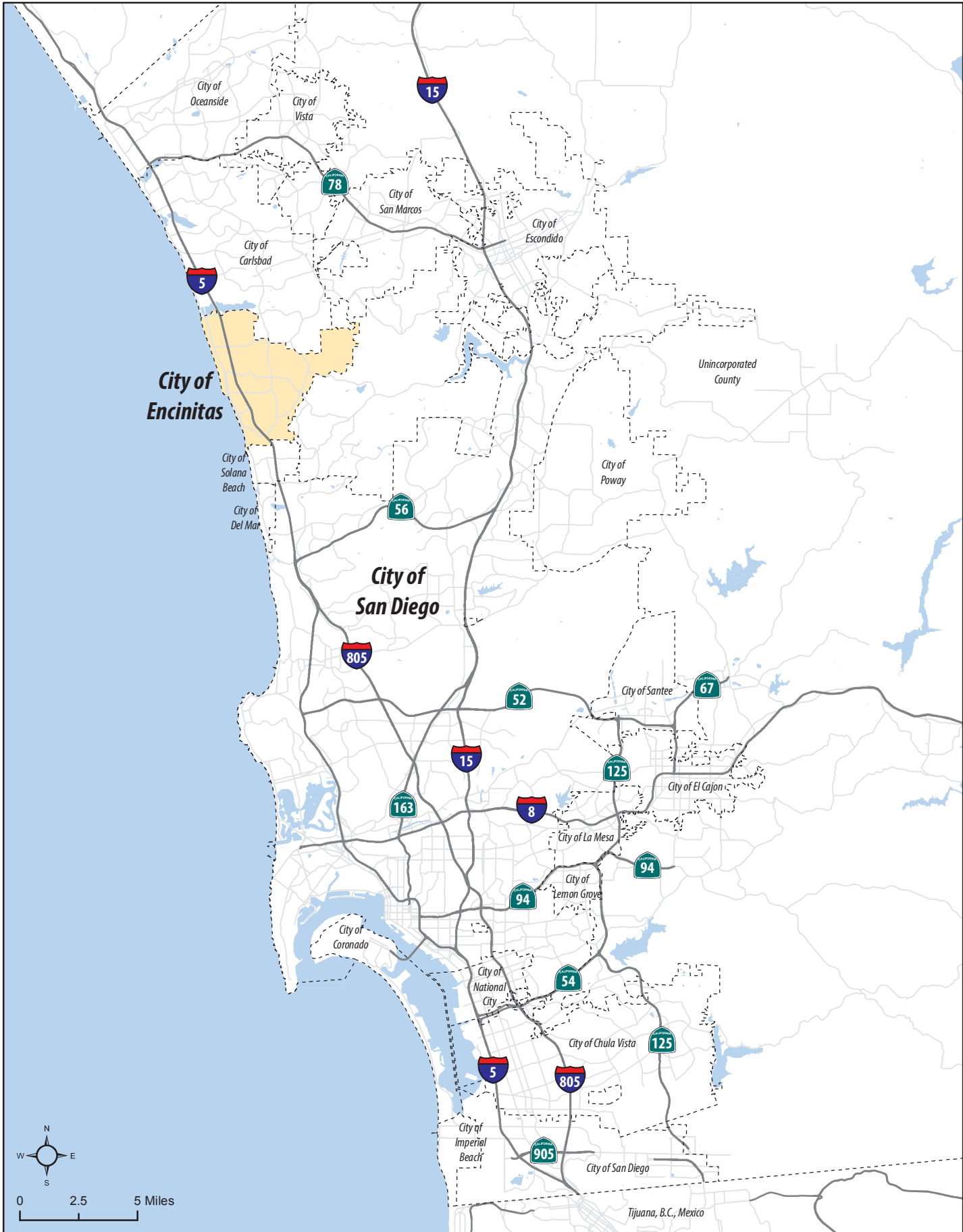


Figure 1-1 displays the City of Encinitas within the San Diego region.

### 1.3 Report Organization

Following this introductory chapter, the remainder of this document is organized into the following sections: **Chapter 2** outlines the analysis methodologies and significant traffic impact criteria to be applied throughout the development of this Traffic Impact Study; **Chapter 3** describes the existing conditions of the transportation network; **Chapter 4** discusses the future Year 2035 traffic conditions under the No-Project (adopted General Plan land uses) conditions as well as the three (3) different proposed housing strategies: Ready Made, Build Your Own, and Modified Mixed Use Plan; **Chapter 5** identifies the roadway, intersection, freeway, ramp intersection, and ramp metering traffic impacts associated with the three different analyzed housing strategies when compared to future Year 2035 no-project traffic conditions; and **Chapter 6** summarizes the overall study findings of each of the study scenarios throughout this report.



Encinitas Housing Element TIS

Figure 1-1

City of Encinitas within San Diego Region





## 2.0 ANALYSIS METHODOLOGY

This chapter describes the study area and the mobility network analysis methodologies employed throughout the analysis. This TIS was performed in accordance with the requirements of the City of Encinitas and SANTEC/ITE Guidelines for TIS in the San Diego region (March, 2000), and in conformance with the enhanced California Environmental Quality Act (CEQA) project review process.

### 2.1 Defining the Study Area

The SANTEC/ITE Guidelines require that the defined study area include all freeway segments, roadway segments, and intersections in which the proposed project would add 50 or more peak hour trips in either direction. SANDAG Select Zone Assignments were conducted to define the project study area. In addition, City staff also recommended a number of intersections be added to the study based on their knowledge of the current traffic operations throughout the City.

The primary study area is defined by the City of Encinitas boundary. The study area also extends just beyond Encinitas' boundary into the neighboring jurisdictions to assess potential traffic impacts associated with this Housing Element.

#### Roadway Segments

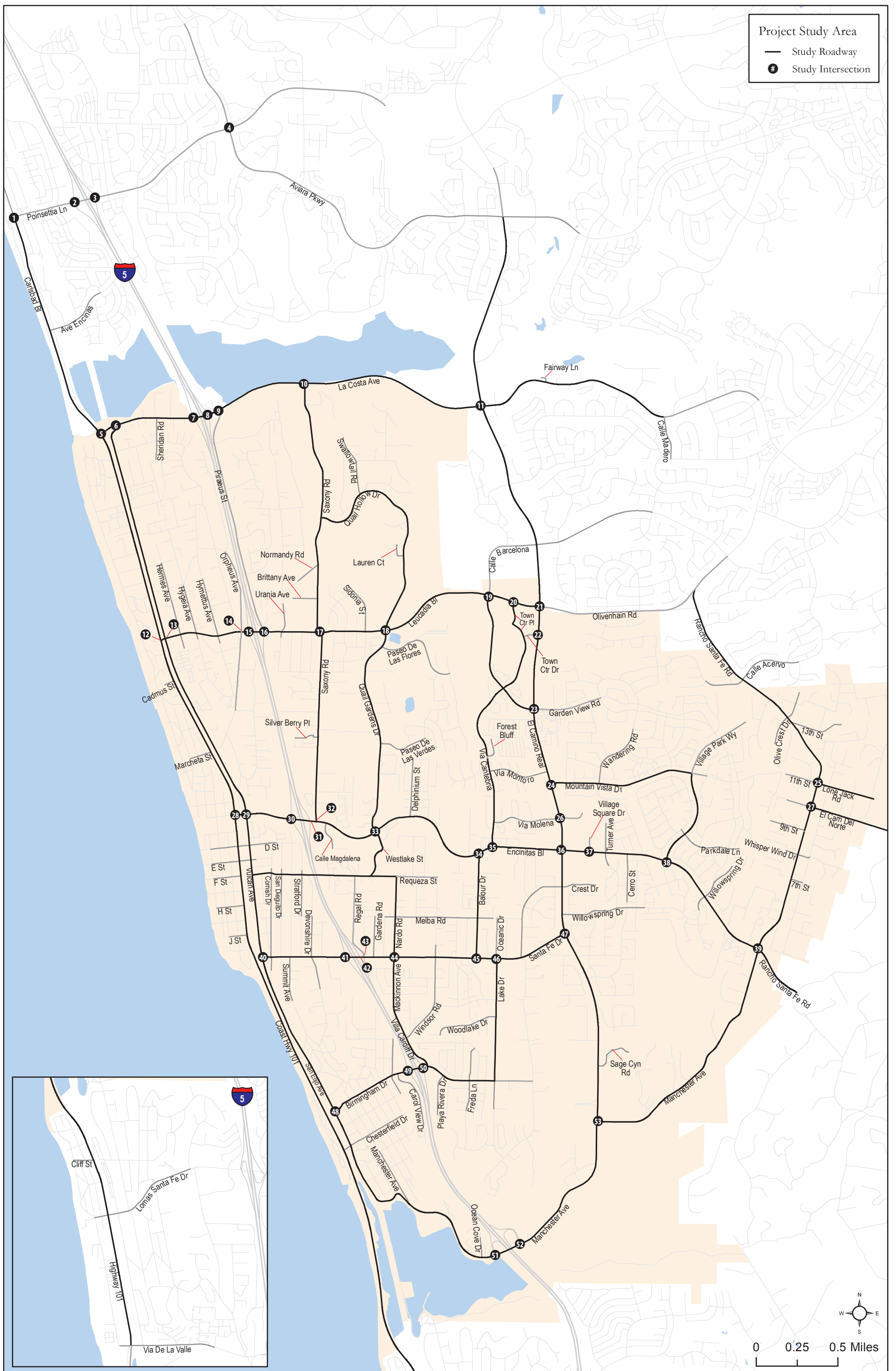
Study area roadway segments were defined to include all roadway segments within the currently adopted City of Encinitas' Circulation Element. The segments were extended just beyond the City of Encinitas boundaries into the cities of Carlsbad, Solana Beach, and unincorporated San Diego County areas, to account for potential impacts outside of Encinitas.

#### Study Intersections

A total of fifty three (53) intersections were studied, with nine (9) of them located in the City of Carlsbad. The following criteria was considered while selecting study intersections:

- The proposed project is anticipated to add 50 or more peak hour trips;
- Freeway ramp intersections; and
- City of Encinitas staff input.

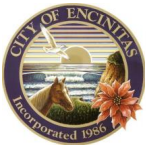
**Figure 2-1** displays the Circulation Element roadway segments and intersections studied.



Encinitas Housing Element TIS

Figure 2-1

Project Study Area



## 2.2 Level of Service Definitions

Vehicular LOS is a quantitative measure describing how well a transportation facility operates from a driver’s perspective. These conditions are generally described in terms of speed, travel time, freedom to maneuver, comfort, convenience, and safety. LOS A represents optimum operating conditions from a driver’s perspective, while LOS F represents the worst.

**Table 2.1** describes generalized definitions of vehicular LOS A through F, as described in the 2010 Highway Capacity Manual.

**Table 2.1**  
**Level of Service Definitions**

LOS	Description
A	Primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Controlled delay at the boundary intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.
B	Reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.
C	Stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.
D	Less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed.
E	Unstable operation and significant delay. Such operations may be due to some combination of adverse signal progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed.
F	Flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed. Also, LOS F is assigned to the subject direction of travel if the through movement at one or more boundary intersections have a volume-to-capacity ratio greater than 1.0.

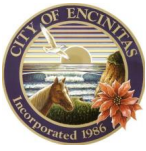
Source: Highway Capacity Manual 2010

Detailed information on roadway, intersection, and freeway analysis methodologies, standards, and thresholds are discussed in the following sections.

## 2.3 Roadway Segment Level of Service Standards and Thresholds

The analysis of roadway segment level of service is based on the functional classification of the roadway, maximum capacity, roadway geometrics, and existing or forecasted average daily traffic (ADT) volumes.

Standards for ascertaining roadway level of service vary by jurisdiction. These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes.



LOS D is considered acceptable for Circulation Element roadway segments in all jurisdictions within the project study area. Typically, the performance and level of service of a roadway segment is heavily influenced by the ability of the arterial intersections to accommodate peak hour volumes.

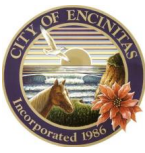
The City of Encinitas level of service analysis was performed by utilizing the *City of Encinitas Public Road Standards, April 1991*. The thresholds for each facility type are presented in **Table 2.2** below.

**Table 2.2**  
**Roadway Segment Daily Capacity and Level of Service Thresholds**

Facility Type	Lane Configuration	LOS C or better	LOS D	LOS E
Prime Arterial	6 Lanes - Divided	<46,000	<51,200	<57,000
Prime Arterial - Augmented	6 Lanes - Divided	<53,000	<60,000	<66,000
Major Roadway	4 Lanes - Divided	<28,200	<31,600	<35,200
Major Roadway - Augmented	4+ Lanes	<36,300	<41,000	<45,400
Collector Roadway	4 Lanes	<26,000	<29,200	<32,400
Local Roadway - Augmented	2+ Lanes	<16,000	<18,000	<20,000
Local Roadway	2 Lanes	<11,200	<12,600	<14,000

Source: City of Encinitas Public Road Standards; April 1991

The cities of Carlsbad and Solana Beach utilize the roadway segment LOS standards and thresholds from the *SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region*, as displayed in **Table 2.3**.



**Table 2.3**  
**Cities of Carlsbad & Solana Beach**  
**Roadway Segment Daily Capacity and Level of Service Standards**

Roadway Functional Classification	Level of Service				
	A	B	C	D	E
Expressway (6-lane)	< 30,000	< 42,000	< 60,000	< 70,000	< 80,000
Prime Arterial (6-lane)	< 25,000	< 35,000	< 50,000	< 55,000	< 60,000
Major Arterial (6-lane, divided)	< 20,000	< 28,000	< 40,000	< 45,000	< 50,000
Major Arterial (4-lane, divided)	< 15,000	< 21,000	< 30,000	< 35,000	< 40,000
Secondary Arterial / Collector (4-lane w/ center lane)	< 10,000	< 14,000	< 20,000	< 25,000	< 30,000
Collector (4-lane w/o center lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane w/ continuous left-turn lane)					
Collector (2-lane no fronting property)	< 4,000	< 5,500	< 7,500	< 9,000	< 10,000
Collector (2-lane w/ commercial fronting)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Collector (2-lane multi-family)					
Sub-Collector (2-lane single-family)	-	-	< 2,200	-	-

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





**Table 2.4** displays the roadway segment LOS standards and thresholds for the unincorporated County of San Diego.

**Table 2.4**  
**County of San Diego**  
**Roadway Segment Daily Capacity and Level of Service Standards**

No.	Travel Lanes	Design Speed	Road Classification	Level of Service				
				A	B	C	D	E
6.1	6	65 mph	Expressway	36,000	54,000	70,000	86,000	108,000
6.2	6	65 mph	Prime Arterial	22,200	37,000	44,600	50,000	57,000
4.1A	4	55 mph	Major Road with Raised Median	14,800	24,700	29,600	33,400	37,000
4.1B			Major Road with Intermittent Turn Lanes	13,700	22,800	27,400	30,800	34,200
4.2A	4	40 mph	Boulevard with Raised Median	18,000	21,000	24,000	27,000	30,000
4.2B			Boulevard with Intermittent Turn Lane	16,800	19,600	22,500	25,000	28,000
2.1A	2	45 mph	Community Collector with Raised Median	10,000	11,700	13,400	15,000	19,000
2.1B			Community Collector w/ Continuous Turn Lane	3,000	6,000	9,500	13,500	19,000
2.1C			Community Collector w/ Intermittent Turn Lane	3,000	6,000	9,500	13,500	19,000
2.1D			Community Collector with Improvement Options	3,000	6,000	9,500	13,500	19,000
2.1E			Community Collector	1,900	4,100	7,100	10,900	16,200
2.2A	2	40 mph	Light Collector with Raised Median	3,000	6,000	9,500	13,500	19,000
2.2B			Light Collector with Continuous Turn Lane	3,000	6,000	9,500	13,500	19,000
2.2C			Light Collector with Intermittent Turn Lanes	3,000	6,000	9,500	13,500	19,000
2.2D			Light Collector with Improvement Options	3,000	6,000	9,500	13,500	19,000
2.2E			Light Collector	1,900	4,100	7,100	10,900	16,200
2.2F			Light Collector with Reduced Shoulder	5,800	6,800	7,800	8,700	9,700
2.3A	2	35 mph	Minor Collector with Raised Median	3,000	6,000	7,000	8,000	9,000
2.3B			Minor Collector with Intermittent Turn Lane	3,000	6,000	7,000	8,000	9,000
2.3C			Minor Collector	1,900	4,100	6,000	7,000	8,000

Source: County of San Diego Public Road Standards; March 2012



## 2.4 Peak Hour Intersection Level of Service Standards and Thresholds

This section presents the methodologies used to analyze peak hour intersection operations, for both signalized and unsignalized intersections. This analysis supports the development of auto LOS associated with intersections during the AM and PM peak travel periods.

### Signalized Intersection Analysis

The signalized intersection analysis utilized in this study conforms to the operational analysis methodology outlined in Chapter 18 of the *HCM 2010*, which defines intersection level of service as a function of intersection control delay in terms of seconds per vehicle (sec/veh).

The *HCM 2010* methodology sets 1,900 passenger-cars per hour per lane (pcphpl) as the ideal saturation flow rate at signalized intersections based upon the minimum headway that can be sustained between departing vehicles at a signalized intersection. The service saturation flow rate, which reflects the saturation flow rate specific to the study facility, is determined by adjusting the ideal saturation flow rate for lane width, on-street parking, bus stops, pedestrian volume, traffic composition (or percentage of heavy vehicles), and shared lane movements (e.g. through and right-turn movements sharing the same lane).

**Table 2.5** displays the level of service criteria used for signalized intersections. The computerized analysis of intersection operations was performed utilizing the *Synchro 8.0 Build 805* traffic analysis software (by Trafficware, 2014).

### Unsignalized Intersection Analysis

Unsignalized intersections, including two-way and all-way stop controlled intersections, were analyzed using the Chapters 19 and 20 methodology of the *HCM 2010*. The level of service for a side street stop controlled (SSSC) intersection is determined by the computed or measured control delay at each minor-street movement. LOS F would occur when the volume-to-capacity ratio exceeds 1.0, regardless of the control delay.

**Table 2.6** summarizes the level of service criteria for unsignalized intersections.

Similar to roadway segments, LOS D during the peak hours is considered acceptable for all study area intersections.



**Table 2.5**  
**Signalized Intersection Level of Service Highway Capacity Manual Operational Analysis Method**

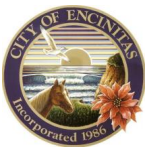
Average Stopped Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10.0	LOS A occurs when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
10.1 – 20.0	LOS B occurs when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
20.1 – 35.0	LOS C occurs when progression is favorable or the cycle length is moderate. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
35.1 – 55.0	LOS D occurs when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
55.1 – 80.0	LOS E occurs when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
>80.0	LOS F occurs when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: Highway Capacity Manual 2010, Chapter 18

**Table 2.6**  
**Level of Service Criteria for Stop Controlled Unsignalized Intersections**

Average Control Delay (sec/veh)	Level of Service (LOS)
<10.0	A
10.1 – 15.0	B
15.1 – 25.0	C
25.1 – 35.0	D
35.1 – 50.0	E
>50.0	F

Source: Highway Capacity Manual 2010, Chapters 19 & 20



## 2.5 Freeway Level of Service Standards and Thresholds

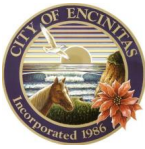
Freeway level of service analysis is based upon procedures developed by the California Department of Transportation (Caltrans). The procedure for calculating freeway level of service involves estimating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are estimated from the application of design hour (“K”), directional (“D”) and truck (“T”) factors to Average Daily Traffic (ADT) volumes. The base capacities for Interstate 5 were assumed to be 2,350 passenger-car per hour per main lane (pc/h/ln) and 1,410 pc/h/ln (60% of the main lane capacity) for auxiliary lane, respectively.

The resulting V/C ratio is then compared to acceptable ranges of V/C values corresponding to the various levels of service for each facility classification, as shown in **Table 2.7**. The corresponding level of service represents an approximation of existing or anticipated future freeway operating conditions in the peak direction of travel during the peak hour. For the purpose of this study, LOS D is considered as the threshold for acceptable freeway operations. LOS D is the level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.

**Table 2.7**  
Freeway Segment Level of Service Definitions

LOS	V/C	Congestion/Delay	Traffic Description
<i>Used for freeways, expressways and conventional highways</i>			
"A"	<0.41	None	Free flow.
"B"	0.42-0.62	None	Free to stable flow, light to moderate volumes.
"C"	0.63-0.79	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.80-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
<i>Used for conventional highways</i>			
"F"	>1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.
<i>Used for freeways and expressways</i>			
"F0"	1.01–1.25	Considerable (0-1 hour delay)	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F1"	1.26-1.35	Severe (1-2 hour delay)	Very heavy congestion, very long queues.
"F2"	1.36-1.45	Very severe (2-3 hour delay)	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F3"	>1.46	Extremely severe (3+ hours of delay)	Gridlock.

Source: SANTEC/ITE Guidelines for TIS in the San Diego Region; March 2000



## 2.6 Ramp Intersection Capacity Analysis

Consistent with Caltrans requirements, all signalized intersections at freeway ramps were analyzed using Intersecting Lane Volume (ILV) procedures as described in Topic 406 of the Caltrans *Highway Design Manual* (HDM). This methodology is based upon an assessment of each intersection as an isolated unit, without consideration of the effects from adjacent intersections. For this reason, the ILV analysis is utilized as an additional validation of signalized ramp intersection operations derived from the 2010 Highway Capacity Manual methodology. **Table 2.8** provides values of ILV/hr associated with various traffic flow thresholds. Neither Caltrans nor the City uses ILV results in determining significance of project impacts, but the analyses are included for informational purposes.

**Table 2.8**  
**Traffic Flow Conditions at Ramp Intersections**  
**At Various Levels of Operation**

ILV/hr	Description
<b>&lt;1200: (Under Capacity)</b>	Stable flow with slight, but acceptable delay. Occasional signal loading may develop. Free midblock operations.
<b>1200-1500: (At Capacity)</b>	Unstable flow with considerable delays possible. Some vehicles occasionally wait two or more cycles to pass through the intersection. Continuous backup occurs on some approaches.
<b>&gt;1500: (Over Capacity)</b>	Stop-and-go operation with severe delay and heavy congestion (1). Traffic volume is limited by maximum discharges rates of each phase. Continuous backup in varying degrees occurs on all approaches. Where downstream capacity is restrictive, mainline congestion can impede orderly discharge through the intersection.

Source: Caltrans Highway Design Manual, Topic 406

Note:

- (1) The amount of congestion depends on how much the ILV/hr value exceeds 1500. Observed flow rates will normally not exceed 1500ILV/hr, and the excess will be delayed in a queue.

## 2.7 Ramp Metering Analysis

Ramp metering is a means of controlling the volume of traffic entering the freeway with the goal of improving the traffic operations and flow on the freeway main lanes. Freeway ramp meter analysis estimates the peak hour queues and delays at freeway ramps by comparing existing volumes to the meter rate at the given location.

Based on discussion with Caltrans District 11 Ramp Meter Operation and Congestion Monitoring Branch, an average ramp meter rate of 10 seconds per cycle was used for all ramp meters. Ramp metering analysis was conducted based upon the SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego region to calculate delays and queues at the study area freeway on-ramps. The demand per hour per lane was calculated using the following equation:

$$D_{vol} = \frac{(P_{vol} - H_{vol})}{N}$$





- $D_{vol}$  (Demand Volume per hour per Lane): total peak hour demand expected to use the on-ramp (non-HOV lane only);
- $P_{vol}$  (Peak Hour Ramp Volume): sum of all peak hour volumes using the on-ramp;
- $H_{vol}$  (HOV lane volume): based on field observation, approximately 20% of the  $P_{vol}$  utilized the HOV lane; and
- N: number of non-HOV lanes at the on-ramp.

## 2.8 Determination of Significant Impacts

This section outlines the thresholds for determination of significant project-related impacts on study area facilities. For the purpose of this TIS, significant impacts were determined by comparing future traffic conditions with the implementation of each of the housing strategies to the future Year 2035 no-project traffic conditions (without the implementation of the housing strategies). Study area roadway and freeway segments are spread out into various jurisdictions including Caltrans, Encinitas, Carlsbad, Solana Beach, and the County of San Diego. While SANTEC/ITE Guidelines, displayed below, apply to Caltrans, Encinitas, Carlsbad, Solana Beach’s facilities, the County of San Diego uses its own set of thresholds and standards. With that said, there are no study area intersections located in the County of San Diego, thus County (displayed below) criteria would only apply to roadway segment analysis.

### SANTEC/ITE Guidelines

The Cities of Encinitas, Carlsbad, and Solana Beach comply with the traffic study requirements identified in the SANTEC/ITE Guidelines, as summarized in **Table 2.9**.

**Table 2.9**  
**SANTEC/ITE Measure of Significant Project Traffic Impacts**

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

Source: SANTEC/ITE Guidelines for TIS in the San Diego Region

In addition, a project would result in a significant impact per SANTEC/ITE Guidelines if it caused a roadway segment, freeway segment, intersection or freeway ramp to drop from an acceptable operating level to an unacceptable operating level.



## County of San Diego Traffic Impact Criteria

### Mobility Element Roads

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment, unless specific facts show that there are other circumstances that mitigate or avoid such impacts:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Mobility Element Road or State Highway currently operating at LOS E or LOS F as identified in **Table 2.10**, or will cause a Mobility Element Road or State Highway to operate at LOS E or LOS F as a result of the proposed project, or
- The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.

**Table 2.10**  
**Measures of Significant Project Impacts to Congestion on Road Segments:**  
**Allowable Increases on Congested Road Segments**

Level of Service	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Source: County of San Diego

Note:

By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.



## 3.0 EXISTING CONDITIONS

This section describes the key study area roadway, intersection, and freeway traffic volumes, as well as LOS analysis results under Existing Conditions. Current transit facilities are also discussed in this section.

### 3.1 Existing Circulation Network

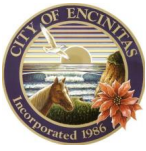
Several regionally and locally significant roadways and freeways traverse the study area. Each of the key transportation facilities, as well as current transit services within the study area, is discussed below.

#### **Freeway Facilities**

*Interstate 5 (I-5)* is a major north-south regional facility and provides access between the coastal cities of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, San Diego, as well as to Orange and Los Angeles counties to the north. Within the study area, I-5 has eight mixed-flow/general purpose lanes (four in each direction) between Palomar Airport Road and Manchester Avenue, seven mixed-flow general purpose lanes (three NB and four SB) between Manchester Avenue and Lomas Santa Fe Drive, and eight mixed-flow/general purpose lanes between Lomas Santa Fe Drive and Via De La Valle. Two auxiliary lanes traverse between Manchester Avenue and Via De La Valle (one in each direction), one carpool lane between Via De La Valle and Manchester Avenue (NB direction) and one carpool lane between Lomas Santa Fe and Via De La Valle (SB direction). Access to Encinitas is provided via interchanges at La Costa Avenue, Leucadia Boulevard, Encinitas Boulevard, Santa Fe Drive, Birmingham Drive, and Manchester Avenue.

The California Department of Transportation (Caltrans) maintains and operates I-5. In 2013, I-5 accommodated 201,000 to 231,000 average daily trips (ADT) through the City of Encinitas. Trucks comprise approximately five percent of the total traffic on I-5. Caltrans recently extended the High Occupancy Vehicle (HOV) lanes on I-5 from Via de la Valle to approximately Manchester Avenue (NB direction). The HOV lane allows for carpool and vanpool vehicles travelling through the City to utilize the HOV lane as an alternative to Single Occupancy Vehicle (SOV) lanes.

As part of the Phase 1 of the North Coast Corridor Public Works Plan (I-5 Freeway Widening Project), Caltrans will construct HOV lanes on the freeway, one in each direction, from Lomas Santa Fe in Solana Beach to State Route 78 in Oceanside. Construction is scheduled from 2016 to 2020. This freeway widening project will ultimately improve I-5, from La Jolla Village Drive in San Diego to Harbor Drive in Oceanside, to eight all-purpose lanes and four express lanes. Other operational improvements are also proposed at interchanges to a 27-mile stretch of the freeway. These improvements will occur in the next phase (2025-2035). Based on discussion with Caltrans District 11, only the eight plus four freeway mainline improvements were assumed for the purpose of this project. The interchanges within the study area are analyzed based on the existing configurations on the ground.



## **North-South Roadways**

*North Coast Highway 101/South Coast Highway 101/North Highway 101* is located near the western portion of the City, extending from La Costa Avenue to the north and the City of Solana Beach boundary to the south. North of Leucadia Boulevard, North Coast Highway 101 is a four-lane roadway with a landscaped raised median and a posted speed limit of 35 MPH. As it approaches La Costa Avenue, North Coast Highway 101 gradually transitions into a three-lane roadway (one-lane northbound, two-lane southbound) with a landscaped raised median and then back to a four-lane roadway. South of Leucadia Boulevard, North Coast Highway 101 is a four-lane roadway with a posted speed limit of 35 MPH and a landscaped raised median between Leucadia Boulevard and Cadmus Street, a continuous-left-turn-lane median between Cadmus Street and Marcheta Street, and becomes an undivided roadway between Marcheta Street and Encinitas Boulevard. South of Encinitas Boulevard, North Coast Highway 101 transitions into South Coast Highway 101 as a four-lane roadway with a landscaped raised median and a posted speed limit of 30 MPH between Encinitas Boulevard and D Street. South of D Street, South Coast Highway 101 becomes a four-lane undivided roadway until reaching F Street where it changes to a four-lane roadway with a continuous-left-turn-lane median until reaching J Street. South of J Street, South Coast Highway 101 transitions between a four-lane, a three-lane, and a two-lane roadway with a raised median, a painted median, and a posted speed limit of 45 MPH until reaching Chesterfield Drive. South of Chesterfield Drive, South Coast Highway 101 is a four-lane roadway with a raised median and a posted speed limit of 45 MPH until reaching the City of Solana Beach boundary, where it transitions from South Coast Highway 101 to North Highway 101. North Highway 101 is a continuation of South Coast Highway 101, and extends from the City of Solana Beach limits south to Via De La Valle, and is a four-lane Major Arterial. This portion of Highway 101 is wholly within the City of Solana Beach. From the City of Solana Beach limit to Ocean Street, North Highway 101 has a painted median, sidewalk, and a 35 mph speed limit. From Ocean Street to Estrella Street, it has a raised median, sidewalks on both sides, and a 35 mph speed limit. A Class II bike lane is provided. Southbound transitions from Class II bike lanes to Class III (shared lanes) at Cliff Street. Sidewalks vary, with segments to include sidewalks on both sides, intermittently, southbound only and no sidewalks and bicycle facilities vary between Class II and Class III. The Highway 101 corridor is one of the most heavily used bicycle corridors in the county.

*Vulcan Avenue* is a two-lane undivided roadway with a posted speed limit of 40 MPH between La Costa Avenue and Encinitas Boulevard. South of Encinitas Boulevard, Vulcan Avenue becomes a four-lane roadway with a painted median and a posted speed limit of 40 MPH until reaching E Street. South of E Street, Vulcan Avenue transitions back to a two-lane undivided roadway until reaching its southern terminus at Santa Fe Drive. Sidewalks are intermittently present on both sides of the roadway but bicycle lanes are not present on either side. Parking is permitted intermittently on both sides of the roadway. Informal parking in the NCTD right-of-way exists adjacent to Vulcan Avenue in areas of Cardiff.



*San Elijo Avenue* is a two-lane undivided roadway with a posted speed limit of 35 MPH between Santa Fe Drive and Chesterfield Drive and a posted speed limit of 25 MPH between Chesterfield Drive and its southern terminus at Manchester Avenue. Sidewalks are intermittently present on both sides of the roadway but bicycle lanes are not present on either side. Parking along San Elijo Avenue is permitted intermittently.

*Saxony Road* is a two-lane undivided roadway with a posted speed limit of 45 MPH between La Costa Avenue and Quails Hollow Drive, and 30 MPH between Quails Hollow Drive and Leucadia Boulevard. South of Leucadia Boulevard, Saxony Road is a two-lane undivided roadway with a posted speed limit of 40 MPH until reaching Silver Berry Place, where the posted speed limit becomes 25 MPH until reaching Encinitas Boulevard. Sidewalks are present intermittently on both sides of the roadway but bicycle lanes are not present on either side.

*Quail Hollow Drive* is a two-lane undivided roadway with a posted speed limit of 35 MPH between Saxony Road and Quail Gardens Drive. Sidewalks are present on both sides of the roadway but bicycle lanes are not present on either side. Parking is permitted on both sides of the roadway.

*Quail Gardens Drive* is a two-lane roadway with a landscaped raised median and posted speed limits of 35 and 40 MPH between Quail Hollow Drive and Leucadia Boulevard, and Leucadia Boulevard and Encinitas Boulevard, respectively. Sidewalks are present on both sides of Quail Gardens Drive, between Quail Hollow Drive and Encinitas Boulevard. Parking is prohibited on both sides of the roadway and Class II bicycle lanes are present along both sides of the entire extent of Quail Gardens Drive between Quail Hollow Drive and Encinitas Boulevard.

*Westlake Drive* is a two-lane undivided roadway with a posted speed limit of 25 MPH along its entire extent between Encinitas Boulevard and Requeza Street. Sidewalks are intermittently present on both sides of the roadway but bicycle lanes are not present on either side. Parking is also intermittently permitted on both sides of the roadway.

*Nardo Road* is a two-lane undivided roadway with a posted speed limit of 25 MPH between Requeza Street and Santa Fe Drive. Sidewalks are continuous on the east side of the roadway but intermittent on the west side. There are no bicycle lanes on either side but signs indicating that Nardo Road is a bike route are present along the roadway. Parking is intermittently permitted on both sides of the roadway.

*MacKinnon Avenue* is a two-lane undivided roadway with a posted speed limit of 35 MPH, between Santa Fe Drive and Villa Cardiff Drive. Sidewalks are present on both sides of the roadway but bicycle lanes are not present on either side. Parking is permitted on both sides of the roadway.

*Villa Cardiff Drive* is a two-lane undivided roadway with a posted speed limit of 35 MPH between MacKinnon Avenue and Birmingham Drive. Sidewalks are present only on the east side of the roadway but are not present on the west side roadway. Bicycle lanes are not present on either side and parking is permitted intermittently on both sides of the roadway.





*Balour Drive* is a two-lane undivided roadway with a posted speed limits of 30 MPH between Encinitas Boulevard and Santa Fe Drive. Sidewalks are intermittently present on both sides of the roadway but bicycle lanes are not present on either side. Parking is intermittently present on both sides of the roadway.

*Lake Drive* is a two-lane undivided roadway with a posted speed limit of 35 MPH between Santa Fe Drive and Birmingham Drive. Sidewalks are present intermittently on both sides of the roadway but bicycle lanes are not present on either side. Parking is permitted on both sides of the roadway.

*Garden View Road* is a four-lane roadway with a landscaped raised median and a posted speed limit of 40 MPH between Leucadia Boulevard and El Camino Real. Sidewalks are present on the east side of the roadway but are intermittently present on the west side, between Leucadia Boulevard and Via Cantebria, however south of Via Cantebria, sidewalks are present on both sides of the roadway. Class II bicycle lanes are present on both sides of the roadway between Leucadia Boulevard and El Camino Real. Parking is prohibited on both sides of the roadway along the entire extent of Garden View Road, between Leucadia Boulevard and El Camino Real.

*Via Cantebria* is a three-lane roadway (two-lane southbound, one-lane northbound) with a continuous-left-turn-lane median and a posted speed limit of 40 MPH from Garden View Road to Forrest Bluff. The roadway transitions into a four-lane roadway with a continuous-left-turn-lane median between Forrest Bluff and Encinitas Boulevard. Sidewalks and Class II bicycle lanes are intermittently present on both sides of the roadway. Parking is prohibited on both sides of the roadway along the entire extent of Via Cantebria, between Garden View Road and Encinitas Boulevard.

*El Camino Real* is a six-lane roadway with a landscaped raised median between the City of Carlsbad boundary and Leucadia Boulevard. South of Leucadia Boulevard, El Camino Real is an eight-lane roadway with a landscaped raised median and a posted speed limit of 45 MPH until reaching Garden View Road. South of Garden View Road, El Camino Real is a six-lane roadway with a landscaped raised median and a posted speed limit of 35 MPH until reaching Encinitas Boulevard. South of Encinitas Boulevard, El Camino Real maintains the six-lane configuration, but the posted speed limit increases to 40 MPH until reaching Santa Fe Drive. South of Santa Fe Drive, El Camino Real is a five-lane roadway (three-lane northbound, two-lane southbound) with a continuous-left-turn-lane median and a posted speed limit of 55 MPH until reaching Sage Canyon Drive. South of Sage Canyon Drive, El Camino Real is a four-lane roadway with a continuous-left-turn-lane median and a posted speed limit of 55 MPH until reaching its southern terminus at Manchester Avenue. Sidewalks are present intermittently on both sides of the roadway, within the study area. Class II bicycle lanes are present on both sides of the roadway and parking is prohibited on both sides.

*Village Park Way* is a four-lane roadway with a landscaped raised median and a posted speed limit of 40 MPH between Mountain Vista Drive and Encinitas Boulevard. Sidewalks are present on both sides of the roadway but bicycle lanes are not present on either side. Parking is permitted on both sides of the roadway.



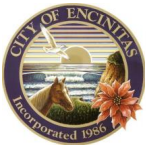
*Rancho Santa Fe Road* is a two-lane undivided roadway with a posted speed limit of 40 MPH between Calle Acervo and Lone Jack Road. South of Lone Jack Road, Rancho Santa Fe Road continues as a two-lane roadway with a posted speed limit of 40 MPH but its median varies between a raised median, a continuous-left-turn-lane median, and an absence of median until reaching its terminus at Encinitas Boulevard. Sidewalks and Class II bicycle lanes are intermittently present on both sides of the roadway, within the study area. Parking is prohibited on both sides of the roadway.

*Manchester Avenue* is a two-lane roadway with a continuous-left-turn-lane median and a posted speed limit of 40 MPH between Encinitas Boulevard and approximately 160 feet before reaching Denk Lane. South of Denk Lane, Manchester Avenue is a two-lane undivided roadway with a posted speed limit of 40 MPH until reaching El Camino Real. South of El Camino Real, Manchester Avenue curves and its orientation becomes east to west. Manchester Avenue, south of El Camino Real is a four-lane roadway with a painted median and a posted speed limit of 45 MPH until reaching the I-5 NB On-Ramp. West of the I-5 NB On-Ramp, Manchester Avenue becomes a three-lane (one-lane eastbound, two-lane westbound) undivided roadway until reaching the I-5 SB Off-Ramp. West of the I-5 SB Off-Ramp, Manchester Avenue is a two-lane roadway with an intermittent continuous-left-turn-lane median until reaching its terminus at San Elijo Avenue. Sidewalks and Class II bicycle lanes are present intermittently on both sides of the roadway. Parking is permitted intermittently along Manchester Avenue within the study area.

### **East-West Roadways**

*La Costa Avenue* is a two-lane undivided roadway with a posted speed limit of 40 MPH between North Coast Highway 101 and I-5 SB On-Off Ramps. East of the I-5 SB On-Off Ramps, La Costa Avenue is a four-lane roadway with a painted median and no posted speed limit signs present until reaching the I-5 NB On-Off Ramps. East of the I-5 On-Off Ramps, La Costa Avenue is a four-lane roadway with a raised median and a posted speed limit of 55 MPH until reaching El Camino Real. Sidewalks are present intermittently between North Coast Highway 101 and El Camino Real. Class II bicycle lanes are present on both sides of the roadway between North Coast Highway 101 and El Camino Real. Parking is prohibited along the entire extent of La Costa Avenue, within the study area.

*Leucadia Boulevard* is a two-lane roadway with a raised and continuous-left-turn lane median and a posted speed limit of 30 MPH between North Coast Highway 101 and Orpheus Avenue. East of Orpheus Avenue, Leucadia Boulevard is a four-lane roadway until reaching the I-5 NB On-Off Ramps. East of the I-5 NB On-Off Ramps, Leucadia Boulevard is a five-lane (two-lane eastbound, three-lane westbound) roadway with a landscaped raised median and a posted speed limit of 40 MPH until reaching Urania Avenue. East of Urania Avenue, Leucadia Boulevard changes from a five-lane roadway with a landscaped raised median to a four-lane roadway with a landscaped raised median but it keeps the same posted speed limit of 40 MPH until reaching Quail Gardens Drive. East of Quail Gardens Drive, Leucadia Boulevard is a four-lane roadway with a landscaped raised median and a posted speed limit of 45 MPH until reaching Town Center Place. East of Town Center Place, Leucadia Boulevard is a six-lane roadway with a raised median and a posted speed



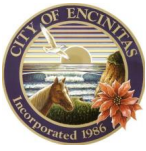
limit of 45 MPH until reaching its terminus at El Camino Real. Sidewalks are present on both sides of the roadway as well as Class II bicycle lanes. Parking is prohibited on both sides of the roadway along the entire extent of Leucadia Boulevard.

*Mountain Vista Drive* is a three-lane roadway with a continuous-left-turn-lane and a painted median, as well as a posted speed limit of 45 MPH between El Camino Real and Wandering Road. East of Wandering Road, Mountain Vista Drive is a two-lane roadway with a painted median that transitions into a continuous-left-turn-lane median until reaching Village Park Way. Sidewalks and Class II bicycle lanes are present on both sides of the roadway between El Camino Real and Village Park Way. Parking is permitted intermittently along Mountain Vista Drive between El Camino Real and Village Park Way.

*Encinitas Boulevard* is a four-lane roadway with an intermittent continuous-left-turn-lane and painted median as well as a posted speed limit of 40 MPH until reaching Saxony Road. East of Saxony Road, Encinitas Boulevard is a six-lane roadway with a raised median until reaching the signalized intersection at Encinitas Town Country Shopping Center driveway. East of the Encinitas Town Country Shopping Center driveway, Encinitas Boulevard is a four-lane roadway with a continuous-left-turn-lane until reaching Quail Gardens Drive, where the roadway keeps the same lane configuration but the median changes intermittently between a continuous-left-turn-lane, a landscaped raised median, and a painted median until reaching Village Park Way. Also, the posted speed limit along this segment increases to 45 MPH. East of Village Park Way, Encinitas Boulevard is a four-lane roadway with a continuous-left-turn-lane and a posted speed limit of 50 MPH until reaching its terminus at Rancho Santa Fe Road. Sidewalks are present along the entire extent on both sides of the roadway, with a few exceptions located between the Interstate 5 northbound and southbound ramps on both sides of the roadway, between Interstate 5 and Saxony Road on the south side of the roadway, and between Encinitas Town Country Shopping Center driveway and Quail Gardens Drive on the north side of the roadway. Class II bicycle lanes are present along the entire extent of the roadway on both sides and parking is prohibited along the entire extent of the roadway on both sides.

*F Street* is a two-lane undivided roadway with a posted speed limit of 25 MPH between Vulcan Avenue and Cornish Drive. East of Cornish Drive, F Street becomes Requeza Street but it keeps the same two-lane undivided roadway configuration as well as the same posted speed limit of 25 MPH until reaching Nardo Road. Sidewalks are not present on either side of the roadway along F Street but are intermittently present on both sides of the roadway along Requeza Street. Bicycle lanes are not present on either side of the roadway and parking is permitted intermittently on both sides of the roadway.

*Santa Fe Drive* is a two-lane undivided roadway with a posted speed limit of 35 MPH between Vulcan Avenue and Rubenstein Avenue. East of Rubenstein Avenue, Santa Fe Drive varies between a two-lane and a three-lane (one-lane eastbound, two-lane westbound) roadway with a raised median and a posted speed limit of 35 MPH until reaching the I-5 NB On-Off Ramps. East of the I-5 NB On-Off Ramps, Santa Fe Drive is a two-lane roadway with a continuous-left-turn-lane median and a posted speed limit of 35 MPH until reaching its terminus at El Camino Real.



Sidewalks and Class II bicycle lanes are present intermittently on both sides of the roadway. Parking is permitted intermittently on both sides of the roadway.

*Birmingham Drive* is a two-lane undivided roadway with posted speed limits of 30 and 35 MPH between San Elijo Avenue and Playa Riviera, and between Playa Riviera and Lake Drive, respectively. Sidewalks are present intermittently on both sides of the roadway but bicycle lanes are not present on either side. Parking is permitted intermittently along Birmingham Drive within the study area.

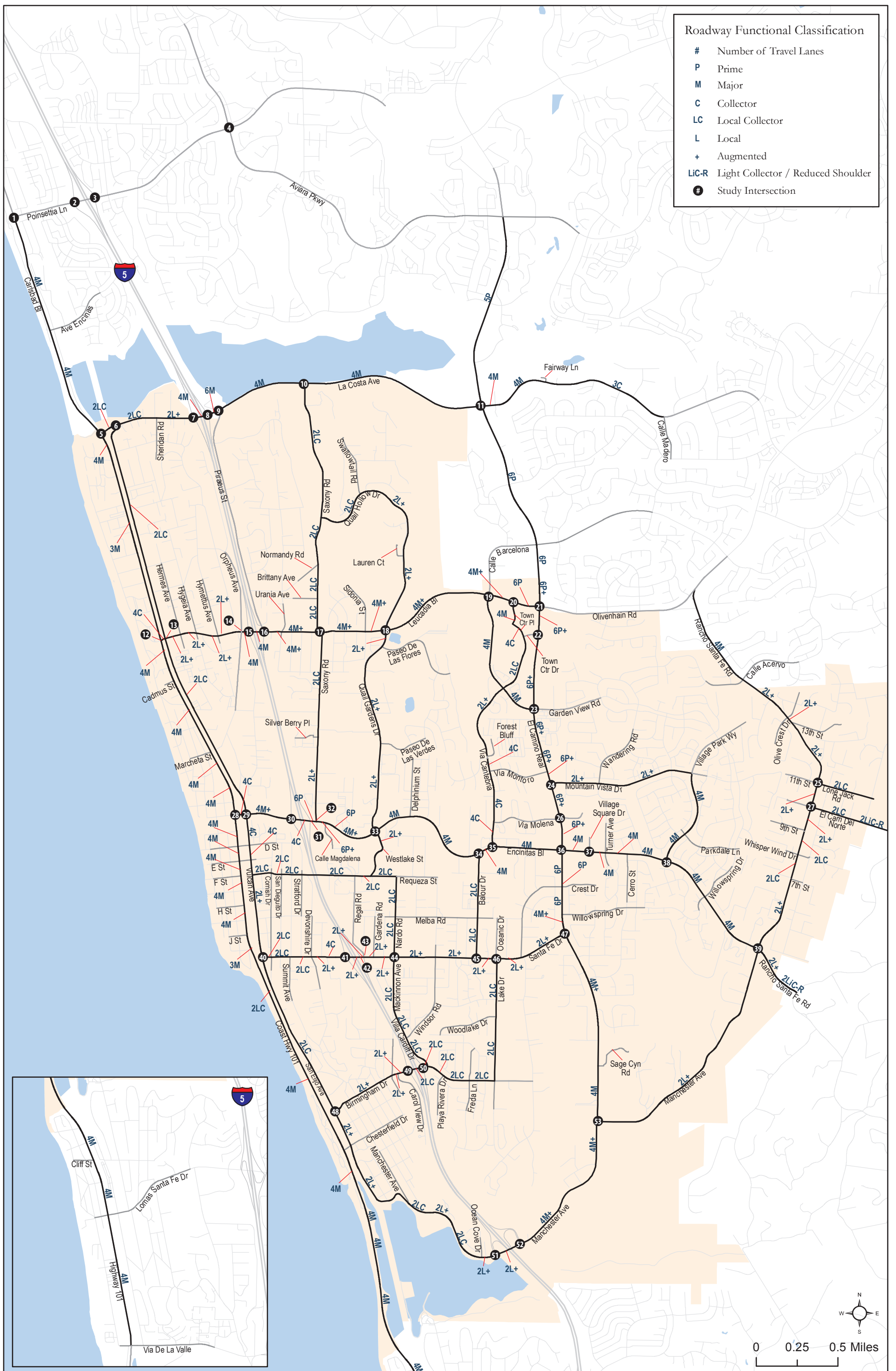
*Lone Jack Road* is a two-lane undivided roadway with a posted speed limit of 40 MPH between Rancho Santa Fe Road and its northern terminus at Lone Hill Lane. Sidewalks and bicycle lanes are not present on either side of the roadway. Parking is prohibited on both sides of the roadway.

*El Camino Del Norte* is a two-lane undivided roadway with a posted speed limit of 40 MPH between Rancho Santa Fe Road and the County of San Diego boundary. Sidewalks and bicycle lanes are not present on either side of the roadway. Parking is prohibited on both sides of the roadway.

**Figure 3-1** displays the existing functional classifications for study area roadways.

**Table 3.1** summarizes the existing physical characteristics of the study area roadways as collected via field reviews, including the number of lanes, functional classification, type of median, posted speed limit, presence of bicycle facility, on-street parking restrictions, and sidewalk presence.





Encinitas Housing Element TIS

Figure 3-1

Existing Roadway Network



**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
<b>North-South Roadways</b>										
Carlsbad Boulevard	Poinsettia Lane	Avenida Encinas	4	4-Lane Major Arterial	Raised Median	50	Class II	Prohibited	NB Only	City of Carlsbad
	Avenida Encinas	La Costa Avenue	4	4-Lane Major Arterial	Raised Median	50	Class II	Prohibited	No	City of Carlsbad
North Coast Highway 101	La Costa Avenue	600 feet south of La Costa	4	4-Lane Major Roadway	Raised Median	35	Class II NB / Class III SB	Prohibited	Intermittent	City of Encinitas
	600 feet south of La Costa Avenue	Leucadia Boulevard	1 NB 2 SB	3-Lane Major Arterial	Raised Median	35	Class II NB / Class III SB	Permitted	SB Only	City of Encinitas
	Leucadia Boulevard	Cadmus Street	4	4-Lane Major Roadway	Raised Median	35	Class III	SB Only	SB Only	City of Encinitas
	Cadmus Street	Marcheta Street	4	4-Lane Major Roadway	CLTL	35	Class III	SB Only	SB Only	City of Encinitas
	Marcheta Street	660 feet south of Marcheta Street	4	4-Lane Major Roadway	CLTL	35	Class III	SB Only	Intermittent	City of Encinitas
	660 south of Marcheta Street	Encinitas Boulevard	4	4-Lane Major Roadway	Undivided	35	Class III NB / Class II SB	SB Only	Intermittent	City of Encinitas
South Coast Highway 101	Encinitas Boulevard	West D Street	4	4-Lane Major Roadway	Raised Median	30	Class II	Intermittent	Both Sides	City of Encinitas
	West D Street	West E Street	4	4-Lane Major Roadway	Undivided	30	Class III	Permitted	Both Sides	City of Encinitas
	West E Street	West F Street	4	4-Lane Major Roadway	Undivided	30	Class III	Permitted	Both Sides	City of Encinitas





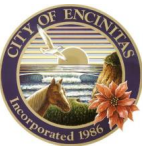
**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
South Coast Highway 101	West F Street	West H Street	4	4-Lane Major Roadway	CLTL	30	Class III	Permitted	Both Sides	City of Encinitas
	West H Street	West J Street	4	4-Lane Major Roadway	CLTL	30	Class III	Permitted	Both Sides	City of Encinitas
	West J Street	West K Street	2 NB 1 SB	3-Lane Major Roadway	Painted Median	Not Posted	Class II	Permitted	Intermittent	City of Encinitas
	West K Street	Swami's Parking	2 NB 1 SB	3-Lane Major Roadway	Undivided	Not Posted	Class II	Permitted	Intermittent	City of Encinitas
	Swami's Parking	San Elijo State Beach	2	2-Lane Local Roadway	Undivided	45	Class II	Prohibited	No	City of Encinitas
	San Elijo State Beach	Chesterfield Drive	4	4-Lane Major Roadway	Raised Median	45	Class II NB	Permitted	No	City of Encinitas
	Chesterfield Drive	Cardiff State Beach	4	4-Lane Major Roadway	Painted Median	45	Class II	Permitted	SB Only	City of Encinitas
	Cardiff State Beach	Chart House Restaurant	4	4-Lane Major Roadway	Painted Median	45	Class II	Prohibited	Intermittent	City of Encinitas
	Chart House Restaurant	Las Olas Mexican Restaurant	4	4-Lane Major Roadway	Painted Median	45	Class II	Prohibited	No	City of Encinitas
	Las Olas Mexican Restaurant	City of Solana Beach limits	4	4-Lane Major Roadway	Painted Median	45	Class II	Prohibited	No	City of Encinitas
North Highway 101	City of Solana Beach limits	Ocean Street	4	4-Lane Major Arterial	Painted Median	35	Class II	SB Only	No	City of Solana Beach
	Ocean Street	Solana Vista Drive	4	4-Lane Major Arterial	Raised Median	35	Class II	SB Only	Both Sides	City of Solana Beach



**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
North Highway 101	Solana Vista Drive	West Cliff Street	4	4-Lane Major Arterial	Raised Median	35	Class II	SB Only	Both Sides	City of Solana Beach
	West Cliff Street	Estrella Street	4	4-Lane Major Arterial	Raised Median	35	Class II	SB Only	Both Sides	City of Solana Beach
	Estrella Street	Lomas Santa Fe Drive	4	4-Lane Major Arterial	Raised Median	35	Class II	SB Only	Both Sides	City of Solana Beach
Vulcan Avenue	La Costa Avenue	Leucadia Boulevard	2	2-Lane Local Roadway	Undivided	40	No	Permitted NB	Intermittent NB	City of Encinitas
	Leucadia Boulevard	Encinitas Boulevard	2	2-Lane Local Roadway	Undivided	40	No	Permitted NB	Intermittent NB	City of Encinitas
	Encinitas Boulevard	West D Street	4	4-Lane Collector	Painted Median	40	No	Prohibited	Both Sides	City of Encinitas
	West D Street	West E Street	4	4-Lane Collector	CLTL	40	No	Prohibited	Both Sides	City of Encinitas
	E Street	Santa Fe Drive	2	2-Lane Local Roadway - Augmented	Undivided	40	No	Permitted	Intermittent	City of Encinitas
San Elijo Avenue	Santa Fe Drive	Birmingham Drive	2	2-Lane Local Roadway	Undivided	35	No	Prohibited	Intermittent	City of Encinitas
	Birmingham Drive	Chesterfield Drive	2	2-Lane Local Roadway – Augmented	Undivided	35	No	Prohibited	NB Only	City of Encinitas
	Chesterfield Drive	Manchester Avenue	2	2-Lane Local Roadway - Augmented	Undivided	25	No	Prohibited	Intermittent	City of Encinitas



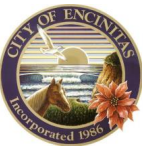
**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
Saxony Road	La Costa Avenue	Quail Hollow Drive	2	2-Lane Local Roadway	Undivided	45	No	Prohibited	Intermittent	City of Encinitas
	Quail Hollow Drive	Normandy Road	2	2-Lane Local Roadway	Undivided	30	No	Prohibited	No	City of Encinitas
	Normand Road	Brittany Road	2	2-Lane Local Roadway	Undivided	30	No	Prohibited	No	City of Encinitas
	Brittany Road	Leucadia Boulevard	2	2-Lane Local Roadway	Undivided	30	No	Prohibited	No	City of Encinitas
	Leucadia Boulevard	Silver Berry Place	2	2-Lane Local Roadway	Undivided	30	No	Prohibited	Intermittent	City of Encinitas
	Silver Berry Place	Encinitas Boulevard	2	2-Lane Local Roadway - Augmented	Undivided	25	No	Intermittent	Intermittent	City of Encinitas
Quail Hollow Drive	Saxony Road	Quail Gardens Drive	2	2-Lane Local Roadway	Undivided	35	No	Permitted	Both Sides	City of Encinitas
Quail Gardens Drive	Quail Hollow Drive	Lauren Court	2	2-Lane Local Roadway - Augmented	Raised Median	35	Class II	Permitted	Both Sides	City of Encinitas
	Lauren Court	Leucadia Boulevard	2	2-Lane Local Roadway - Augmented	Raised Median	35	Class II	Prohibited	Both Sides	City of Encinitas
	Leucadia Boulevard	Paseo De Las Flores	2	2-Lane Local Roadway - Augmented	Raised Median	40	Class II	Prohibited	Both Sides	City of Encinitas



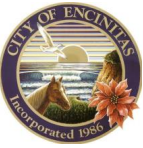
**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
Quail Gardens Drive	Paseo De Las Flores	Paseo De Las Verdes	2	2-Lane Local Roadway - Augmented	Raised Median	40	Class II	Prohibited	Both Sides	City of Encinitas
	Paseo De Las Verdes	Encinitas Boulevard	2	2-Lane Local Roadway - Augmented	CLTL	40	Class II	Prohibited	Both Sides	City of Encinitas
Westlake Street	Encinitas Boulevard	Requeza Street	2	2-Lane Local Roadway - Augmented	Undivided	25	No	Permitted	Intermittent	City of Encinitas
Nardo Road	Requeze Street	Melba Road	2	2-Lane Local Roadway	Undivided	25	No	Permitted	Intermittent	City of Encinitas
	Melba Road	Santa Fe Drive	2	2-Lane Local Roadway	Undivided	25	Class III	Permitted	Intermittent	City of Encinitas
MacKinnon Avenue	Santa Fe Drive	Villa Cardiff Drive	2	2-Lane Local Roadway	Undivided	35	No	Permitted	Both Sides	City of Encinitas
Villa Cardiff Drive	MacKinnon Avenue	Birmingham Drive	2	2-Lane Local Roadway	Undivided	35	No	Permitted	Intermittent	City of Encinitas
Garden View Road	Leucadia Boulevard	Via Cantebria	4	4-Lane Major Roadway	Raised Median	40	Class II	Prohibited	Intermittent	City of Encinitas
	Via Cantebria	El Camino Real	4	4-Lane Major Roadway	Raised Median	40	Class II	Prohibited	Both Sides	City of Encinitas
Via Cantebria	Garden View Road	Forrest Bluff	1 NB 2 SB	3-Lane Collector	CLTL	40	Class II	Prohibited	Intermittent	City of Encinitas
	Forrest Bluff	Encinitas Boulevard	4	4-Lane Collector	CLTL	40	Class II	Prohibited	Both Sides	City of Encinitas



**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
Balour Drive	Encinitas Boulevard	Melba Road	2	2-Lane Local Roadway	Undivided	30	No	Prohibited	Intermittent	City of Encinitas
	Melba Road	Santa Fe Drive	2	2-Lane Local Roadway	Undivided	30	No	Permitted	NB Only	City of Encinitas
Lake Drive	Santa Fe Drive	Birmingham Drive	2	2-Lane Local Roadway	Undivided	35	No	Permitted	Both Sides	City of Encinitas
El Camino Real	Aviara Parkway	La Costa Avenue	3 NB 2 SB	5-Lane Prime Arterial	Raised / Painted Median	55	Class II	Prohibited	Intermittent	City of Carlsbad
	La Costa Avenue	Calle Barcelona	6	6-Lane Prime Arterial	Raised Median	55	Class II	Prohibited	Both Sides	City of Carlsbad
	Calle Barcelona	City of Carlsbad Boundary	6	6-Lane Prime Arterial	Raised Median	Not Posted	Class II	Prohibited	Both Sides	City of Carlsbad
	City of Carlsbad boundary	Leucadia Boulevard	3 NB 4 SB	6-Lane Prime Arterial - Augmented	Raised Median	Not Posted	Class II	Prohibited	Both Sides	City of Encinitas
	Leucadia Boulevard	Town Center Drive	8	6-Lane Prime Arterial - Augmented	Raised Median	45	Class II	Prohibited	Both Sides	City of Encinitas
	Town Center Drive	Garden View Road	8	6-Lane Prime Arterial - Augmented	Raised Median	45	Class II	Prohibited	Both Sides	City of Encinitas
	Garden View Road	Encinitas Boulevard	6	6-Lane Prime Arterial - Augmented	Raised Median	35	Class II	Prohibited	Both Sides	City of Encinitas



**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
El Camino Real	Encinitas Boulevard	Santa Fe Drive	6	6-Lane Prime Arterial	Raised Median	40	Class II	Prohibited	Both Sides	City of Encinitas
	Santa Fe Drive	Sage Canyon Drive	3 NB 2 SB	4 Lane Major Roadway-Augmented	CLTL	55	Class II	Prohibited	Both Sides	City of Encinitas
	Sage Canyon Drive	Manchester Avenue	4	4-Lane Major Roadway	CLTL	55	Class II	Prohibited	Both Sides	City of Encinitas
Village Park Way	Mountain Vista Drive	Encinitas Boulevard	4	4-Lane Major Roadway	Raised Median	40	No	Prohibited	Both Sides	City of Encinitas
Rancho Santa Fe Road	Olivenhain Road	Calle Acervo	4	4-Lane Major Arterial	Raised Median	45	Class II	Prohibited	Both Sides	City of Carlsbad
	Calle Acervo	Lone Jack Road	2	2-Lane Local Roadway	Undivided	40	Intermittent Class II	Prohibited	No	City of Encinitas
	Lone Jack Road	9th Street	2	2-Lane Local Roadway	CLTL	40	No	Prohibited	No	City of Encinitas
	9th Street	Encinitas Boulevard	2	2-Lane Local Roadway	Undivided	40	No	Prohibited	No	City of Encinitas
Manchester Avenue	Encinitas Boulevard	El Camino Real	2	2-Lane Local Roadway - Augmented	Undivided	40	No	Prohibited	No	City of Encinitas
	El Camino Real	I-5 NB Off Ramp	4	4 Lane Major Roadway-Augmented	Painted Median	45	Class II	Prohibited	Intermittent	City of Encinitas





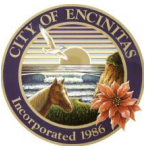
**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
<b>East-West Roadways</b>										
La Costa Avenue	North Coast Highway 101	I-5 SB On-Off Ramps	2	2-Lane Local Roadway	Undivided	40	Class II	Prohibited	No	City of Encinitas
	I-5 SB On-Off Ramps	I-5 NB On-Off Ramps	2	4-Lane Major Arterial	Painted Median	Not Posted	Class II	Prohibited	Yes	City of Carlsbad
	I-5 NB On-Off Ramps	Piraeus Street	2 EB 3 WB	5-Lane Major Arterial	Raised Median	Not Posted	Class II	Prohibited	Yes	City of Carlsbad
	Piraeus Street	Saxony Road	4	4-Lane Major Arterial	Raised Median	55	Class II	Prohibited	WB Only	City of Carlsbad
	Saxony Road	El Camino Real	4	4-Lane Major Arterial	Raised Median	55	Class II	Prohibited	WB Only	City of Carlsbad
	El Camino Real	La Costa Towne Center	4	4-Lane Major Roadway	Undivided	35	Class II	Prohibited	Both Sides	City of Carlsbad
	La Costa Towne Center	Fairway Lane	4	4-Lane Major Arterial	Painted Median	40	Class II	Prohibited	WB Only	City of Carlsbad
	Fairway Lane	Calle Madero	3	3-Lane Collector	CLTL	40	Class II	Prohibited	Both Sides	City of Carlsbad
Leucadia Boulevard	North Coast Highway 101	Vulcan Avenue	4	4-Lane Collector	Raised Median	30	Class II	Prohibited	Intermittent	City of Encinitas
	Vulcan Avenue	Hymettus Avenue	2	2-Lane Local Roadway - Augmented	CLTL	30	Class II	Prohibited	Intermittent	City of Encinitas



**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
Leucadia Boulevard	Hymettus Avenue	Orpheus Avenue	2	2-Lane Local Roadway - Augmented	Raised Median	30	Class II	Prohibited	Intermittent	City of Encinitas
	Orpheus Avenue	I-5 NB On-Off Ramps	4	4-Lane Major Roadway	Painted Median	Not Posted	No	Prohibited	Both Sides	City of Encinitas
	I-5 NB On-Off Ramps	Urania Avenue	2 EB 3 WB	4 Lane Major Roadway- Augmented	Raised Median	40	Class II	Prohibited	Both Sides	City of Encinitas
	Urania Avenue	Quail Gardens Drive	4	4 Lane Major Roadway- Augmented	Raised Median	40	Class II	Prohibited	Both Sides	City of Encinitas
	Quail Gardens Drive	Garden View Road	4	4 Lane Major Roadway- Augmented	Raised Median	45	Class II	Prohibited	Both Sides	City of Encinitas
	Garden View Road	Town Center Place	3 EB 2 WB	4 Lane Major Roadway- Augmented	Raised Median	45	Class II	Prohibited	Both Sides	City of Encinitas
	Town Center Place	El Camino Real	6	6-Lane Prime Arterial	Raised Median	45	Class II	Prohibited	Both Sides	City of Encinitas
Mountain Vista Drive	El Camino Real	Wandering Road	2 EB 1 WB	2-Lane Local Roadway - Augmented	CLTL/Painted Median	45	Class II	Prohibited	Both Sides	City of Encinitas
	Wandering Road	Village Park Way	2	2-Lane Local Roadway - Augmented	CLTL	45	Class II	Prohibited	Both Sides	City of Encinitas
Lone Jack	Rancho Santa Fe Road	Northern Terminus	2	2-Lane Local Roadway	Undivided	40	No	Prohibited	No	City of Encinitas



**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
El Camino Del Norte	Rancho Santa Fe Road	City of Encinitas Limits	2	2-Lane Local Roadway	Undivided	40	No	Prohibited	No	City of Encinitas
	City of Encinitas Limits	Via De Fortuna	2	2-Lane Light Collector with Reduced Shoulder	Undivided	40	No	Prohibited	No	County of San Diego
Encinitas Boulevard	North Coast Highway 101	Vulcan Avenue	4	4-Lane Collector	Undivided	40	Class II	Prohibited	Both Sides	City of Encinitas
	Vulcan Avenue	I-5 SB On-Off Ramps	4	4-Lane Major Roadway - Augmented	Painted	40	Class II	Prohibited	Both Sides	City of Encinitas
	I-5 SB On-Off Ramps	I-5 NB On-Off Ramps	4	4-Lane Major Roadway	Undivided	40	Class II	Prohibited	No	City of Encinitas
	I-5 NB On-Off Ramps	Saxony Road	4	4-Lane Major Roadway	Undivided	40	Class II	Prohibited	WB Only	City of Encinitas
	Saxony Road	Calle Magdalena	6	6-Lane Prime Arterial - Augmented	Raised Median	40	Class II	Prohibited	Both Sides	City of Encinitas
	Calle Magdalena	Encinitas Town Country SC	6	6-Lane Prime Arterial	Raised Median	40	Class II	Prohibited	Both Sides	City of Encinitas
	Encinitas Town Country SC	Quail Gardens Drive	3 EB 2 WB	4-Lane Major Roadway - Augmented	CLTL	40	Class II	Prohibited	Intermittent	City of Encinitas
	Quail Gardens Drive	Balour Drive	4	4-Lane Major Roadway	CLTL	45	Class II	Prohibited	Intermittent	City of Encinitas
	Balour Drive	Via Cantabria	4	4-Lane Major Roadway	Painted Median	45	Class II	Prohibited	Both Sides	City of Encinitas



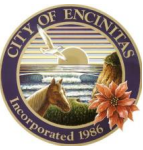
**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
Encinitas Boulevard	Via Cantabria	El Camino Real	4	4-Lane Major Roadway	CLTL	45	Class II	Prohibited	Both Sides	City of Encinitas
	El Camino Real	Village Square Drive	4	4-Lane Major Roadway	CLTL	45	Class II	Prohibited	Both Sides	City of Encinitas
	Village Square Drive	Turner Avenue	4	4-Lane Major Roadway	Raised Median	45	Class II	Prohibited	Both Sides	City of Encinitas
	Turner Avenue	Cerro Street	4	4-Lane Major Roadway	Painted Median	45	Class II	Prohibited	Both Sides	City of Encinitas
	Cerro Street	Village Park Way	4	4-Lane Major Roadway	Painted Median	45	Class II	Prohibited	Both Sides	City of Encinitas
	Village Park Way	Rancho Santa Fe Road	4	4-Lane Major Roadway	Painted Median	50	Class II	Prohibited	Both Sides	City of Encinitas
F Street	Vulcan Avenue	Stratford Avenue	2	2-Lane Local Roadway	Undivided	25	No	Prohibited	No	City of Encinitas
Requeza Street	Stratford Avenue	Nardo Road	2	2-Lane Local Roadway	Undivided	25	No	Permitted	Intermittent	City of Encinitas
Santa Fe Drive	Vulcan Avenue	Devonshire Drive	2	2-Lane Local Roadway	Undivided	35	Class II	Prohibited	Both Sides	City of Encinitas
	Devonshire Drive	Scripps Hospital Driveway	2	2-Lane Local Roadway - Augmented	Raised Median	35	Class II	Prohibited	Both Sides	City of Encinitas



**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
Santa Fe Drive	Scripps Hospital Driveway	I-5 SB On-Off Ramps	4	4-Lane Collector	Raised Median	35	No	Prohibited	Both Sides	City of Encinitas
	I-5 SB On-Off Ramps	I-5 NB On-Off Ramps	1 EB 2 WB	3-Lane Major Roadway	Undivided	35	No	Prohibited	No	City of Encinitas
	I-5 NB On-Off Ramps	Gardena Road	3	3-Lane Collector	CLTL	35	No	Prohibited	WB Only	City of Encinitas
	Gardena Road	Lake Drive	2	2-Lane Local Roadway - Augmented	CLTL	35	No	Permitted	Intermittent	City of Encinitas
	Lake Drive	El Camino Real	2	2-Lane Local Roadway - Augmented	CLTL	35	Class II	Prohibited	No	City of Encinitas
Birmingham Drive	San Elijo Avenue	MacKinnon Avenue	2	2-Lane Local Roadway - Augmented	Undivided	30	No	Prohibited	Intermittent	City of Encinitas
	MacKinnon Avenue	I-5 SB Ramps	2	2-Lane Local Roadway - Augmented	Undivided	30	No	Permitted	Intermittent	City of Encinitas
	I-5 SB Ramps	Playa Riviera	2	2-Lane Local Roadway	Undivided	30	No	Permitted	Intermittent	City of Encinitas
	Playa Riviera	Lake Drive	2	2-Lane Local Roadway	Undivided	35	No	Permitted	Both Sides	City of Encinitas



**Table 3.1  
Existing Roadway Characteristics**

Roadway	From	To	# of Lanes	Functional Classification <sup>1</sup>	Median	Posted Speed	Bicycle Facilities	On-Street Parking	Sidewalks	Jurisdiction
Manchester Avenue	San Elijo Avenue	San Elijo Water Reclamation Facility	2	2-Lane Local Roadway	Undivided	40	No	Prohibited	Intermittent	City of Encinitas
	San Elijo Water Reclamation Facility	Sea Side Cardiff by the sea	2	2-Lane Local Roadway - Augmented	CLTL	40	No	Prohibited	Intermittent	City of Encinitas
	Sea Side Cardiff by the sea	Ocean Cove Drive	2	2-Lane Local Roadway	Undivided	40	No	Prohibited	Intermittent	City of Encinitas
	Ocean Cove Drive	I-5 SB On-Off Ramps	2	2-Lane Local Roadway - Augmented	CLTL	40	No	Permitted	Intermittent	City of Encinitas
	I-5 SB On-Off Ramps	I-5 NB On-Off Ramps	1 EB 2 WB	2-Lane Local Roadway - Augmented	Undivided	40	No	Prohibited	No	City of Encinitas

Source: Chen Ryan Associates; January 2016

Notes:

<sup>1</sup> Functional Classification is representative of existing segment functionality and does not take into consideration the Circulation Element ultimate classification.

CLTL = Center Left-Turn Lane.





## **Public Transit**

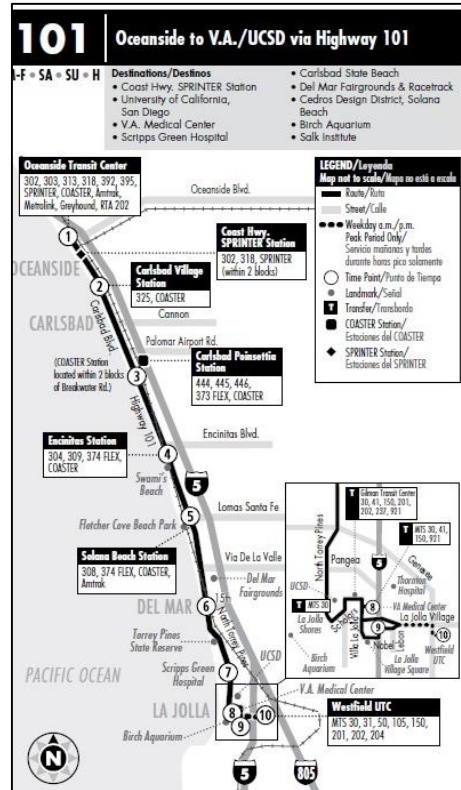
Public transit in the City of Encinitas is provided by the North County Transit District (NCTD) with both commuter train (Coaster) and bus services.

Three bus routes (Route 101, 304 and 309) provide service for the City of Encinitas with headways that vary between 30 and 60 minutes. These bus routes run through main corridors within the City, such as North Coast Highway 101, South Coast Highway 101, Leucadia Boulevard, Encinitas Boulevard, and El Camino Real. Each route is described in detail below:

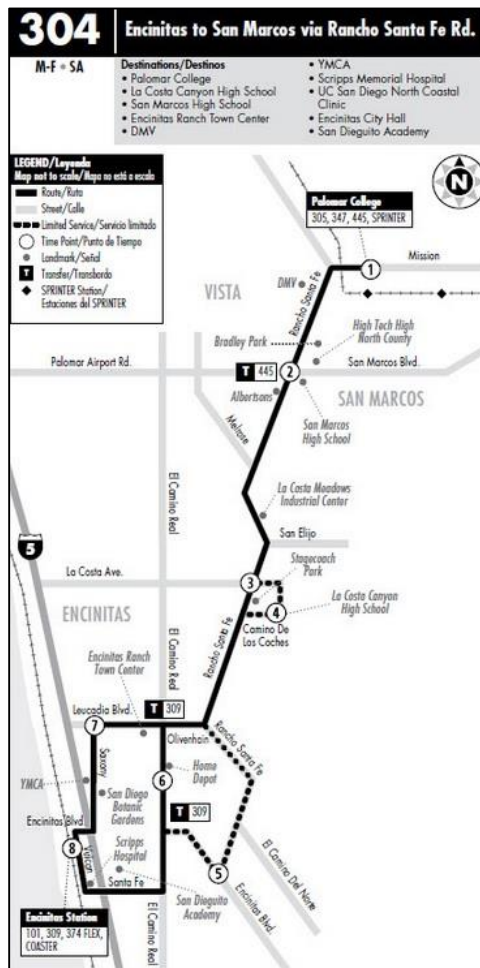




**Route 101** – Runs north-south between Oceanside Transit Center in the City of Oceanside and Westfield UTC mall in the City of San Diego. Route 101 runs along North Coast Highway 101, South Coast Highway 101, North Highway 101, North Torrey Pines Road, and La Jolla Village Drive. Route 101 currently operates between 5:05 AM and 10:52 PM during weekdays, weekends and holidays, with 30 minute headways throughout the day and 1 hour headways towards the end of the day in both the northbound and southbound directions.

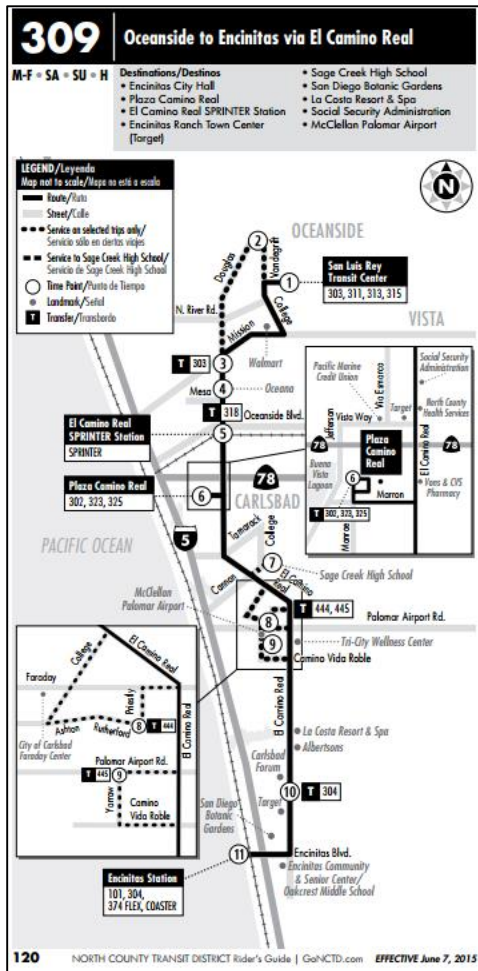


Source: NCTD, November 2015



Source: NCTD, November 2015

**Route 304** – Runs north-south between Palomar College in the City of San Marcos and the Encinitas Transit Station in the City of Encinitas. Route 304 runs along Mission Road, Rancho Santa Fe Road, Saxony Road, Encinitas Boulevard, Vulcan Avenue, Santa Fe Drive, El Camino Real, and back to Rancho Santa Fe Road. Route 304 currently operates between 4:53 AM and 9:04 PM during weekdays with 30-minute to 1-hour headways throughout the day in both the northbound and southbound directions. Route 304 does not operate on Sundays or holidays.



Source: NCTD, November 2015

**Route 309** – Runs north-south between the San Luis Rey Transit Center in the City of Oceanside and the Encinitas Transit Station in the City of Encinitas. Route 309 runs along North River Road, College Boulevard, Mission Road, El Camino Real, and Encinitas Boulevard. Route 309 currently operates between 3:59 AM and 10:57 PM during weekdays, and between 5:28 AM and 10:57 PM during weekends and holidays, with 30-minute and 1-hour headways throughout the day during weekdays and Saturdays, and 1 hour headways during Sundays and holidays in both the northbound and southbound directions.

**Coaster** – The COASTER commuter train runs north-south connecting eight stations along the San Diego coast between Oceanside and Downtown San Diego. The COASTER stops at the Encinitas Transit Station, located at East D Street, and operates between 5:13 AM and 12:15 PM during weekdays, between 6:28 AM and 7:37 PM during Saturdays, and between 8:36 AM and 6:17 PM during Sundays and holidays. The COASTER operates with approximately 90-minute headways during weekdays and approximately 3-hour headways during weekends and holidays.





## 3.2 Roadway Segment Analysis

**Figure 3-2** displays the existing average daily traffic volumes for study roadway segments, the current level of service, as well as intersection level of service. Additionally, **Table 3.2** documents the existing study roadway segment level of service. **Appendix A** contains the average daily traffic counts utilized in this report.

As shown in Table 3.2, the following fourteen (14) roadway segments within the project study area currently operate at substandard level of service E or F, with eleven (11) located in Encinitas, two (2) located in Carlsbad, and one (1) located in the unincorporated County of San Diego:

### City of Encinitas (11)

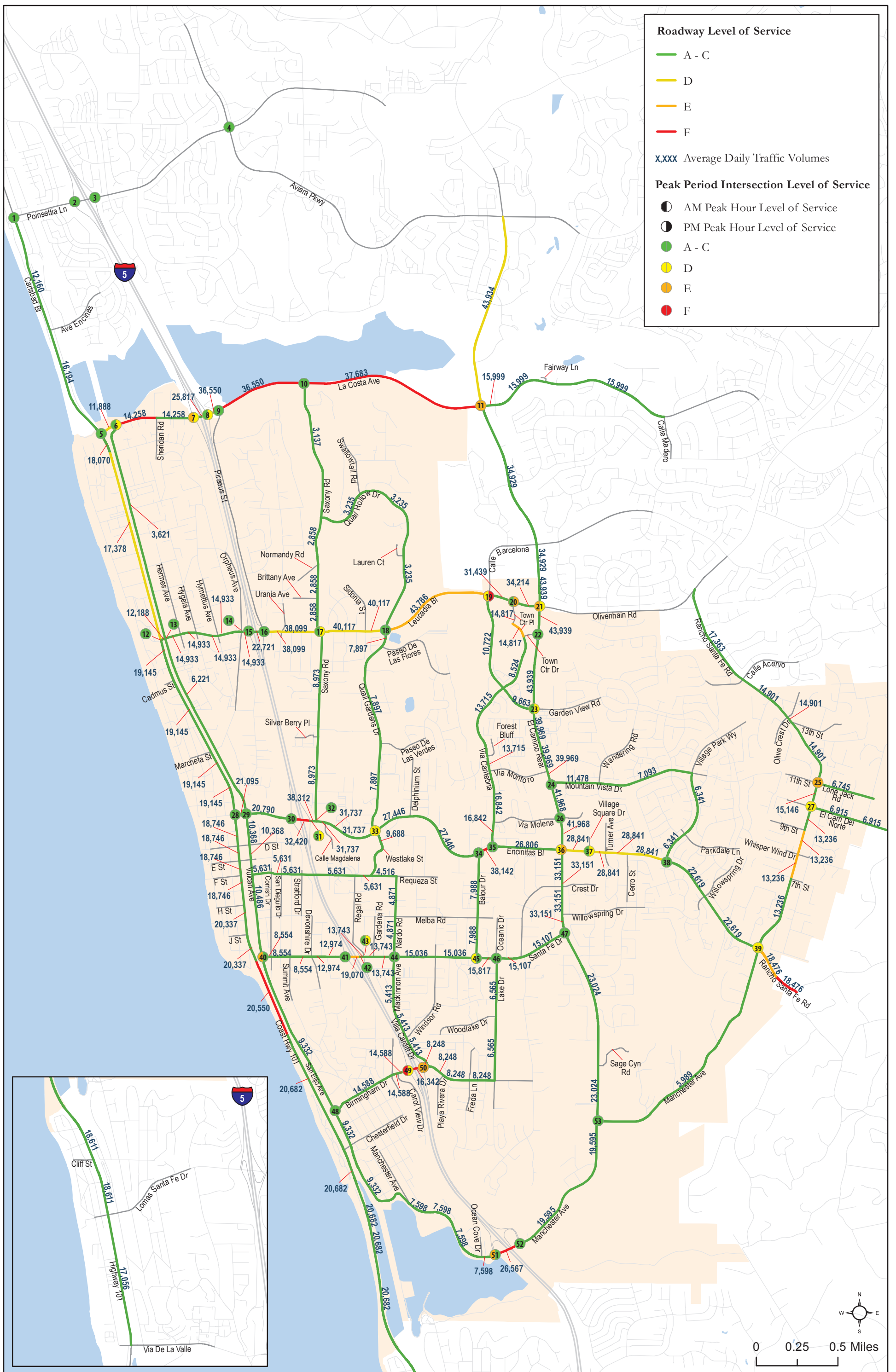
- South Coast Highway 101, between Swami’s Parking and San Elijo State Beach – LOS F;
- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – LOS E;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – LOS E;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – LOS F;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – LOS F;
- Leucadia Boulevard, between Quail Gardens Drive and Garden View Road – LOS E;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – LOS F;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – LOS F;
- Encinitas Boulevard, between Balour Drive and Via Cantabria – LOS F;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits – LOS E; and
- Birmingham Drive, between I-5 SB Ramps and I-5 NB Ramps – LOS F.

### City of Carlsbad (2)

- La Costa Avenue, between Piraeus Street and Saxony Road – LOS E; and
- La Costa Avenue, between Saxony Road and El Camino Real – LOS E.

### County of San Diego (1)

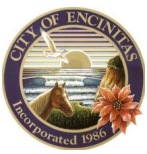
- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.



Encinitas Housing Element TIS

Figure 3-2

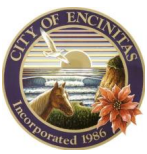
Existing Roadway ADT and LOS and Intersection LOS



**Table 3.2  
Existing Roadway Segment Level of Service**

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





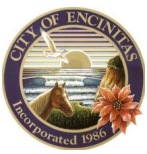
**Table 3.2  
Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
South Coast Highway 101	Between J Street and Swami's Parking	June 2015	PTD	3-Lane Major Roadway <sup>2</sup>	20,337	26,400	0.770	C or better	City of Encinitas
	Between Swami's Parking and San Elijo State Beach	June 2015	PTD	2-Lane Local Roadway	20,550	14,000	1.468	F	City of Encinitas
	Between San Elijo State Beach and Chesterfield	June 2015	PTD	4-Lane Major Roadway	20,682	35,200	0.588	C or better	City of Encinitas
	Between Chesterfield and Cardiff State Beach traffic signal	June 2015	PTD	4-Lane Major Roadway	20,682	35,200	0.588	C or better	City of Encinitas
	Between Cardiff Beach State and Chart House traffic signal	June 2015	PTD	4-Lane Major Roadway	20,682	35,200	0.588	C or better	City of Encinitas
	Between Chart House traffic signal and Las Olas Mexican Restaurant traffic signal	June 2015	PTD	4-Lane Major Roadway	20,682	35,200	0.588	C or better	City of Encinitas
	Between Las Olas Mexican Restaurant and City of Solana Beach boundary	June 2015	PTD	4-Lane Major Roadway	20,682	35,200	0.588	C or better	City of Encinitas
North Highway 101	Between City of Solana Beach boundary and West Cliff Street	June 2015	PTD	4-Lane Major Arterial	18,611	40,000	0.465	B	City of Solana Beach
	Between West Cliff and Lomas Santa Fe	June 2015	PTD	4-Lane Major Arterial	18,611	40,000	0.465	B	City of Solana Beach
	Between Lomas Santa Fe Drive and Via De La Valle	June 2015	PTD	4-Lane Major Arterial	17,056	40,000	0.426	B	City of Solana Beach



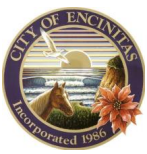
**Table 3.2  
Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Vulcan Avenue	Between La Costa Avenue and Leucadia Boulevard	June 2015	PTD	2-Lane Local Roadway	3,621	14,000	0.259	C or better	City of Encinitas
	Between Leucadia Blvd and Encinitas Boulevard	June 2015	PTD	2-Lane Local Roadway	6,221	14,000	0.444	C or better	City of Encinitas
	Between Encinitas Boulevard and D Street	June 2015	PTD	4-Lane Collector	10,368	32,400	0.320	C or better	City of Encinitas
	Between D Street and E Street	June 2015	PTD	4-Lane Collector	10,368	32,400	0.320	C or better	City of Encinitas
	Between E Street and Santa Fe Drive	June 2015	PTD	2-Lane Local Roadway - Augmented	10,486	20,000	0.524	C or better	City of Encinitas
San Elijo Avenue	Between Santa Fe Drive and Birmingham Drive	June 2015	PTD	2-Lane Local Roadway	9,332	14,000	0.667	C or better	City of Encinitas
	Between Birmingham Drive and Chesterfield Drive	June 2015	PTD	2-Lane Local Roadway - Augmented	9,332	20,000	0.467	C or better	City of Encinitas
	Between Chesterfield Drive and Manchester Avenue	June 2015	PTD	2-Lane Local Roadway - Augmented	9,332	20,000	0.467	C or better	City of Encinitas
Saxony Road	Between La Costa Avenue and Quail Gardens Drive	June 2015	PTD	2-Lane Local Roadway	3,137	14,000	0.224	C or better	City of Encinitas
	Between Quail Hollow Drive and Normandy Road	June 2015	PTD	2-Lane Local Roadway	2,858	14,000	0.204	C or better	City of Encinitas
	Between Normandy Road and Brittany Avenue	June 2015	PTD	2-Lane Local Roadway	2,858	14,000	0.204	C or better	City of Encinitas
	Between Brittany Avenue and Leucadia Boulevard	June 2015	PTD	2-Lane Local Roadway	2,858	14,000	0.204	C or better	City of Encinitas



**Table 3.2**  
**Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Saxony Road	Between Leucadia Boulevard and Silver Berry Place	June 2015	PTD	2-Lane Local Roadway	8,973	14,000	0.641	C or better	City of Encinitas
	Between Silver Berry Place and Encinitas Boulevard	June 2015	PTD	2-Lane Local Roadway – Augmented	8,973	20,000	0.449	C or better	City of Encinitas
Quail Hollow Drive	Between Swallow Tail Road and Saxony Road	June 2015	AVC	2-Lane Local Roadway	3,235	14,000	0.231	C or better	City of Encinitas
Quail Gardens Drive	Between Swallow Tail Road and Lauren Court	June 2015	AVC	2-Lane Local Roadway - Augmented	3,235	20,000	0.162	C or better	City of Encinitas
	Between Lauren Court and Leucadia Boulevard	June 2015	AVC	2-Lane Local Roadway - Augmented	3,235	20,000	0.162	C or better	City of Encinitas
	Between Leucadia Boulevard and Paseo De Las Flores	June 2015	AVC	2-Lane Local Roadway - Augmented	7,897	20,000	0.395	C or better	City of Encinitas
	Between Paseo De Las Flores and Paseo De Las Verdes	June 2015	PTD	2-Lane Local Roadway - Augmented	7,897	20,000	0.395	C or better	City of Encinitas
	Between Paseo De Las Verdes and Encinitas Boulevard	June 2015	PTD	2-Lane Local Roadway - Augmented	7,897	20,000	0.395	C or better	City of Encinitas
Westlake Street	Between Encinitas Boulevard and Requeza Street	June 2015	PTD	2-Lane Local Roadway – Augmented	9,688	20,000	0.484	C or better	City of Encinitas
Nardo Drive	Between Requeza Street and Melba Road	June 2015	PTD	2-Lane Local Roadway	4,871	14,000	0.348	C or better	City of Encinitas
	Between Melba Road and Santa Fe Drive	June 2015	PTD	2-Lane Local Roadway	4,871	14,000	0.348	C or better	City of Encinitas



**Table 3.2  
Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
MacKinnon Avenue	Between Santa Fe Drive and Villa Cardiff Drive	June 2015	PTD	2-Lane Local Roadway	5,413	14,000	0.387	C or better	City of Encinitas
Villa Cardiff Drive	Between MacKinnon Avenue and Windsor Road	June 2015	PTD	2-Lane Local Roadway	5,413	14,000	0.387	C or better	City of Encinitas
	Between Windsor Road and Birmingham Drive	June 2015	PTD	2-Lane Local Roadway	5,413	14,000	0.387	C or better	City of Encinitas
Garden View Road	Between Leucadia Boulevard and Via Cantebria	June 2015	AVC	4-Lane Major Roadway	10,722	35,200	0.305	C or better	City of Encinitas
	Between Via Cantebria and El Camino Real	June 2015	AVC	4-Lane Major Roadway	9,663	35,200	0.275	C or better	City of Encinitas
Town Center Place	Between Leucadia Boulevard and Town Center Place	June 2015	AVC	4-Lane Collector (Not a CE)	14,817	32,400	0.457	C or better	City of Encinitas
	Between Town Center Place and Town Center Drive	June 2015	AVC	4-Lane Collector (Not a CE)	14,817	32,400	0.457	C or better	City of Encinitas
Via Cantebria	Between Town Center Drive and Garden View Road	June 2015	AVC	2-Lane Local Roadway (Not a CE)	8,524	14,000	0.608	C or better	City of Encinitas
	Between Garden View Road and Forrest Bluff	June 2015	AVC	3-Lane Collector <sup>3</sup>	13,715	24,300	0.564	C or better	City of Encinitas
	Between Forrest Bluff and Via Montoro	June 2015	AVC	4-Lane Collector	13,715	32,400	0.423	C or better	City of Encinitas
	Between Via Montoro and Via Molena	June 2015	AVC	4-Lane Collector	16,842	32,400	0.520	C or better	City of Encinitas
	Between Via Molena and Encinitas Boulevard	June 2015	AVC	4-Lane Collector	16,842	32,400	0.520	C or better	City of Encinitas



**Table 3.2**  
**Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Balour Drive	Between Encinitas Boulevard and Melba Road	June 2015	PTD	2-Lane Local Roadway	7,988	14,000	0.571	C or better	City of Encinitas
	Between Melba Road and Santa Fe Drive	June 2015	PTD	2-Lane Local Roadway	7,988	14,000	0.571	C or better	City of Encinitas
Lake Drive	Between Santa Fe Drive and Woodlake Drive	June 2015	PTD	2-Lane Local Roadway	6,565	14,000	0.469	C or better	City of Encinitas
	Between Woodlake Drive and Birmingham Drive	June 2015	PTD	2-Lane Local Roadway	6,565	14,000	0.469	C or better	City of Encinitas
El Camino Real	Between Aviara Parkway and La Costa Avenue	June 2015	AVC	5-Lane Prime Arterial <sup>4</sup>	43,934	50,000	0.879	D	City of Carlsbad
	Between La Costa Avenue and Calle Barcelona	June 2015	AVC	6-Lane Prime Arterial	34,929	60,000	0.582	B	City of Carlsbad
	Between Calle Barcelona and City of Carlsbad boundary	June 2015	AVC	6-Lane Prime Arterial	34,929	60,000	0.582	B	City of Carlsbad
	Between City of Carlsbad boundary and Leucadia Boulevard	June 2015	AVC	6-Lane Prime Arterial - Augmented	43,939	66,000	0.666	C or better	City of Encinitas
	Between Leucadia Boulevard and Town Center Drive	June 2015	AVC	6-Lane Prime Arterial - Augmented	43,939	66,000	0.666	C or better	City of Encinitas
	Between Town Center Drive and Garden View Road	June 2015	AVC	6-Lane Prime Arterial - Augmented	43,939	66,000	0.666	C or better	City of Encinitas
	Between Garden View Road and 331-339 El Camino Real	June 2015	AVC	6-Lane Prime Arterial - Augmented	39,969	66,000	0.606	C or better	City of Encinitas
	Between 331-339 El Camino Real and Via Montoro	June 2015	AVC	6-Lane Prime Arterial - Augmented	39,969	66,000	0.606	C or better	City of Encinitas
	Between Via Montoro and Mountain Vista	June 2015	AVC	6-Lane Prime Arterial - Augmented	39,969	66,000	0.606	C or better	City of Encinitas



**Table 3.2  
Existing Roadway Segment Level of Service**

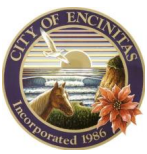
Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
El Camino Real	Between Mountain Vista and Via Molena	June 2015	AVC	6-Lane Prime Arterial - Augmented	41,968	66,000	0.636	C or better	City of Encinitas
	Between Via Molena and Encinitas Boulevard	June 2015	AVC	6-Lane Prime Arterial - Augmented	41,968	66,000	0.636	C or better	City of Encinitas
	Between Encinitas Boulevard and 213 S El Camino Real	June 2015	AVC	6-Lane Prime Arterial	33,151	57,000	0.582	C or better	City of Encinitas
	Between 213 S El Camino Real and Crest Drive	June 2015	AVC	6-Lane Prime Arterial	33,151	57,000	0.582	C or better	City of Encinitas
	Between Crest Drive and Willowspring Drive	June 2015	AVC	6-Lane Prime Arterial	33,151	57,000	0.582	C or better	City of Encinitas
	Between Willowspring Drive and Santa Fe Drive	June 2015	AVC	4 Lane Major Roadway- Augmented	33,151	45,400	0.730	C or better	City of Encinitas
	Between Santa Fe Drive and Sage Canyon Drive	June 2015	AVC	4 Lane Major Roadway- Augmented	23,024	45,400	0.507	C or better	City of Encinitas
	Between Sage Canyon Drive and Manchester Avenue	June 2015	AVC	4-Lane Major Roadway	23,024	35,200	0.654	C or better	City of Encinitas
Village Park Way	Between Mountain Vista Drive and Parkdale Drive	June 2015	AVC	4-Lane Major Roadway	6,341	35,200	0.180	C or better	City of Encinitas
	Between Parkdale Drive and Encinitas Boulevard	June 2015	AVC	4-Lane Major Roadway	6,341	35,200	0.180	C or better	City of Encinitas
Rancho Santa Fe Road	Between Olivenhain Road and Calle Acervo	June 2015	AVC	4-Lane Major Arterial	17,363	40,000	0.434	B	City of Carlsbad
	Between Calle Acervo/Avenida La Posta and Olive Crest Drive	June 2015	AVC	2-Lane Local Roadway – Augmented	14,901	20,000	0.745	C or better	City of Encinitas



**Table 3.2  
Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Rancho Santa Fe Road	Between Olive Crest Drive and 13th Street	June 2015	AVC	2-Lane Local Roadway – Augmented	14,901	20,000	0.745	C or better	City of Encinitas
	Between 13th Street and 11th Street	June 2015	AVC	2-Lane Local Roadway - Augmented	14,901	20,000	0.745	C or better	City of Encinitas
	Between 11th Street and El Camino Del Norte	June 2015	AVC	2-Lane Local Roadway - Augmented	15,146	20,000	0.757	C or better	City of Encinitas
	Between El Camino Del Norte and 9th Street	June 2015	AVC	2-Lane Local Roadway - Augmented	13,236	20,000	0.662	C or better	City of Encinitas
	Between 9th Street and 8th Street	June 2015	AVC	2-Lane Local Roadway	13,236	14,000	0.945	E	City of Encinitas
	Between 8th Street and 7th Street	June 2015	AVC	2-Lane Local Roadway	13,236	14,000	0.945	E	City of Encinitas
	Between 7th Street and Encinitas Boulevard	June 2015	AVC	2-Lane Local Roadway - Augmented	13,236	20,000	0.662	C or better	City of Encinitas
Manchester Avenue	Between Manchester Avenue and Mira Costa College	June 2015	PTD	4 Lane Major Roadway- Augmented	19,595	45,400	0.432	C or better	City of Encinitas
	Between Mira Costa College and I-5 NB On-Ramp	June 2015	PTD	4 Lane Major Roadway- Augmented	19,595	45,400	0.432	C or better	City of Encinitas
	Between I-5 NB Ramps and I-5 SB Ramps	June 2015	PTD	2-Lane Local Roadway - Augmented	26,567	20,000	1.328	F	City of Encinitas
	Between I-5 SB Ramps and Ocean Cove Drive	June 2015	PTD	2-Lane Local Roadway - Augmented	7,598	20,000	0.380	C or better	City of Encinitas
	Between Ocean Cove Drive and Seaside Cardiff-by-the-sea residential area driveway	June 2015	PTD	2-Lane Local Roadway	7,598	14,000	0.543	C or better	City of Encinitas





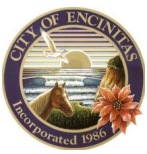
**Table 3.2**  
**Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Manchester Avenue	Between Seaside Cardiff-by-the-sea residential area driveway and San Elijo Water Reclamation Facility Driveway	June 2015	PTD	2-Lane Local Roadway - Augmented	7,598	20,000	0.380	C or better	City of Encinitas
	Between San Elijo Water Reclamation Facility Driveway and Manchester Avenue	June 2015	PTD	2-Lane Local Roadway	7,598	14,000	0.543	C or better	City of Encinitas
	Between Encinitas Boulevard and El Camino Real	June 2015	PTD	2-Lane Local Roadway – Augmented	5,989	20,000	0.299	C or better	City of Encinitas
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	June 2015	PTD	2-Lane Local Roadway	11,888	14,000	0.850	D	City of Encinitas
	Between Vulcan Avenue and Sheridan Road	June 2015	PTD	2-Lane Local Roadway	14,258	14,000	1.018	F	City of Encinitas
	Between Sheridan Road and I-5 SB Ramps	June 2015	PTD	2-Lane Local Roadway - Augmented	14,258	20,000	0.713	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	June 2015	PTD	4-Lane Major Arterial	25,817	40,000	0.645	C	City of Carlsbad
	Between I-5 NB Ramps and Piraeus Street	June 2015	PTD	5-Lane Major Arterial <sup>5</sup>	36,550	41,667	0.877	D	City of Carlsbad
	Between Piraeus Street and Saxony Road	June 2015	PTD	4-Lane Major Arterial	36,550	40,000	0.914	E	City of Carlsbad
	Between Saxony Road and El Camino Real	June 2015	PTD	4-Lane Major Arterial	37,683	40,000	0.942	E	City of Carlsbad
	Between El Camino Real and La Costa Towne Center traffic signal	June 2015	PTD	4-Lane Major Arterial	15,999	40,000	0.400	B	City of Carlsbad



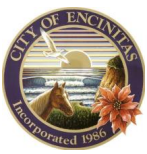
**Table 3.2**  
**Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
La Costa Avenue	Between La Costa Towne Center traffic signal and Fairway Lane	June 2015	PTD	4-Lane Major Arterial	15,999	40,000	0.400	B	City of Carlsbad
	Between Fairway Lane and Calle Madero	June 2015	PTD	3-Lane Collector <sup>6</sup>	15,999	22,500	0.711	D	City of Carlsbad
Leucadia Blvd	Between North Coast Highway 101 and Vulcan Avenue	June 2015	PTD	4-Lane Collector	12,188	32,400	0.376	C or better	City of Encinitas
	Between Vulcan Avenue and Hermes Avenue	June 2015	PTD	2-Lane Local Roadway - Augmented	14,933	20,000	0.747	C or better	City of Encinitas
	Between Hermes Avenue and Hygeia Avenue	June 2015	PTD	2-Lane Local Roadway - Augmented	14,933	20,000	0.747	C or better	City of Encinitas
	Between Hygeia Avenue and Hymettus Avenue	June 2015	PTD	2-Lane Local Roadway - Augmented	14,933	20,000	0.747	C or better	City of Encinitas
	Between Hymettus Avenue and Orpheus Avenue	June 2015	PTD	2-Lane Local Roadway - Augmented	14,933	20,000	0.747	C or better	City of Encinitas
	Between Orpheus Avenue and I-5 SB Ramps	June 2015	PTD	4-Lane Major Roadway	14,933	35,200	0.424	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	June 2015	PTD	4-Lane Major Roadway	22,721	35,200	0.645	C or better	City of Encinitas
	Between Piraeus Street and Urania Avenue	June 2015	PTD	4 Lane Major Roadway- Augmented	38,099	45,400	0.839	D	City of Encinitas
	Between Urania Avenue and Saxony Road	June 2015	PTD	4 Lane Major Roadway- Augmented	38,099	45,400	0.839	D	City of Encinitas
	Between Saxony Road and Sidonia Street	June 2015	PTD	4 Lane Major Roadway- Augmented	40,117	45,400	0.884	D	City of Encinitas



**Table 3.2  
Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Leucadia Blvd	Between Sidonia Street and Quail Gardens Drive	June 2015	AVC	4 Lane Major Roadway - Augmented	40,117	45,400	0.884	D	City of Encinitas
	Between Quail Gardens Drive and Garden View Road	June 2015	AVC	4 Lane Major Roadway - Augmented	43,786	45,400	0.964	E	City of Encinitas
	Between Garden View Road and Town Center Place	June 2015	AVC	4 Lane Major Roadway - Augmented	31,439	45,400	0.692	C or better	City of Encinitas
	Between Town Center Place and El Camino Real	June 2015	AVC	6-Lane Prime Arterial	34,214	57,000	0.600	C or better	City of Encinitas
Mountain Vista Drive	Between El Camino Real and Wandering Road	June 2015	AVC	2-Lane Local Roadway - Augmented	11,478	20,000	0.574	C or better	City of Encinitas
	Between Wandering Road and Village Park Way	June 2015	AVC	2-Lane Local Roadway - Augmented	7,093	20,000	0.355	C or better	City of Encinitas
Lone Jack Drive	Between Rancho Santa Fe Road and northern terminus	June 2015	AVC	2-Lane Local Roadway	6,745	14,000	0.482	C or better	City of Encinitas
El Camino Del Norte	Between Rancho Santa Fe Road and San Dieguito CPA boundary	June 2015	AVC	2-Lane Local Roadway	6,915	14,000	0.494	C or better	City of Encinitas
	Between San Dieguito CPA boundary to Via De Fortuna	June 2015	AVC	2-Lane Light Collector with Reduced Shoulder	6,915	9,700	0.713	C	County of San Diego
Encinitas Blvd	Between North Coast Highway 101 and Vulcan Avenue	June 2015	AVC	4-Lane Collector	21,095	32,400	0.651	C or better	City of Encinitas
	Between Vulcan Avenue and I-5 SB Ramps	June 2015	PTD	4-Lane Major Roadway - Augmented	20,790	45,400	0.458	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	June 2015	PTD	4-Lane Major Roadway	32,420	35,200	0.921	E	City of Encinitas



**Table 3.2**  
**Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Encinitas Blvd	Between I-5 NB Ramps and Saxony Road	June 2015	PTD	4-Lane Major Roadway	38,312	35,200	1.088	F	City of Encinitas
	Between Saxony Road and Calle Magdalena	June 2015	PTD	6-Lane Prime Arterial - Augmented	31,737	66,000	0.481	C or better	City of Encinitas
	Between Calle Magdalena and Encinitas Town Country traffic signal	June 2015	PTD	6-Lane Prime Arterial	31,737	57,000	0.557	C or better	City of Encinitas
	Between Encinitas Town Country traffic signal and Quail Gardens Drive	June 2015	PTD	4-Lane Major Roadway- Augmented	31,737	45,400	0.699	C or better	City of Encinitas
	Between Quails Garden Drive and Delphinium Street	June 2015	PTD	4-Lane Major Roadway	27,446	35,200	0.780	C or better	City of Encinitas
	Between Delphinium Street and Balour Drive	June 2015	PTD	4-Lane Major Roadway	27,446	35,200	0.780	C or better	City of Encinitas
	Between Balour Drive and Via Cantebria	June 2015	AVC	4-Lane Major Roadway	38,142	35,200	1.084	F	City of Encinitas
	Between Via Cantebria and El Camino Real	June 2015	AVC	4-Lane Major Roadway	26,806	35,200	0.762	C or better	City of Encinitas
	Between El Camino Real and Village Square Drive	June 2015	AVC	4-Lane Major Roadway	28,841	35,200	0.819	D	City of Encinitas
	Between Village Square Drive and Turner Avenue	June 2015	AVC	4-Lane Major Roadway	28,841	35,200	0.819	D	City of Encinitas
	Between Turner Avenue and Cerro Street	June 2015	AVC	4-Lane Major Roadway	28,841	35,200	0.819	D	City of Encinitas
	Between Cerro Street and Village Park Way	June 2015	AVC	4-Lane Major Roadway	28,841	35,200	0.819	D	City of Encinitas



**Table 3.2**  
**Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Encinitas Blvd	Between Village Park Way to Willowspring Drive	June 2015	AVC	4-Lane Major Roadway	22,619	35,200	0.643	C or better	City of Encinitas
	Between Willowspring Drive to Rancho Santa Fe Road	June 2015	AVC	4-Lane Major Roadway	22,619	35,200	0.643	C or better	City of Encinitas
South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	June 2015	AVC	2-Lane Local Roadway - Augmented	18,476	20,000	0.924	<b>E</b>	City of Encinitas
	Between City of Encinitas Limits and El Mirlo	June 2015	AVC	2-Lane Light Collector with Reduced Shoulder	18,476	9,700	1.905	<b>F</b>	County of San Diego
F Street	Between Vulcan Avenue and Cornish Drive	June 2015	PTD	2-Lane Local Roadway	5,631	14,000	0.402	C or better	City of Encinitas
Requeza Street	Between Cornish Drive and San Dieguito Drive	June 2015	PTD	2-Lane Local Roadway	5,631	14,000	0.402	C or better	City of Encinitas
	Between San Dieguito Drive and Stratford Drive	June 2015	PTD	2-Lane Local Roadway	5,631	14,000	0.402	C or better	City of Encinitas
	Between Stratford Drive and Regal Road	June 2015	PTD	2-Lane Local Roadway	5,631	14,000	0.402	C or better	City of Encinitas
	Between Regal Road and West Lake Drive	June 2015	PTD	2-Lane Local Roadway	5,631	14,000	0.402	C or better	City of Encinitas
	Between West Lake Drive and Nardo Drive	June 2015	PTD	2-Lane Local Roadway	4,516	14,000	0.323	C or better	City of Encinitas
Santa Fe Drive	Between Vulcan Avenue and Cornish Drive	June 2015	PTD	2-Lane Local Roadway	8,554	14,000	0.611	C or better	City of Encinitas
	Between Cornish Drive and Summit Avenue	June 2015	PTD	2-Lane Local Roadway	8,554	14,000	0.611	C or better	City of Encinitas
	Between Summit Avenue and Devonshire	June 2015	PTD	2-Lane Local Roadway	8,554	14,000	0.611	C or better	City of Encinitas



**Table 3.2  
Existing Roadway Segment Level of Service**

Roadway	Segment	Count Date	Count Source	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Santa Fe Drive	Between Devonshire Drive and Scripps Memorial Hospital Encinitas traffic signal	June 2015	PTD	2-Lane Local Roadway - Augmented	12,974	20,000	0.649	C or better	City of Encinitas
	Between Scripps Memorial Hospital Encinitas traffic signal and I-5 SB Ramps	June 2015	PTD	4-Lane Collector	12,974	32,400	0.400	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	June 2015	PTD	3-Lane Major Roadway	19,070	26,400	0.722	C or better	City of Encinitas
	Between I-5 NB Ramps and Regal Road	June 2015	PTD	2-Lane Local Roadway - Augmented	13,743	20,000	0.687	C or better	City of Encinitas
	Between Regal Road and Gardena Road	June 2015	PTD	2-Lane Local Roadway - Augmented	13,743	20,000	0.687	C or better	City of Encinitas
	Between Gardena Road and Nardo Road	June 2015	PTD	2-Lane Local Roadway - Augmented	13,743	20,000	0.687	C or better	City of Encinitas
	Between Nardo Road and Windsor Road/Bonita Drive	June 2015	PTD	2-Lane Local Roadway - Augmented	15,036	20,000	0.752	C or better	City of Encinitas
	Between Windsor Road/Bonita Drive and Balour Drive	June 2015	PTD	2-Lane Local Roadway - Augmented	15,036	20,000	0.752	C or better	City of Encinitas
	Between Balour Drive and Lake Drive	June 2015	PTD	2-Lane Local Roadway - Augmented	15,817	20,000	0.791	C or better	City of Encinitas
	Between Lake Drive and Crest Drive	June 2015	AVC	2-Lane Local Roadway - Augmented	15,107	20,000	0.755	C or better	City of Encinitas
	Between Crest Drive and El Camino Real	June 2015	AVC	2-Lane Local Roadway - Augmented	15,107	20,000	0.755	C or better	City of Encinitas



**Table 3.2**  
**Existing Roadway Segment Level of Service**

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

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates substandard LOS E or F.

<sup>1</sup> Functional Classification is representative of existing segment functionality and does not take into consideration the ultimate or final classification.

<sup>2</sup> 3-Lane Major Roadway is 75% capacity of a 4-Lane Major Roadway.

<sup>3</sup> 3-Lane Collector is 75% capacity of a 4-Lane Collector.

<sup>4</sup> 5-Lane Prime is 84% capacity of 6-Lane Prime Arterial (SANTEC).

<sup>5</sup> 5-Lane Major is 84% capacity of 6-Lane Major Arterial (SANTEC).

<sup>6</sup> 3-Lane Collector is 75% capacity of 4-Lane Collector (SANTEC).





### 3.3 Intersection Analysis

As described in Chapter 2, a total of 53 study intersections were analyzed under Existing Conditions. **Figure 3-3** displays the existing intersection geometry, while **Figure 3-4** shows existing peak hour turning movement counts for both AM and PM peak periods. The study area intersection traffic counts and signal timing plans are provided in Appendix A.

**Table 3.3** summarizes the level of service analysis results for the 53 key study area intersections, conducted using the methodologies outlined in Chapter 2. Intersection level of service worksheets are provided in **Appendix B**. Existing intersection LOS analysis results are displayed in Figure 3-2.

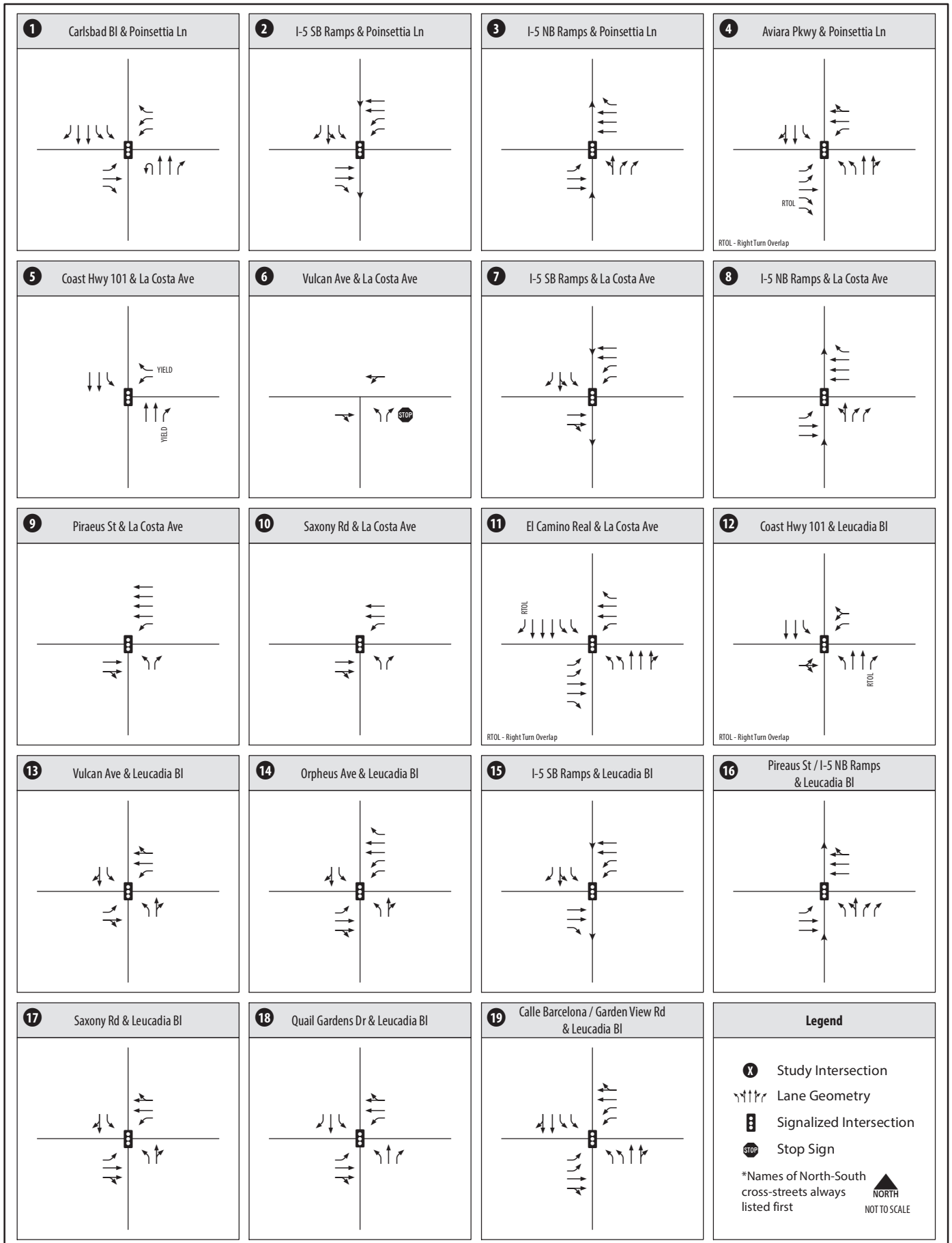
As shown in Table 3.3, all of the study intersections operate at acceptable LOS D or better, with the exception of the following eleven (11) intersections, including nine (9) in the City of Encinitas and two (2) in the City of Carlsbad:

#### City of Encinitas (9)

- 19. Garden View Road & Leucadia Boulevard – LOS F during PM peak hour;
- 20. Town Center Place & Leucadia Boulevard – LOS E during PM peak hour;
- 21. El Camino Real & Leucadia Boulevard – LOS E during AM peak hour;
- 25. Rancho Santa Fe Road & Lone Jack Road – LOS E during both AM and PM peak hours;
- 36. El Camino Real & Encinitas Boulevard – LOS E during PM peak hour;
- 40. San Elijo Avenue & Santa Fe Drive – LOS E during AM peak hour;
- 49. I-5 SB Ramps & Birmingham Drive – LOS F during AM peak hour;
- 50. I-5 NB Ramps & Birmingham Drive – LOS E during both AM and PM peak hours; and
- 51. I-5 SB Ramps & Manchester Avenue – LOS E during AM peak hour.

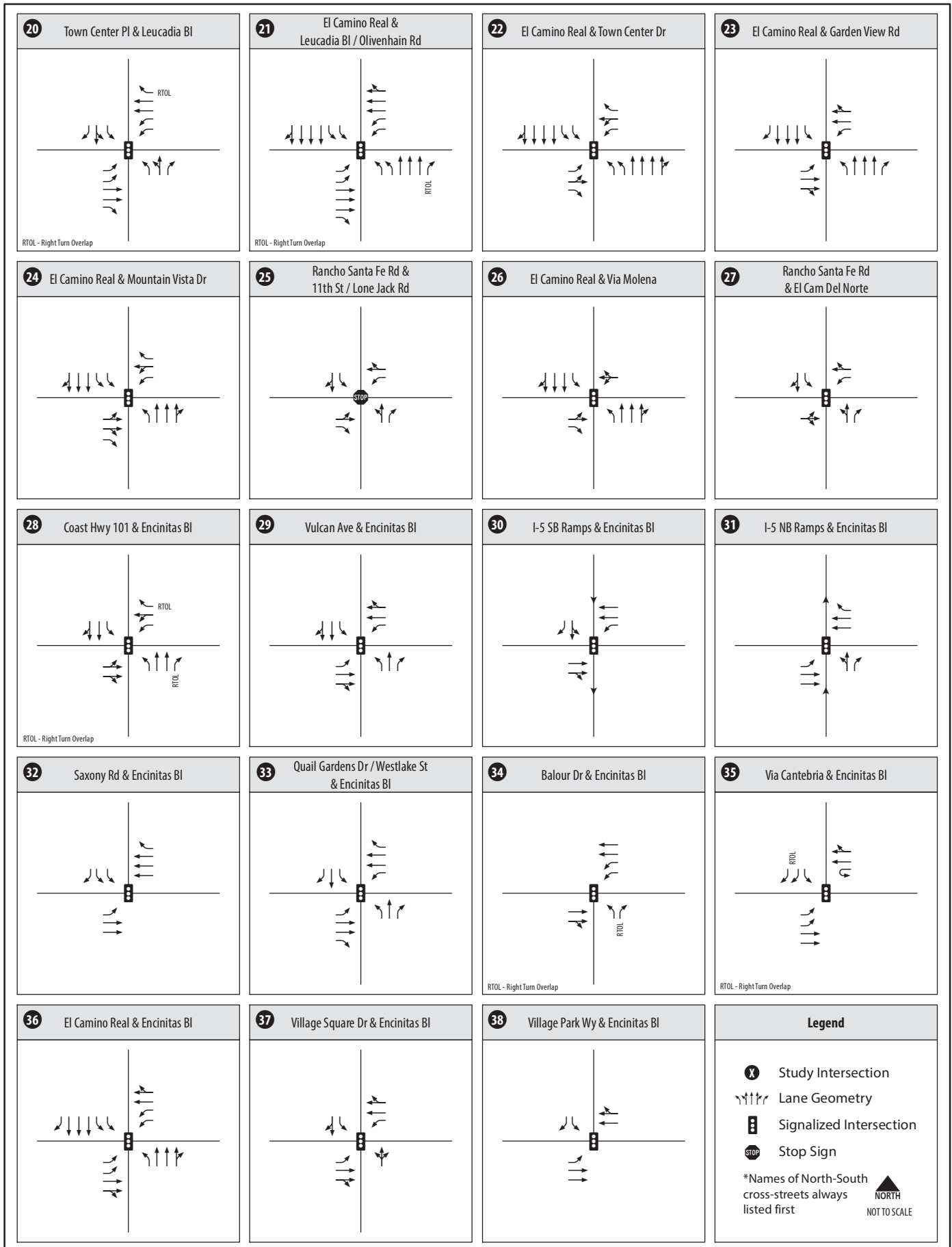
#### City of Carlsbad (2)

- 7. I-5 SB Ramps & La Costa Avenue – LOS E during AM peak hour; and
- 11. El Camino Real & La Costa Avenue – LOS E during both AM and PM peak hour.



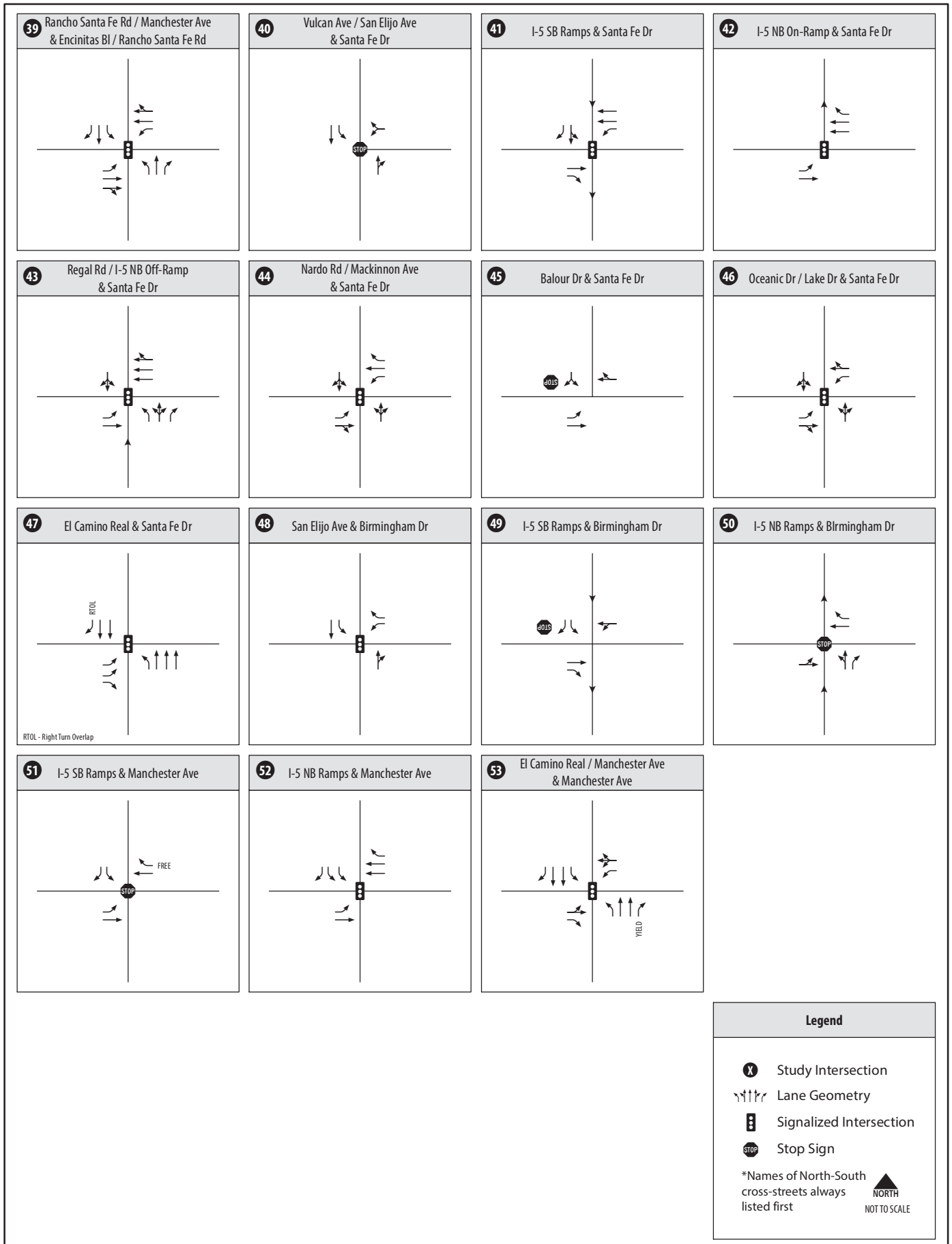
Encinitas Housing Element TIS

Figure 3-3



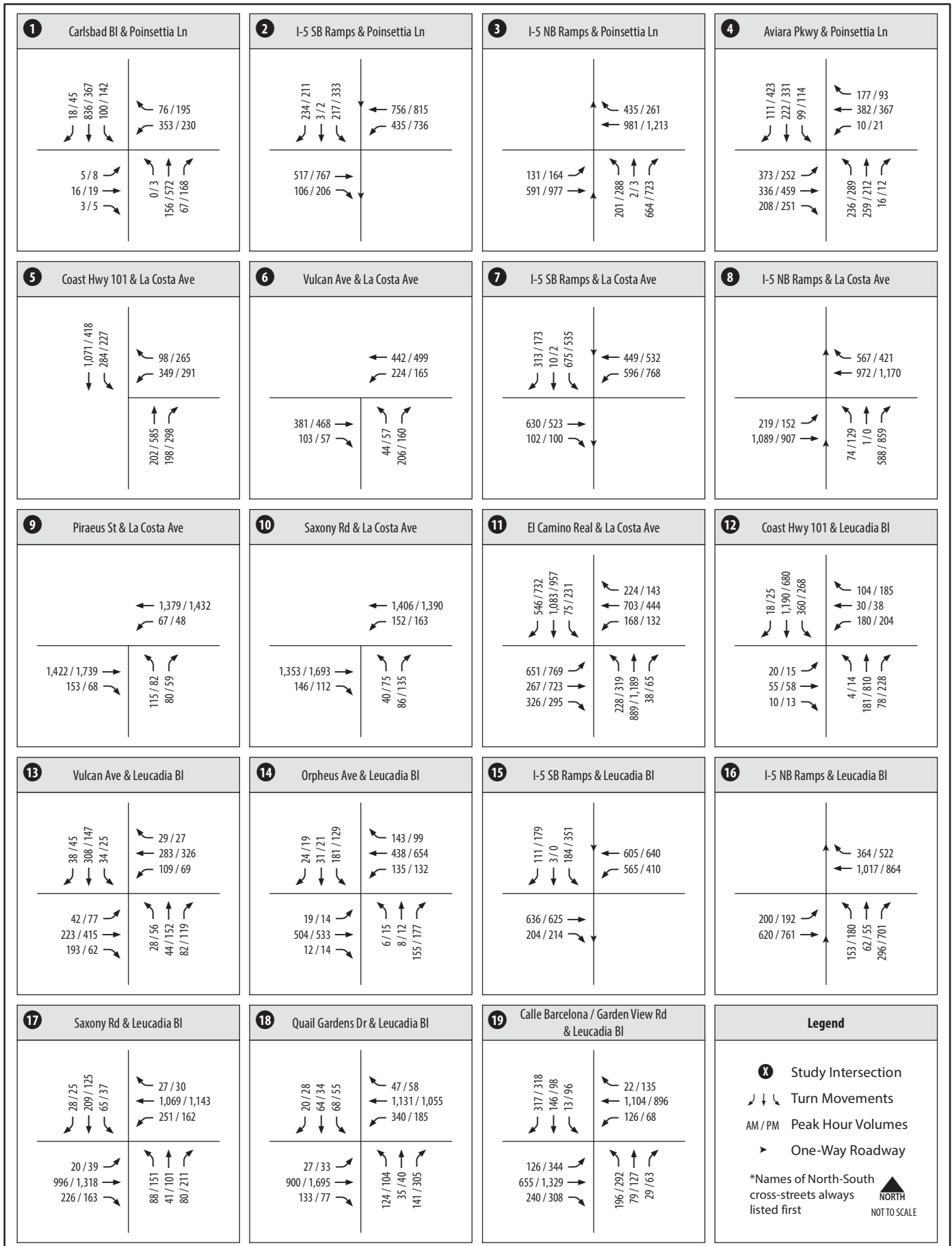
Encinitas Housing Element TIS

Figure 3-3



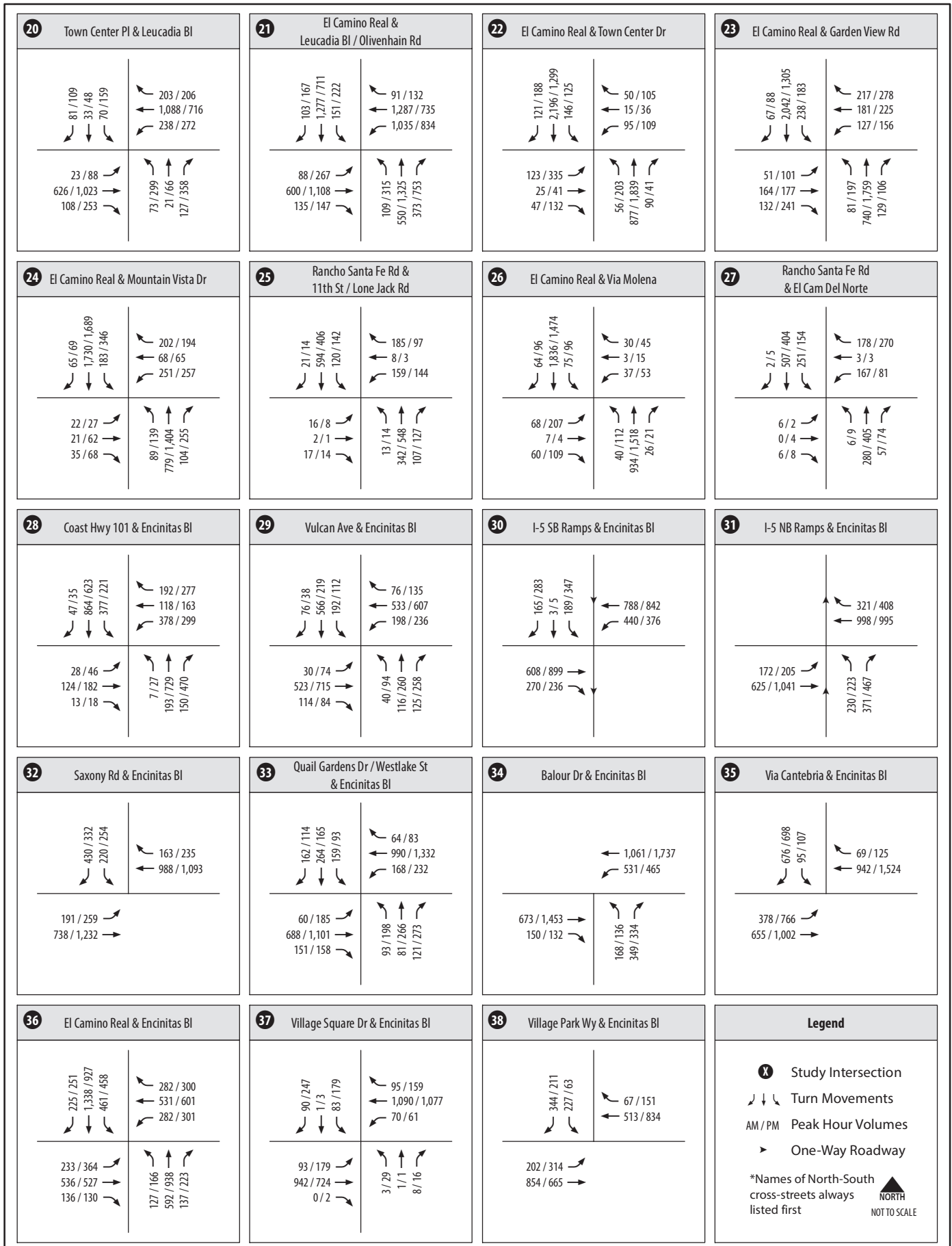
Encinitas Housing Element TIS

Figure 3-3



Encinitas Housing Element TIS

Figure 3-4

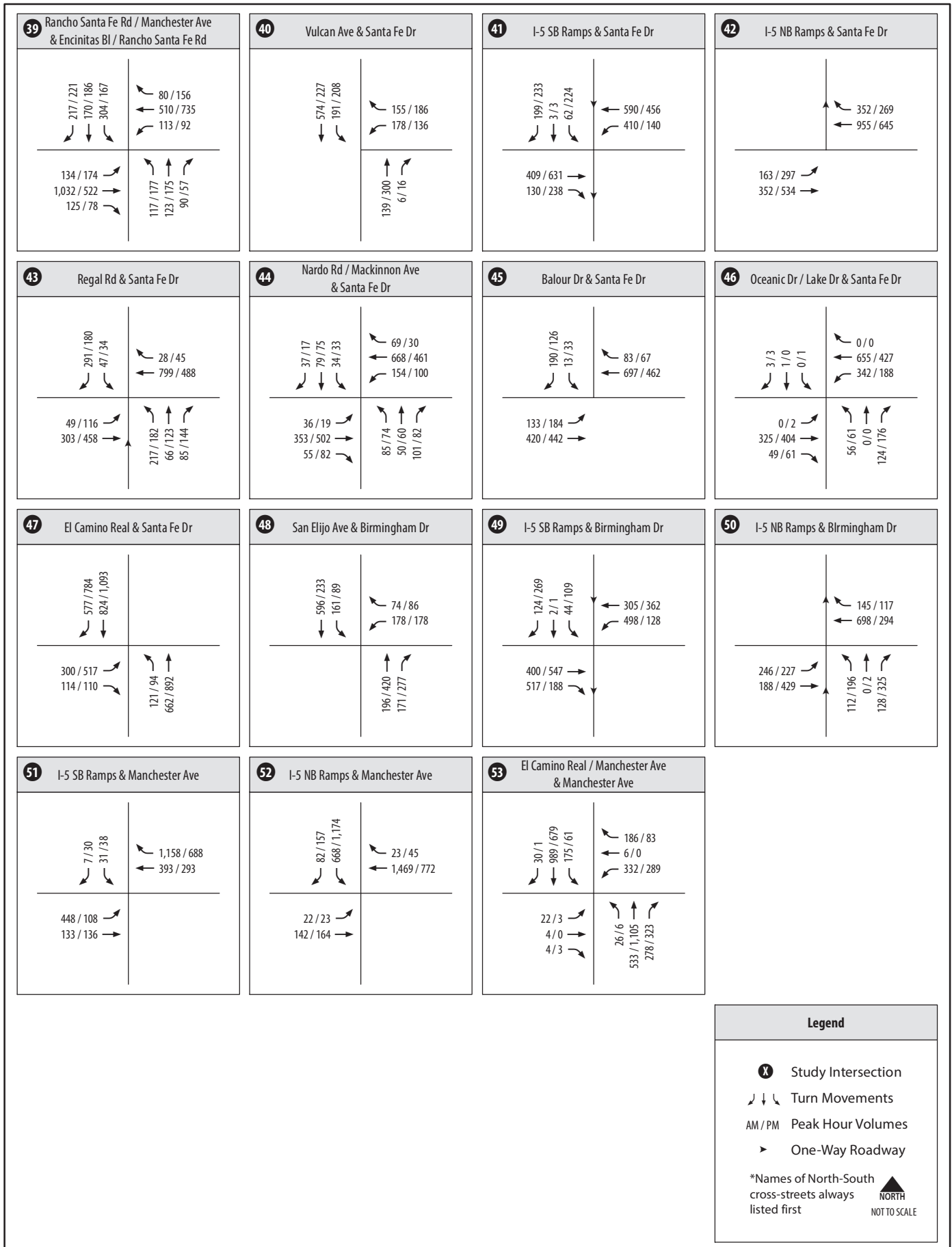


Encinitas Housing Element TIS

Figure 3-4

Existing AM/PM Peak Hour Intersection Turning Movements (Intersections 20-38)





Encinitas Housing Element TIS

Figure 3-4



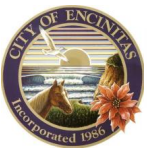
**Table 3.3**  
**Existing AM / PM Peak Hour Intersection Level of Service**

ID	Intersection	Traffic Control	Count Source	Count Date	AM Peak Hour		PM Peak Hour		Jurisdiction
					Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS	
1	Carlsbad Boulevard & Poinsettia Lane	Signalized	AVC	June 2015	7.6	A	20.9	C	City of Carlsbad
2	I-5 SB Ramps & Poinsettia Lane	Signalized	AVC	June 2015	14.4	B	19.7	B	Caltrans
3	I-5 NB Ramps & Poinsettia Lane	Signalized	AVC	June 2015	21.2	C	23.1	C	Caltrans
4	Aviara Parkway & Poinsettia Lane	Signalized	AVC	June 2015	27.2	C	28.0	C	City of Carlsbad
5	North Coast Highway 101 & La Costa Avenue	Signalized	AVC	June 2015	15.0	B	14.7	B	City of Encinitas
6	Vulcan Avenue & La Costa Avenue	SSSC	AVC	June 2015	24.6	C	31.0	D	City of Encinitas
7	I-5 SB Ramps & La Costa Avenue	Signalized	AVC	June 2015	65.3	E	36.2	D	Caltrans
8	I-5 NB Ramps & La Costa Avenue	Signalized	AVC	June 2015	32.0	C	53.3	D	Caltrans
9	Piraeus Street & La Costa Avenue	Signalized	AVC	June 2015	13.2	B	7.7	A	Caltrans
10	Saxony Road & La Costa Avenue	Signalized	AVC	June 2015	13.6	B	21.4	C	City of Carlsbad
11	El Camino Real & La Costa Avenue	Signalized	AVC	June 2015	58.6	E	59.8	E	City of Carlsbad
12	North Coast Highway 101 & Leucadia Boulevard	Signalized	AVC	June 2015	27.0	C	24.8	C	City of Encinitas



**Table 3.3**  
**Existing AM / PM Peak Hour Intersection Level of Service**

ID	Intersection	Traffic Control	Count Source	Count Date	AM Peak Hour		PM Peak Hour		Jurisdiction
					Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS	
13	Vulcan Avenue & Leucadia Boulevard	Signalized	AVC	June 2015	10.6	B	9.6	A	City of Encinitas
14	Orpheus Avenue & Leucadia Boulevard	Signalized	AVC	June 2015	14.8	B	13.8	B	Caltrans
15	I-5 SB Ramps & Leucadia Boulevard	Signalized	AVC	June 2015	12.8	B	14.0	B	Caltrans
16	I-5 NB Ramps & Leucadia Boulevard	Signalized	AVC	June 2015	11.8	B	34.2	C	Caltrans
17	Saxony Road & Leucadia Boulevard	Signalized	AVC	June 2015	34.3	C	40.3	D	City of Encinitas
18	Quail Gardens Drive & Leucadia Boulevard	Signalized	AVC	June 2015	22.9	C	26.6	C	City of Encinitas
19	Garden View Road & Leucadia Boulevard	Signalized	AVC	June 2015	45.6	D	124.5	F	City of Encinitas
20	Town Center Place & Leucadia Boulevard	Signalized	AVC	June 2015	20.9	C	78.9	E	City of Encinitas
21	El Camino Real & Leucadia Boulevard	Signalized	AVC	June 2015	57.5	E	54.9	D	City of Encinitas
22	El Camino Real & Town Center Drive	Signalized	AVC	June 2015	12.8	B	21.0	C	City of Encinitas
23	El Camino Real & Garden View Road	Signalized	AVC	June 2015	22.6	C	36.3	D	City of Encinitas
24	El Camino Real & Mountain Vista Drive	Signalized	AVC	June 2015	20.8	C	30.0	C	City of Encinitas



**Table 3.3**  
**Existing AM / PM Peak Hour Intersection Level of Service**

ID	Intersection	Traffic Control	Count Source	Count Date	AM Peak Hour		PM Peak Hour		Jurisdiction
					Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS	
25	Rancho Santa Fe Road & Lone Jack Road	AWSC	AVC	June 2015	37.2	E	37.6	E	City of Encinitas
26	El Camino Real & Via Molena	Signalized	AVC	June 2015	15.1	B	26.6	C	City of Encinitas
27	Rancho Santa Fe Road & El Camino Del Norte	AWSC	AVC	June 2015	33.2	D	29.6	D	City of Encinitas
28	North Coast Highway 101 & Encinitas Boulevard	Signalized	AVC	June 2015	29.1	C	27.8	C	City of Encinitas
29	S Vulcan Avenue & Encinitas Boulevard	Signalized	AVC	June 2015	25.7	C	24.4	C	City of Encinitas
30	I-5 SB Ramps & Encinitas Boulevard	Signalized	AVC	June 2015	32.1	C	29.1	C	Caltrans
31	I-5 NB Ramps & Encinitas Boulevard	Signalized	AVC	June 2015	16.5	B	48.5	D	Caltrans
32	Saxony Road & Encinitas Boulevard	Signalized	AVC	June 2015	19.6	B	26.8	C	Caltrans
33	Quail Gardens Drive & Encinitas Boulevard	Signalized	AVC	June 2015	39.4	D	42.7	D	City of Encinitas
34	Balour Drive & Encinitas Boulevard	Signalized	AVC	June 2015	9.5	A	16.9	B	City of Encinitas
35	Via Cantabria & Encinitas Boulevard	Signalized	AVC	June 2015	7.7	A	31.5	C	City of Encinitas
36	El Camino Real & Encinitas Boulevard	Signalized	AVC	June 2015	48.0	D	77.2	E	City of Encinitas



**Table 3.3**  
**Existing AM / PM Peak Hour Intersection Level of Service**

ID	Intersection	Traffic Control	Count Source	Count Date	AM Peak Hour		PM Peak Hour		Jurisdiction
					Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS	
37	Village Square Drive & Encinitas Boulevard	Signalized	AVC	June 2015	13.3	B	40.2	D	City of Encinitas
38	Village Park Way & Encinitas Boulevard	Signalized	AVC	June 2015	18.1	B	20.7	C	City of Encinitas
39	Rancho Santa Fe Road & Encinitas Boulevard	Signalized	AVC	June 2015	48.6	D	40.7	D	City of Encinitas
40	San Elijo Avenue & Santa Fe Drive	AWSC	AVC	June 2015	35.9	E	14.9	B	City of Encinitas
41	I-5 SB Ramps & Santa Fe Drive	Signalized	AVC	June 2015	18.2	B	30.9	C	Caltrans
42	I-5 NB On-Ramp & Santa Fe Drive	Signalized	AVC	June 2015	5.3	A	19.2	B	Caltrans
43	I-5 NB Off-Ramp/Regal Road & Santa Fe Drive	Signalized	AVC	June 2015	28.2	C	52.8	D	Caltrans
44	MacKinnon Avenue & Santa Fe Drive	Signalized	AVC	June 2015	18.3	B	13.4	B	City of Encinitas
45	Balour Drive & Santa Fe Drive	SSSC	AVC	June 2015	28.4	D	18.9	C	City of Encinitas
46	Lake Drive & Santa Fe Drive	Signalized	AVC	June 2015	6.8	A	7.2	A	City of Encinitas
47	El Camino Real & Santa Fe Drive	Signalized	AVC	June 2015	13.5	B	12.8	B	City of Encinitas
48	San Elijo Avenue & Birmingham Drive	Signalized	AVC	June 2015	10.2	B	13.5	B	City of Encinitas



**Table 3.3**  
**Existing AM / PM Peak Hour Intersection Level of Service**

ID	Intersection	Traffic Control	Count Source	Count Date	AM Peak Hour		PM Peak Hour		Jurisdiction
					Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS	
49	I-5 SB Ramps & Birmingham Drive	SSSC	AVC	June 2015	133.3	<b>F</b>	34.4	D	Caltrans
50	I-5 NB Ramps & Birmingham Drive	AWSC	AVC	June 2015	41.7	<b>E</b>	38.7	<b>E</b>	Caltrans
51	I-5 SB Ramps & Manchester Avenue	AWSC	AVC	June 2015	40.5	<b>E</b>	22.9	C	Caltrans
52	I-5 NB Ramps & Manchester Avenue	Signalized	AVC	June 2015	22.1	C	20.0	C	Caltrans
53	El Camino Real & Manchester Avenue	Signalized	AVC	June 2015	23.2	C	16.9	B	City of Encinitas

Source: AVC, Chen Ryan Associates; January 2016

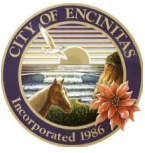
Notes:

Bold letter indicates substandard LOS E or F.

AWSC = All Way Stop Control.

SSSC = Side Street Stop Control.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.



### 3.4 Freeway Segment Analysis

One freeway facility, I-5, runs adjacent to Encinitas, carrying significant levels of traffic while providing regional access to and from the City.

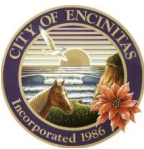
**Table 3.4** displays the LOS results from the freeway segment analysis for I-5. Year 2013 freeway Annual Average Daily Traffic (AADT) volumes were obtained from Caltrans' *2013 Traffic Volumes on California State Highways* and are included in **Appendix C**.

An HOV directional percentage was developed to account for the traffic volume that High Occupancy Vehicle (HOV) lanes carry. The directional percentage was derived based on ADT volumes comparison between the mainline lane and HOV lane for one week during the months of February, March, and April of 2015. The ADT volumes were obtained from the Caltrans Performance Measurement System (PEMS). The HOV percentage was applied to the total AADT by direction and then subtracted from the total AADT volume. A table showing the mainline AADT volumes and HOV lane volumes comparison is provided in **Appendix D**.

As shown in the table, all freeway segments within the study area are currently operate at LOS D or better with the exception of the following two (2) segments:

- I-5, between Leucadia Boulevard and Encinitas Boulevard – LOS E in the NB direction; and
- I-5, between Manchester Avenue and Lomas Santa Fe Drive – LOS E in the NB direction.





**Table 3.4  
Existing Freeway Segment Level of Service**

Freeway	Segment	AADT <sup>(a)</sup> *	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour Volume	V/C	LOS
I-5	Palomar Airport Road and Poinsettia Lane	201,000	NB	4M	9,400	57.8%	6.9%	4.8%	8,500	0.90	D
			SB	4M	9,400	54.2%	7.3%	4.8%	8,400	0.89	D
	Poinsettia Lane and La Costa Avenue	204,000	NB	4M	9,400	57.8%	6.9%	4.8%	8,600	0.91	D
			SB	4M	9,400	54.2%	7.3%	4.8%	8,500	0.90	D
	La Costa Avenue and Leucadia Boulevard	208,000	NB	4M	9,400	54.9%	7.1%	4.8%	8,600	0.91	D
			SB	4M	9,400	63.0%	5.7%	4.8%	7,900	0.84	D
	Leucadia Boulevard and Encinitas Boulevard	211,000	NB	4M	9,400	54.9%	7.1%	4.8%	8,700	0.93	<b>E</b>
			SB	4M	9,400	63.0%	5.7%	4.8%	8,000	0.85	D
	Encinitas Boulevard and Santa Fe Drive	210,000	NB	4M	9,400	54.2%	7.1%	4.8%	8,500	0.90	D
			SB	4M	9,400	53.8%	6.8%	4.8%	8,000	0.85	D
	Santa Fe Drive and Birmingham Drive	201,000	NB	4M	9,400	54.2%	7.1%	4.8%	8,100	0.86	D
			SB	4M	9,400	53.8%	6.8%	4.8%	7,700	0.82	D
	Birmingham Drive and Manchester Avenue	203,000	NB	4M	9,400	54.2%	7.1%	4.8%	8,200	0.87	D
			SB	4M	9,400	53.8%	6.8%	4.8%	7,800	0.83	D
	Manchester Avenue and Lomas Santa Fe Drive	215,970*	NB	3M+1A	8,460	54.2%	7.1%	4.8%	8,200	0.97	<b>E</b>
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	8,900	0.82	D
	Lomas Santa Fe Drive and Via De La Valle	208,844*	NB	4M+1A	10,810	54.2%	7.1%	4.8%	8,200	0.76	D
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	8,400	0.78	D

Source: Caltrans, 2013 Traffic Volumes on California State Highways, Chen Ryan Associates; January 2016

Notes:

Bold letter indicates unacceptable LOS E or F.

M = Mainline. A = Auxiliary Lane.

<sup>a</sup> Traffic volumes provided by Caltrans (2013). | \* Reduction of estimated HOV volume was applied to the AADT.

<sup>b</sup> The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.

<sup>c</sup> D = Directional split. | <sup>d</sup> K = Peak hour %. | <sup>e</sup> HV = Heavy vehicle %.



### 3.5 Ramp Intersection Capacity Analysis

Consistent with Caltrans requirements, the ramp intersections located at the freeway interchanges were analyzed using ILV procedures, as described in Section 2.6. ILV analysis results are displayed in **Table 3.5** and analysis worksheets for Existing conditions are provided in **Appendix E**.

**Table 3.5**  
**Existing Ramp Intersection Capacity Analysis**

#	Ramp Intersection	Peak Hour	ILV/Hour	Description
2	I-5 SB Ramps / Poinsettia Lane	AM	711	Under Capacity
		PM	963	Under Capacity
3	I-5 NB Ramps / Poinsettia Lane	AM	898	Under Capacity
		PM	931	Under Capacity
7	I-5 SB Ramps / La Costa Avenue	AM	1,062	Under Capacity
		PM	1,015	Under Capacity
8	I-5 NB Ramps / La Costa Avenue	AM	1,080	Under Capacity
		PM	1,003	Under Capacity
15	I-5 SB Ramps / Leucadia Boulevard	AM	712	Under Capacity
		PM	697	Under Capacity
16	I-5 NB Ramps / Leucadia Boulevard	AM	1,051	Under Capacity
		PM	1,353	At Capacity
30	I-5 SB Ramps / Encinitas Boulevard	AM	1,206	At Capacity
		PM	1,414	At Capacity
31	I-5 NB Ramps / Encinitas Boulevard	AM	1,042	Under Capacity
		PM	1,170	Under Capacity
41	I-5 SB Ramps / Santa Fe Drive	AM	1,018	Under Capacity
		PM	1,004	Under Capacity
42	I-5 NB On-Ramp / Santa Fe Drive	AM	641	Under Capacity
		PM	620	Under Capacity
43	I-5 NB Off-Ramp / Regal Road	AM	852	Under Capacity
		PM	924	Under Capacity
52	I-5 NB Ramps / Manchester Avenue	AM	1,091	Under Capacity
		PM	996	Under Capacity

Source: Chen Ryan Associates; January 2016



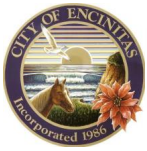
As shown in the table, all of the signalized ramp intersections are currently operating at “Under Capacity” or “At Capacity” conditions during both the AM and PM peak hours.

### 3.6 Ramp Metering Analysis

**Table 3.6** displays the ramp metering analysis conducted at the I-5 on-ramps at Poinsettia Lane, La Costa Avenue, Leucadia Boulevard, Encinitas Boulevard, Santa Fe Drive, Birmingham Drive, and Manchester Avenue under Existing conditions. Estimated HOV volumes were deducted from the total on-ramp peak hour volumes utilizing the same method as previously discussed in Section 3.4.

**Table 3.6**  
Existing Ramp Metering Analysis

Location	Peak Hour	Demand <sup>1</sup> (veh/hr)	Estimated SOV		Meter Rate <sup>3</sup> (veh/hr/ln)	Excess Demand <sup>4</sup> (veh/hr)	Delay beyond Peak Hour <sup>5</sup> (min)	Queue <sup>6</sup> (ft)
			Demand <sup>2</sup> (veh/hr)	Demand per Lane (veh/hr/ln)				
I-5 NB On-Ramp @ Poinsettia Lane	AM	568	488	488	Not Metered	0	0	0
	PM	428	330	330	720	0	0	0
I-5 SB On-Ramp @ Poinsettia Lane	AM	544	479	239	720	0	0	0
	PM	944	812	406	720	0	0	0
I-5 NB On-Ramp @ La Costa Avenue	AM	787	740	740	Not Metered	0	0	0
	PM	573	441	441	720	0	0	0
I-5 SB On-Ramp @ La Costa Avenue	AM	708	623	312	720	0	0	0
	PM	870	748	374	720	0	0	0
I-5 NB On-Ramp @ Leucadia Boulevard	AM	491	450	450	Not Metered	0	0	0
	PM	652	465	465	360	105	17.5	3,050
I-5 SB On-Ramp @ Leucadia Boulevard	AM	772	679	340	360	0	0	0
	PM	624	537	268	360	0	0	0
I-5 NB On-Ramp @ Encinitas Boulevard	AM	493	468	468	Not Metered	0	0	0
	PM	613	368	368	360	8	1.5	225
I-5 SB On-Ramp @ Encinitas Boulevard	AM	713	627	627	720	0	0	0
	PM	617	531	531	720	0	0	0
I-5 NB On-Ramp @ Santa Fe Drive	AM	515	515	515	Not Metered	0	0	0
	PM	566	566	566	720	0	0	0
I-5 SB On-Ramp @ Santa Fe Drive	AM	543	478	478	360	118	20.0	3,425
	PM	381	328	328	Not Metered	0	0	0
I-5 NB On-Ramp @ Birmingham Drive	AM	391	358	358	Not Metered	0	0	0
	PM	344	245	245	360	0	0	0



**Table 3.6  
Existing Ramp Metering Analysis**

Location	Peak Hour	Demand <sup>1</sup> (veh/hr)	Estimated SOV Demand <sup>2</sup> (veh/hr)	Demand per Lane (veh/hr/ln)	Meter Rate <sup>3</sup> (veh/hr/ln)	Excess Demand <sup>4</sup> (veh/hr)	Delay beyond Peak Hour <sup>5</sup> (min)	Queue <sup>6</sup> (ft)
I-5 SB On-Ramp @ Birmingham Drive	AM	1017	1,017	509	720	0	0	0
	PM	317	317	159	720	0	0	0
I-5 NB On-Ramp @ Manchester Avenue	AM	45	45	45	Not Metered	0	0	0
	PM	68	68	68	360	0	0	0
I-5 SB On-Ramp @ Manchester Avenue	AM	1606	1,606	803	720	83	7.0	2,400
	PM	796	796	398	720	0	0	0

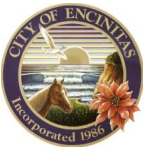
Source: Caltrans, Chen Ryan Associates; January 2016

Notes:

1. Demand is the peak hour demand expected to use the on-ramp.
2. HOV volumes was deducted from total demand volumes. SOV = Single Occupancy Vehicle.
3. Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans. The lowest rate within range was utilized for a more conservative calculation.
4. Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
5. Delay beyond Peak Hour = (Excess Demand / Meter Rate) X 60 min/hr. This delay represents how long the peak hour would need to be extended in order to accommodate the excess demand.
6. Queue = (Excess Demand) X 29 ft/veh.

As shown in the table, the majority of the I-5 on-ramps within the study area do not experience significant delays associated with ramp meters during the peak hours (over 15 minutes), with the following exceptions, where a delay of 15-minutes or more was calculated:

- I-5 NB On-Ramp @ Leucadia Boulevard – 17.5 minutes during the PM peak hour; and
- I-5 SB On-Ramp @ Santa Fe Drive – 20.0 minutes during the AM peak hour.



## 4.0 FUTURE YEAR 2035 TRAFFIC CONDITIONS

This chapter discusses quantifiable measures (such as trip generation and Vehicle Miles Traveled) and assesses the potential traffic impacts associated with each of the four (4) future year study scenarios, by comparing the future year analysis results to the Existing conditions. These four (4) scenarios include the No-Project scenario with the adopted General Plan land uses and three proposed housing strategies, such as “Ready-Made” Mixed Use Places Strategy (RM), “Build Your Own” Strategy (BYO), and “Modified Mixed Use Places” Strategy (MMUP).

### Proposed Housing Strategies

Through extensive community input, the City of Encinitas developed the following three (3) housing strategies that identify locations for future housing in each neighborhood:

- *“Ready-Made” Mixed Use Places Strategy* – The “Ready Made” housing strategy identifies future housing sites focused along the North Coast Highway 101/South Coast Highway 101 corridor and at key activity centers along Encinitas Boulevard. This housing strategy mixes new housing with retail and employment land uses, creating vibrant communities that are pedestrian and bicycle friendly.
- *“Build Your Own” Strategy* – The “Build Your Own” strategy compiles input received from all participants that opted to “build their own”. Participants identified two-and three-story mixed used housing on larger sites located along Encinitas Boulevard near Quail Gardens, off of El Camino Real, along North Coast Highway 101 in Leucadia, Santa Fe Avenue in Cardiff, and Manchester Avenue in Olivenhain.
- *“Modified Mixed Use Places” Strategy* – This strategy was generated by the City Council with significant consideration of the Planning Commission and public inputs. This third strategy is a modification of the “Ready Made” strategy and includes new sites that were suggested during the public participation process and removes certain highly objectionable sites based on public input received. In this strategy, more emphasis is placed on locating housing in areas served by transit and where the additional housing is complemented by existing pedestrian-oriented amenities.

Some common themes among the three strategies include:

- Mixed-use in key activity centers
- Two-and three-story buildings
- Opportunities to grow employment base and small businesses
- Create walkable places and social gathering opportunities
- Concern about adequate infrastructure
- Maintain unique character of communities
- Maintain small scale in built environment



Trip generation, Vehicle Miles Traveled (VMT), roadway segment, intersection, and freeway segment operations were evaluated, as appropriate. The various future year scenarios and types of analysis performed include:

- Trip Generation Analysis – all four future year scenarios;
- VMT Analysis – all four future year scenarios;
- Roadway and Freeway Segment Analyses - all four future year scenarios;
- Intersection, ILV, and Ramp Metering Analyses – “No-Project” and “Modified Mixed Use Places” (MMUP) Strategy. This is due to the fact that MMUP is anticipated to generate the highest traffic volumes and thus be considered as the worst case scenario. No-Project is also analyzed to provide the future year baseline comparison.

#### 4.1 Trip Generation and VMT

**Table 4.1** summarizes the daily trip generation and city-wide VMT for each of the future year scenarios. The trip generation was calculated based on the land use maps provided by the City and trip generation rates from the SANDAG’s *Guide to Vehicular Traffic Generation Rates for the SAN Diego Region*.

Vehicle Miles Traveled (VMT) information provided by SANDAG for the Encinitas Housing Element was based upon method recommended by the SB 375 Regional Targets Advisory Committee for allocating VMT to a study area for the purposes of a GHG analysis, including:

- Includes 100% of all Internal-Internal VMT;
- Includes 50% of all Internal-External or External-Internal VMT; and
- Exclude all External-External: all VMT.

Additional details regarding VMT calculation are provided in the “Vehicle Miles Traveled Calculations Using the SANDAG Regional Travel Demand Model” white paper published by SANDAG on May 2013.

[http://www.sandag.org/uploads/publicationid/publicationid\\_1795\\_16802.pdf](http://www.sandag.org/uploads/publicationid/publicationid_1795_16802.pdf)

**Table 4.1**  
**Trip Generation and VMT Summary**

Scenario	Daily Trip Generation	City-wide VMT (miles)
No-project	696,144	1,165,329
RM	712,505	1,185,279
BYO	720,710	1,200,486
MMUP	726,293	1,199,428

Source: SANDAG, Chen Ryan Associates; January 2016



To assist with the evaluation of the various land use strategies, the following two tables (**Table 4.2** and **Table 4.3**) were prepared to compare the VMT to Trip Generation Efficiency for each of the three proposed land uses strategies (RM, BYO, and MMUP) against the No-Project scenario. Table 4.2 displays a city-wide ratio (including all planned land uses in Encinitas), while Table 4.3 focuses more on the growth (over the No-Project) associated with each strategy.

**Table 4.2**  
**VMT to Trip Generation Efficiency – City-wide (all) Land Uses**

Scenario	Daily Trip Generation Ratio	VMT Ratio	VMT/Trip Gen Ratio (City-wide)	Efficiency Ranking
No-Project	100.0%	100.0%	1.000	4
RM	102.35%	101.71%	0.994	2
BYO	103.53%	103.02%	0.995	3
MMUP	104.33%	102.93%	0.987	1

Source: SANDAG, Chen Ryan Associates; January 2016

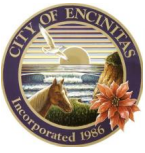
**Table 4.3**  
**VMT to Trip Generation Efficiency – Growth in Land Use Only**

Scenario	Change in Daily Trip Generation	Change in VMT	VMT/Trip Gen Ratio (LU Growth Only)	Efficiency Ranking
No-Project	0.0%	0.0%	1.000	4
RM	2.35%	1.71%	0.728	2
BYO	3.53%	3.02%	0.855	3
MMUP	4.33%	2.93%	0.676	1

Source: SANDAG, Chen Ryan Associates; January 2016

As shown in above tables, the VMT to Trip Generation ratios indicate that the MMUP strategy has the highest efficiency, followed by the RM and BYO strategies, and then the No-Project scenario. The VMT/Trip Generation ratio changes in Table 4.3 display more significant variations among the strategies when comparing to Table 4.2, and this is largely due to the isolation of the growth in trip generation versus city-wide trip generation (a much larger denominator).





## 4.2 Future Year 2035 Traffic Conditions

As described earlier in this chapter, four (4) future year scenarios (No-Project, RM, BYO, and MMUP) were analyzed. Potential traffic impacts associated with each of the housing plan scenarios were assessed by comparing the future year analysis results to the future No-Project scenario.

Roadway network under the four (4) different future year scenarios was assumed to be identical to the existing conditions, as seen in Figure 3-1 and Figure 3-3, with the addition of any funded transportation projects in the respective jurisdictions. Based on inputs from all involved agencies (Caltrans, Encinitas, Carlsbad, Solana Beach, and the County of San Diego), Caltrans' I-5 North Coast Corridor project was the only improvement assumed for the future year 2035 analysis that is different than the existing roadway network for this TIS. This freeway widening project will ultimately improve I-5, from La Jolla Village Drive in San Diego to Harbor Drive in Oceanside, to eight all-purpose lanes and four express lanes.

The City of Encinitas General Plan Update SANDAG Series 12 Year 2035 Sub-Area model was used as a base to develop the Year 2035 No Project (Adopted General Plan), RM (Ready Made), BYO (Build Your Own), and MMUP (Modified Mixed Use Places) models.

The future year model was developed by inputting the future year land uses for each housing element alternative and roadway network into the sub-area model, with the following adjustments/assumptions:

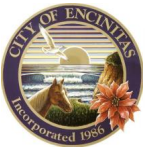
- Buildout of the proposed land uses for each of the housing sites.
- Forecast land uses for non-housing sites within the City of Encinitas – The land use information was provided by City staff.
- Year 2035 land uses outside of the City of Encinitas.
- Existing roadway network improvements from reasonably foreseeable improvement projects.

The model inputs described above were reviewed by the project team and approved by City staff prior to running the model forecasts. In order to ensure that the future year forecast volume are conservative and higher than existing condition, additional manual adjustments were made to roadway segments where the model projected a lower future year. Modeling adjustment documentation is provided in **Appendix F**.

### 4.2.1 No-Project Scenario

#### Roadway Segment Analysis

**Table 4.4** displays the level of service analysis results for the study area roadway segments under the No-Project scenario. **Figure 4-1** displays the projected average daily traffic volumes, the anticipated roadway level of service results, as well as intersection level of service.



As shown in Table 4.4, the following twenty-eight (28) roadway segments within the project study area are projected to operate at substandard level of service E or F under future year No-Project conditions, with twenty-two (22) located in Encinitas, five (5) located in Carlsbad, and one (1) located in the County of San Diego.

#### City of Encinitas (22)

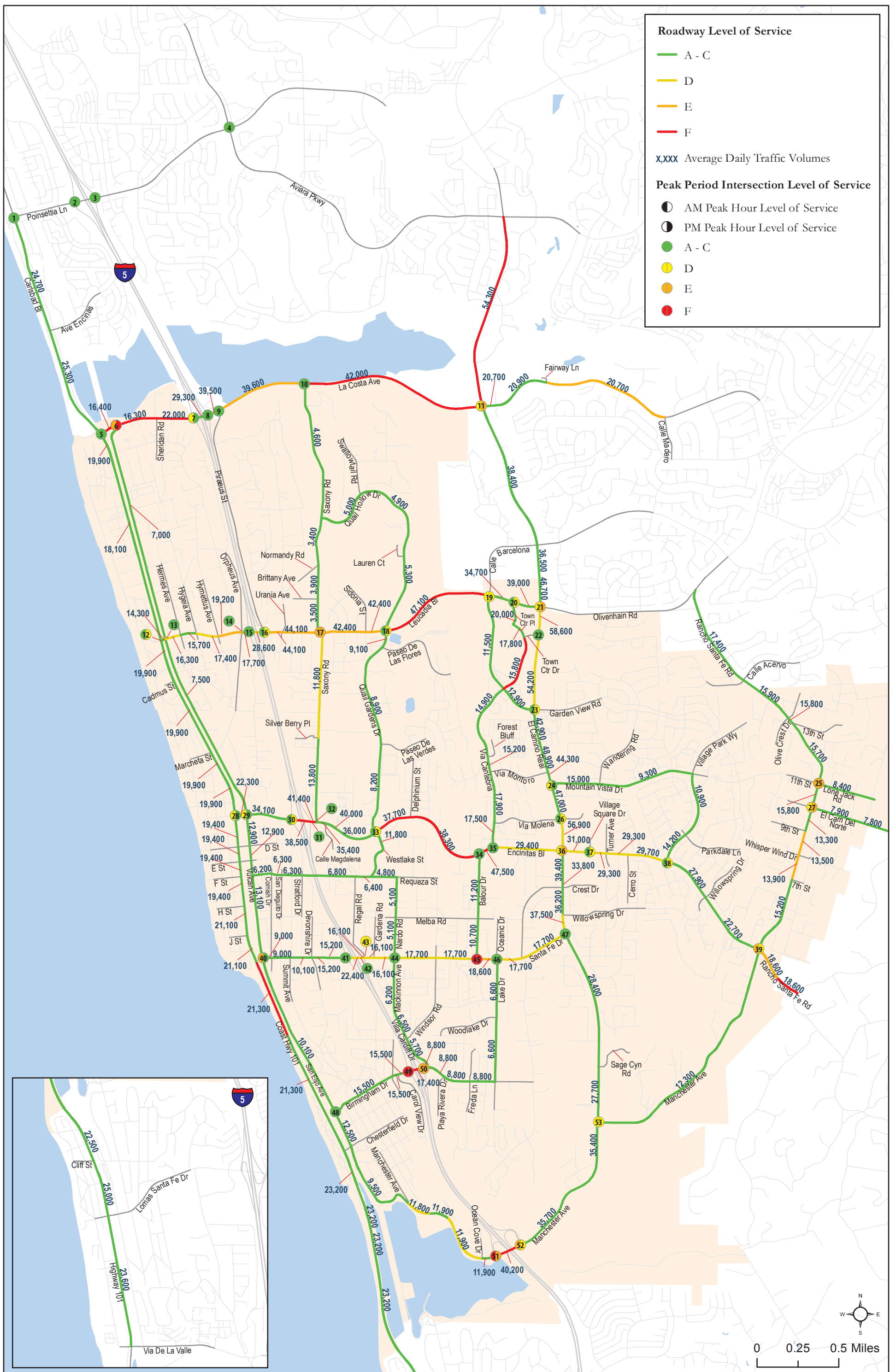
- South Coast Highway 101, between Swami's Parking and San Elijo State Beach – LOS F;
- Via Cantebria, between Town Center Drive and Garden View Road – LOS F (Not a CE road);
- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – LOS E;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – LOS E;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – LOS F;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – LOS F;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – LOS F;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – LOS F;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – LOS E;
- Leucadia Boulevard, between Piraeus Street and Urania Avenue – LOS E;
- Leucadia Boulevard, between Urania Avenue and Saxony Road – LOS E;
- Leucadia Boulevard, between Saxony Road and Sidonia Street – LOS E;
- Leucadia Boulevard, between Sidonia Street and Quail Gardens Drive – LOS E;
- Leucadia Boulevard, between Quail Gardens Drive and Garden View Road – LOS F;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – LOS F;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – LOS F;
- Encinitas Boulevard, between Quail Gardens Drive and Delphinium Street – LOS F;
- Encinitas Boulevard, between Delphinium Street and Balour Drive – LOS F;
- Encinitas Boulevard, between Balour Drive and Via Cantebria – LOS F;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits – LOS E;
- Santa Fe Drive, between Balour Drive and Lake Drive – LOS E; and
- Birmingham Drive, between I-5 SB Ramps and I-5 NB Ramps – LOS F.

#### City of Carlsbad (5)

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

#### County of San Diego (1)

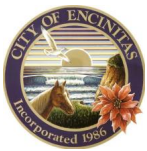
- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.



Encinitas Housing Element TIS

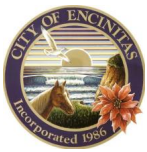
Figure 4-1

Future Year 2035 Roadway ADT and LOS and Intersection LOS - No-Project



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

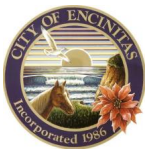
Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Carlsbad Blvd	Between Poinsettia Lane and Avenida Encinas	4-Lane Major Arterial	25,300	40,000	0.633	C	City of Carlsbad
	Between Avenida Encinas and La Costa Avenue	4-Lane Major Arterial	24,700	40,000	0.618	C	City of Carlsbad
North Coast Highway 101	Between La Costa Avenue and 600 feet south of La Costa Avenue	4-Lane Major Roadway	19,900	35,200	0.565	C or better	City of Encinitas
	Between 600 feet south of La Costa Avenue and Leucadia Blvd	3-Lane Major Roadway <sup>2</sup>	18,100	26,400	0.686	C or better	City of Encinitas
	Between Leucadia Blvd and Cadmus Street	4-Lane Major Roadway	19,900	35,200	0.565	C or better	City of Encinitas
	Between Cadmus Street and Marcheta Street	4-Lane Major Roadway	19,900	35,200	0.565	C or better	City of Encinitas
	Between Marcheta Street and 660 feet south of Marcheta Street	4-Lane Major Roadway	19,900	35,200	0.565	C or better	City of Encinitas
	Between 660 feet south of Marcheta Street and Encinitas Blvd	4-Lane Major Roadway	19,900	35,200	0.565	C or better	City of Encinitas
South Coast Highway 101	Between Encinitas Blvd and D Street	4-Lane Major Roadway	19,400	35,200	0.551	C or better	City of Encinitas
	Between D Street and E Street	4-Lane Major Roadway	19,400	35,200	0.551	C or better	City of Encinitas
	Between E Street and F Street	4-Lane Major Roadway	19,400	35,200	0.551	C or better	City of Encinitas
	Between F Street and H Street	4-Lane Major Roadway	19,400	35,200	0.551	C or better	City of Encinitas
	Between H Street and J Street	4-Lane Major Roadway	21,100	35,200	0.599	C or better	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

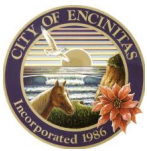
Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
South Coast Highway 101	Between J Street and Swami's Parking	3-Lane Major Roadway <sup>2</sup>	21,100	26,400	0.799	C or better	City of Encinitas
	Between Swami's Parking and San Elijo State Beach	2-Lane Local Roadway	21,300	14,000	1.521	F	City of Encinitas
	Between San Elijo State Beach and Chesterfield	4-Lane Major Roadway	21,300	35,200	0.605	C or better	City of Encinitas
	Between Chesterfield and Cardiff State Beach traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	City of Encinitas
	Between Cardiff Beach State and Chart House traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	City of Encinitas
	Between Chart House traffic signal and Las Olas Mexican Restaurant traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	City of Encinitas
	Between Las Olas Mexican Restaurant traffic signal and City of Solana Beach boundary	4-Lane Major Roadway	23,200	35,200	0.659	C or better	City of Encinitas
North Highway 101	Between City of Solana Beach boundary and West Cliff Street	4-Lane Major Arterial	22,500	40,000	0.563	C	City of Solana Beach
	Between West Cliff and Lomas Santa Fe	4-Lane Major Arterial	25,000	40,000	0.625	C	City of Solana Beach
	Between Lomas Santa Fe Drive and Via De La Valle	4-Lane Major Arterial	23,600	40,000	0.590	C	City of Solana Beach
Vulcan Avenue	Between La Costa Avenue and Leucadia Boulevard	2-Lane Local Roadway	7,000	14,000	0.500	C or better	City of Encinitas
	Between Leucadia Blvd and Encinitas Boulevard	2-Lane Local Roadway	7,500	14,000	0.536	C or better	City of Encinitas
	Between Encinitas Boulevard and D Street	4-Lane Collector	12,900	32,400	0.398	C or better	City of Encinitas





**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Vulcan Avenue	Between D Street and E Street	4-Lane Collector	12,900	32,400	0.398	C or better	City of Encinitas
	Between E Street and Santa Fe Drive	2-Lane Local Roadway – Augmented	13,100	20,000	0.655	C or better	City of Encinitas
San Elijo Avenue	Between Santa Fe Drive and Birmingham Drive	2-Lane Local Roadway	10,100	14,000	0.721	C or better	City of Encinitas
	Between Birmingham Drive and Chesterfield Drive	2-Lane Local Roadway - Augmented	12,500	20,000	0.625	C or better	City of Encinitas
	Between Chesterfield Drive and Manchester Avenue	2-Lane Local Roadway - Augmented	9,500	20,000	0.475	C or better	City of Encinitas
Saxony Road	Between La Costa Avenue and Quail Gardens Drive	2-Lane Local Roadway	4,600	14,000	0.329	C or better	City of Encinitas
	Between Quail Hollow Drive and Normandy Road	2-Lane Local Roadway	3,400	14,000	0.243	C or better	City of Encinitas
	Between Normandy Road and Brittany Avenue	2-Lane Local Roadway	3,900	14,000	0.279	C or better	City of Encinitas
	Between Brittany Avenue and Leucadia Boulevard	2-Lane Local Roadway	3,500	14,000	0.250	C or better	City of Encinitas
	Between Leucadia Boulevard and Silver Berry Place	2-Lane Local Roadway	11,800	14,000	0.843	D	City of Encinitas
	Between Silver Berry Place and Encinitas Boulevard	2-Lane Local Roadway – Augmented	13,800	20,000	0.690	C or better	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Quail Hollow Drive	Between Swallow Tail Road and Saxony Road	2-Lane Local Roadway	5,000	14,000	0.357	C or better	City of Encinitas
Quail Gardens Drive	Between Swallow Tail Road and Lauren Court	2-Lane Local Roadway - Augmented	4,900	20,000	0.245	C or better	City of Encinitas
	Between Lauren Court and Leucadia Boulevard	2-Lane Local Roadway - Augmented	5,300	20,000	0.265	C or better	City of Encinitas
	Between Leucadia Boulevard and Paseo De Las Flores	2-Lane Local Roadway - Augmented	9,100	20,000	0.455	C or better	City of Encinitas
	Between Paseo De Las Flores and Paseo De Las Verdes	2-Lane Local Roadway - Augmented	8,900	20,000	0.445	C or better	City of Encinitas
	Between Paseo De Las Verdes and Encinitas Boulevard	2-Lane Local Roadway - Augmented	8,200	20,000	0.410	C or better	City of Encinitas
Westlake Street	Between Encinitas Boulevard and Requeza Street	2-Lane Local Roadway - Augmented	11,800	20,000	0.590	C or better	City of Encinitas
Nardo Drive	Between Requeza Street and Melba Road	2-Lane Local Roadway	5,100	14,000	0.364	C or better	City of Encinitas
	Between Melba Road and Santa Fe Drive	2-Lane Local Roadway	5,100	14,000	0.364	C or better	City of Encinitas





**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
MacKinnon Avenue	Between Santa Fe Drive and Villa Cardiff Drive	2-Lane Local Roadway	6,200	14,000	0.443	C or better	City of Encinitas
Villa Cardiff Drive	Between MacKinnon Avenue and Windsor Road	2-Lane Local Roadway	6,500	14,000	0.464	C or better	City of Encinitas
	Between Windsor Road and Birmingham Drive	2-Lane Local Roadway	5,700	14,000	0.407	C or better	City of Encinitas
Garden View Road	Between Leucadia Boulevard and Via Cantebria	4-Lane Major Roadway	11,500	35,200	0.327	C or better	City of Encinitas
	Between Via Cantebria and El Camino Real	4-Lane Major Roadway	12,900	35,200	0.366	C or better	City of Encinitas
Town Center Place	Between Leucadia Boulevard and Town Center Place	4-Lane Collector (Not a CE)	20,000	32,400	0.617	C or better	City of Encinitas
	Between Town Center Place and Town Center Drive	4-Lane Collector (Not a CE)	17,800	32,400	0.549	C or better	City of Encinitas
Via Cantebria	Between Town Center Drive and Garden View Road	2-Lane Local Roadway(Not a CE)	15,800	14,000	1.129	<b>F</b>	City of Encinitas
	Between Garden View Road and Forrest Bluff	3-Lane Collector <sup>3</sup>	14,900	24,300	0.613	C or better	City of Encinitas
	Between Forrest Bluff and Via Montoro	4-Lane Collector	15,200	32,400	0.469	C or better	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Via Cantebria	Between Via Montoro and Via Molena	4-Lane Collector	17,900	32,400	0.552	C or better	City of Encinitas
	Between Via Molena and Encinitas Boulevard	4-Lane Collector	17,500	32,400	0.540	C or better	City of Encinitas
Balour Drive	Between Encinitas Boulevard and Melba Road	2-Lane Local Roadway	11,200	14,000	0.800	C or better	City of Encinitas
	Between Melba Road and Santa Fe Drive	2-Lane Local Roadway	10,700	14,000	0.764	C or better	City of Encinitas
Lake Drive	Between Santa Fe Drive and Woodlake Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	City of Encinitas
	Between Woodlake Drive and Birmingham Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	City of Encinitas
El Camino Real	Between Aviara Parkway and La Costa Avenue	5-Lane Prime Arterial <sup>4</sup>	54,300	50,000	1.086	F	City of Carlsbad
	Between La Costa Avenue and Calle Barcelona	6-Lane Prime Arterial	38,400	60,000	0.640	C	City of Carlsbad
	Between Calle Barcelona and City of Carlsbad boundary	6-Lane Prime Arterial	36,500	60,000	0.608	C	City of Carlsbad
	Between City of Carlsbad boundary and Leucadia Boulevard	6-Lane Prime Arterial - Augmented	46,700	66,000	0.708	C or better	City of Encinitas



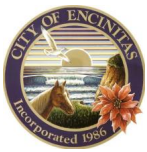
**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
El Camino Real	Between Leucadia Boulevard and Town Center Drive	6-Lane Prime Arterial - Augmented	58,600	66,000	0.888	D	City of Encinitas
	Between Town Center Drive and Garden View Road	6-Lane Prime Arterial - Augmented	54,200	66,000	0.821	D	City of Encinitas
	Between Garden View Road and 331-339 El Camino Real	6-Lane Prime Arterial - Augmented	42,900	66,000	0.650	C or better	City of Encinitas
	Between 331-339 El Camino Real and Via Montoro	6-Lane Prime Arterial - Augmented	48,900	66,000	0.741	C or better	City of Encinitas
	Between Via Montoro and Mountain Vista	6-Lane Prime Arterial - Augmented	44,300	66,000	0.671	C or better	City of Encinitas
	Between Mountain Vista and Via Molena	6-Lane Prime Arterial - Augmented	47,000	66,000	0.712	C or better	City of Encinitas
	Between Via Molena and Encinitas Boulevard	6-Lane Prime Arterial - Augmented	56,900	66,000	0.862	D	City of Encinitas
	Between Encinitas Boulevard and 213 S El Camino Real	6-Lane Prime Arterial	39,400	57,000	0.691	C or better	City of Encinitas
	Between 213 S El Camino Real and Crest Drive	6-Lane Prime Arterial	33,800	57,000	0.593	C or better	City of Encinitas
	Between Crest Drive and Willowspring Drive	6-Lane Prime Arterial	36,200	57,000	0.635	C or better	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
El Camino Real	Between Willowspring Drive and Santa Fe Drive	4 Lane Major Roadway-Augmented	37,500	45,400	0.826	D	City of Encinitas
	Between Santa Fe Drive and Sage Canyon Drive	4 Lane Major Roadway-Augmented	28,400	45,400	0.626	C or better	City of Encinitas
	Between Sage Canyon Drive and Manchester Avenue	4-Lane Major Roadway	27,700	35,200	0.787	C or better	City of Encinitas
Village Park Way	Between Mountain Vista Drive and Parkdale Drive	4-Lane Major Roadway	10,900	35,200	0.310	C or better	City of Encinitas
	Between Parkdale Drive and Encinitas Boulevard	4-Lane Major Roadway	14,200	35,200	0.403	C or better	City of Encinitas
Rancho Santa Fe Road	Between Olivenhain Road and Calle Acervo	4-Lane Major Arterial	17,400	40,000	0.435	B	City of Carlsbad
	Between Calle Acervo/Avenida La Posta and Olive Crest Drive	2-Lane Local Roadway – Augmented	15,900	20,000	0.795	C or better	City of Encinitas
	Between Olive Crest Drive and 13th Street	2-Lane Local Roadway – Augmented	15,800	20,000	0.790	C or better	City of Encinitas
	Between 13th Street and 11th Street	2-Lane Local Roadway - Augmented	15,700	20,000	0.785	C or better	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Rancho Santa Fe Road	Between 11th Street and El Camino Del Norte	2-Lane Local Roadway - Augmented	15,800	20,000	0.790	C or better	City of Encinitas
	Between El Camino Del Norte and 9th Street	2-Lane Local Roadway - Augmented	13,300	20,000	0.665	C or better	City of Encinitas
	Between 9th Street and 8th Street	2-Lane Local Roadway	13,500	14,000	0.964	E	City of Encinitas
	Between 8th Street and 7th Street	2-Lane Local Roadway	13,900	14,000	0.993	E	City of Encinitas
	Between 7th Street and Encinitas Boulevard	2-Lane Local Roadway - Augmented	15,200	20,000	0.760	C or better	City of Encinitas
Manchester Avenue	Between Encinitas Boulevard and El Camino Real	2-Lane Local Roadway – Augmented	12,300	20,000	0.615	C or better	City of Encinitas
	Between Manchester Avenue and Mira Costa College	4 Lane Major Roadway- Augmented	35,400	45,400	0.780	C or better	City of Encinitas
	Between Mira Costa College and I-5 NB On-Ramp	4 Lane Major Roadway- Augmented	35,700	45,400	0.786	C or better	City of Encinitas
	Between I-5 NB Ramps and I-5 SB Ramps	2-Lane Local Roadway - Augmented	40,200	20,000	2.010	F	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

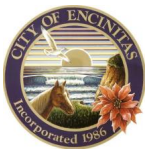
Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Manchester Avenue	Between I-5 SB Ramps and Ocean Cove Drive	2-Lane Local Roadway - Augmented	11,900	20,000	0.595	C or better	City of Encinitas
	Between Ocean Cove Drive and Seaside Cardiff-by-the-sea residential area driveway	2-Lane Local Roadway	11,900	14,000	0.850	D	City of Encinitas
	Between Seaside Cardiff-by-the-sea residential area driveway and San Elijo Water Reclamation Facility Driveway	2-Lane Local Roadway - Augmented	11,900	20,000	0.595	C or better	City of Encinitas
	Between San Elijo Water Reclamation Facility Driveway and Manchester Avenue	2-Lane Local Roadway	11,800	14,000	0.843	D	City of Encinitas
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	2-Lane Local Roadway	16,400	14,000	1.171	F	City of Encinitas
	Between Vulcan Avenue and Sheridan Road	2-Lane Local Roadway	16,300	14,000	1.164	F	City of Encinitas
	Between Sheridan Road and I-5 SB Ramps	2-Lane Local Roadway - Augmented	22,000	20,000	1.100	F	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Arterial	29,300	40,000	0.733	C	City of Carlsbad
	Between I-5 NB Ramps and Piraeus Street	5-Lane Major Arterial <sup>5</sup>	39,500	41,667	0.948	E	City of Carlsbad
	Between Piraeus Street and Saxony Road	4-Lane Major Arterial	39,600	40,000	0.990	E	City of Carlsbad



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
La Costa Avenue	Between Saxony Road and El Camino Real	4-Lane Major Arterial	42,000	40,000	1.050	F	City of Carlsbad
	Between El Camino Real and La Costa Towne Center traffic signal	4-Lane Major Arterial	20,700	40,000	0.518	B	City of Carlsbad
	Between La Costa Towne Center traffic signal and Fairway Lane	4-Lane Major Arterial	20,900	40,000	0.523	B	City of Carlsbad
	Between Fairway Lane and Calle Madero	3-Lane Collector <sup>6</sup>	20,700	22,500	0.920	E	City of Carlsbad
Leucadia Blvd	Between North Coast Highway 101 and Vulcan Avenue	4-Lane Collector	14,300	32,400	0.441	C or better	City of Encinitas
	Between Vulcan Avenue and Hermes Avenue	2-Lane Local Roadway - Augmented	16,300	20,000	0.815	D	City of Encinitas
	Between Hermes Avenue and Hygeia Avenue	2-Lane Local Roadway - Augmented	15,700	20,000	0.785	C or better	City of Encinitas
	Between Hygeia Avenue and Hymettus Avenue	2-Lane Local Roadway - Augmented	17,400	20,000	0.870	D	City of Encinitas
	Between Hymettus Avenue and Orpheus Avenue	2-Lane Local Roadway - Augmented	19,200	20,000	0.960	E	City of Encinitas
	Between Orpheus Avenue and I-5 SB Ramps	4-Lane Major Roadway	17,700	35,200	0.503	C or better	City of Encinitas





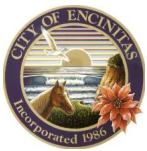
**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Leucadia Boulevard	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Roadway	28,600	35,200	0.813	D	City of Encinitas
	Between Piraeus Street and Urania Avenue	4 Lane Major Roadway-Augmented	44,100	45,400	0.971	E	City of Encinitas
	Between Urania Avenue and Saxony Road	4 Lane Major Roadway-Augmented	44,100	45,400	0.971	E	City of Encinitas
	Between Saxony Road and Sidonia Street	4 Lane Major Roadway-Augmented	42,400	45,400	0.934	E	City of Encinitas
	Between Sidonia Street and Quail Gardens Drive	4 Lane Major Roadway-Augmented	42,400	45,400	0.934	E	City of Encinitas
	Between Quail Gardens Drive and Garden View Road	4 Lane Major Roadway-Augmented	47,100	45,400	1.037	F	City of Encinitas
	Between Garden View Road and Town Center Place	4 Lane Major Roadway-Augmented	34,700	45,400	0.764	C or better	City of Encinitas
	Between Town Center Place and El Camino Real	6-Lane Prime Arterial	39,000	57,000	0.684	C or better	City of Encinitas
Mountain Vista Drive	Between El Camino Real and Wandering Road	2-Lane Local Roadway - Augmented	15,000	20,000	0.750	C or better	City of Encinitas
	Between Wandering Road and Village Park Way	2-Lane Local Roadway - Augmented	9,300	20,000	0.465	C or better	City of Encinitas



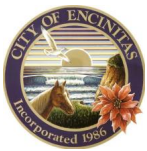
**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Lone Jack Drive	Between Rancho Santa Fe Road and northern terminus	2-Lane Local Roadway	8,400	14,000	0.600	C or better	City of Encinitas
El Camino Del Norte	Between Rancho Santa Fe Road and San Dieguito CPA boundary	2-Lane Local Roadway	7,900	14,000	0.564	C or better	City of Encinitas
	Between San Dieguito CPA boundary to Via De Fortuna	2-Lane Light Collector with Reduced Shoulder	7,800	9,700	0.804	D	County of San Diego
Encinitas Blvd	Between North Coast Highway 101 and Vulcan Avenue	4-Lane Collector	22,300	32,400	0.688	C or better	City of Encinitas
	Between Vulcan Avenue and I-5 SB Ramps	4-Lane Major Roadway – Augmented	34,100	45,400	0.751	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Roadway	38,500	35,200	1.094	F	City of Encinitas
	Between I-5 NB Ramps and Saxony Road	4-Lane Major Roadway	41,400	35,200	1.176	F	City of Encinitas
	Between Saxony Road and Calle Magdalena	6-Lane Prime Arterial - Augmented	35,400	66,000	0.536	C or better	City of Encinitas



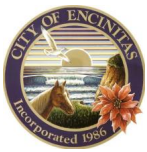
**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Encinitas Blvd	Between Calle Magdalena and Encinitas Town Country traffic signal	6-Lane Prime Arterial	40,000	57,000	0.702	C or better	City of Encinitas
	Between Encinitas Town Country traffic signal and Quail Gardens Drive	4-Lane Major Roadway-Augmented	36,000	45,400	0.793	C or better	City of Encinitas
	Between Quails Garden Drive and Delphinium Street	4-Lane Major Roadway	37,700	35,200	1.071	F	City of Encinitas
	Between Delphinium Street and Balour Drive	4-Lane Major Roadway	38,300	35,200	1.088	F	City of Encinitas
	Between Balour Drive and Via Cantebria	4-Lane Major Roadway	47,500	35,200	1.349	F	City of Encinitas
	Between Via Cantebria and El Camino Real	4-Lane Major Roadway	29,400	35,200	0.835	D	City of Encinitas
	Between El Camino Real and Village Square Drive	4-Lane Major Roadway	31,000	35,200	0.881	D	City of Encinitas
	Between Village Square Drive and Turner Avenue	4-Lane Major Roadway	29,300	35,200	0.832	D	City of Encinitas
	Between Turner Avenue and Cerro Street	4-Lane Major Roadway	29,300	35,200	0.832	D	City of Encinitas
	Between Cerro Street and Village Park Way	4-Lane Major Roadway	29,700	35,200	0.844	D	City of Encinitas
	Between Village Park Way to Willowspring Drive	4-Lane Major Roadway	27,900	35,200	0.793	C or better	City of Encinitas
	Between Willowspring Drive to Rancho Santa Fe Road	4-Lane Major Roadway	22,700	35,200	0.645	C or better	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	2-Lane Local Roadway - Augmented	18,580	20,000	0.930	E	City of Encinitas
	Between City of Encinitas Limits and El Mirlo	2-Lane Light Collector with Reduced Shoulder	18,580	9,700	1.915	F	County of San Diego
F Street	Between Vulcan Avenue and Cornish Drive	2-Lane Local Roadway	6,200	14,000	0.443	C or better	City of Encinitas
Requeza Street	Between Cornish Drive and San Dieguito Drive	2-Lane Local Roadway	6,300	14,000	0.450	C or better	City of Encinitas
	Between San Dieguito Drive and Stratford Drive	2-Lane Local Roadway	6,300	14,000	0.450	C or better	City of Encinitas
	Between Stratford Drive and Regal Road	2-Lane Local Roadway	6,800	14,000	0.486	C or better	City of Encinitas
	Between Regal Road and West Lake Drive	2-Lane Local Roadway	6,400	14,000	0.457	C or better	City of Encinitas
	Between West Lake Drive and Nardo Drive	2-Lane Local Roadway	4,800	14,000	0.343	C or better	City of Encinitas
Santa Fe Drive	Between Vulcan Avenue and Cornish Drive	2-Lane Local Roadway	9,000	14,000	0.643	C or better	City of Encinitas
	Between Cornish Drive and Summit Avenue	2-Lane Local Roadway	9,000	14,000	0.643	C or better	City of Encinitas



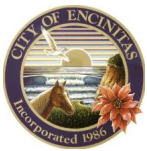
**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Santa Fe Drive	Between Summit Avenue and Devonshire	2-Lane Local Roadway	10,100	14,000	0.721	C or better	City of Encinitas
	Between Devonshire Drive and Scripps Memorial Hospital Encinitas traffic signal	2-Lane Local Roadway - Augmented	15,200	20,000	0.760	C or better	City of Encinitas
	Between Scripps Memorial Hospital Encinitas traffic signal and I-5 SB Ramps	4-Lane Collector	15,200	32,400	0.469	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	3-Lane Major Roadway	22,400	26,400	0.848	D	City of Encinitas
	Between I-5 NB Ramps and Regal Road	2-Lane Local Roadway - Augmented	16,100	20,000	0.805	D	City of Encinitas
	Between Regal Road and Gardena Road	2-Lane Local Roadway - Augmented	16,100	20,000	0.805	D	City of Encinitas
	Between Gardena Road and Nardo Road	2-Lane Local Roadway - Augmented	16,100	20,000	0.805	D	City of Encinitas
	Between Nardo Road and Windsor Road/Bonita Drive	2-Lane Local Roadway - Augmented	17,700	20,000	0.885	D	City of Encinitas
	Between Windsor Road/Bonita Drive and Balour Drive	2-Lane Local Roadway - Augmented	17,700	20,000	0.885	D	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Santa Fe Drive	Between Balour Drive and Lake Drive	2-Lane Local Roadway - Augmented	18,600	20,000	0.930	E	City of Encinitas
	Between Lake Drive and Crest Drive	2-Lane Local Roadway – Augmented	17,700	20,000	0.885	D	City of Encinitas
	Between Crest Drive and El Camino Real	2-Lane Local Roadway - Augmented	17,700	20,000	0.885	D	City of Encinitas
Birmingham Drive	Between San Elijo Avenue and MacKinnon Avenue	2-Lane Local Roadway – Augmented	15,500	20,000	0.775	C or better	City of Encinitas
	Between MacKinnon Avenue and Carol View Drive	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	City of Encinitas
	Between Carol View Drive and I-5 SB Ramps	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	2-Lane Local Roadway	17,400	14,000	1.243	F	City of Encinitas
	Between I-5 NB Ramps and Villa Cardiff Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	City of Encinitas
	Between Villa Cardiff Drive and Playa Riviera	2-Lane Local Roadway	8,800	14,000	0.629	C or better	City of Encinitas



**Table 4.4  
Roadway Segment Level of Service – Future Year 2035 No-Project**

Roadway	Segment	Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	Jurisdiction
Birmingham Drive	Between Playa Riviera and Freda Lane	2-Lane Local Roadway	8,800	14,000	0.629	C or better	City of Encinitas
	Between Freda Lane and Lake Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	City of Encinitas

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates substandard LOS E or F.

<sup>1</sup> Functional Classification is representative of existing segment functionality and does not take into consideration the ultimate or final classification.

<sup>2</sup> 3-Lane Major Roadway is 75% capacity of a 4-Lane Major Roadway.

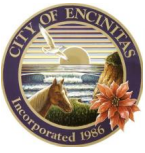
<sup>3</sup> 3-Lane Collector is 75% capacity of a 4-Lane Collector.

<sup>4</sup> 5-Lane Prime is 84% capacity of 6-Lane Prime Arterial (SANTEC).

<sup>5</sup> 5-Lane Major is 84% capacity of 6-Lane Major Arterial (SANTEC).

<sup>6</sup> 3-Lane Collector is 75% capacity of 4-Lane Collector (SANTEC).





## Intersection Analysis

**Figure 4-2** shows projected turning movement volumes for both the AM and PM peak hour under No-Project conditions. Future Year 2035 - No Project daily roadway volumes were derived from the aforementioned SANDAG Series 12 Transportation Forecast Model. Peak hour intersection turning movements were developed by comparing existing daily roadway segment volumes to the forecasted Future Year 2035 daily volumes contained in the SANDAG model. Based on this comparison, Future Year 2035 respective growth rates were applied to existing peak hour intersection approach and departure volumes. Manual adjustments were also made to ensure that traffic volumes among adjacent intersections are reasonably balanced.

**Table 4.5** summarizes the level of service analysis results for the 53 key study area intersections, conducted using the methodologies outlined in Chapter 2. Intersection level of service worksheets are provided in **Appendix G**. Figure 4-1 displays the projected intersection LOS analysis results under No-Project conditions.

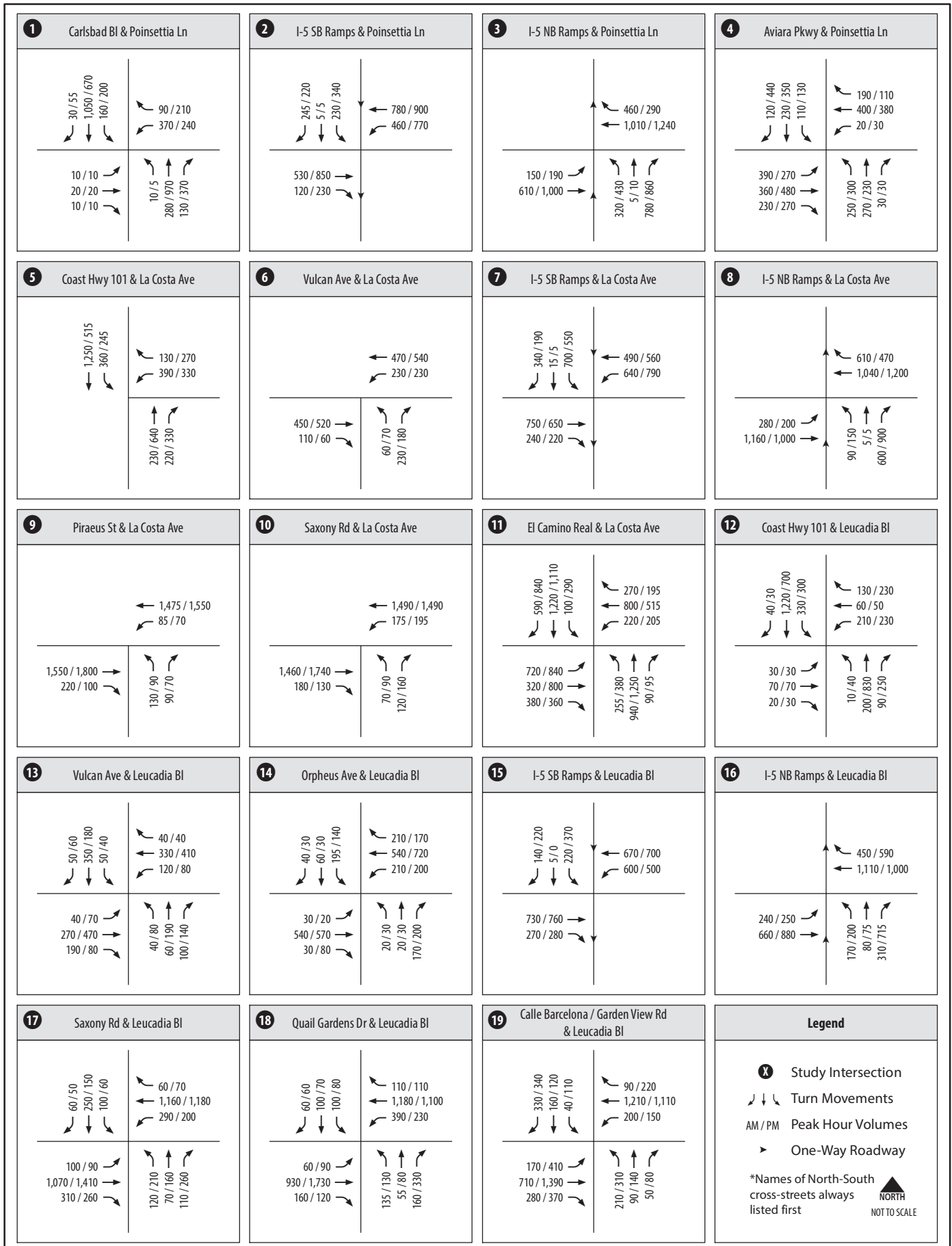
As shown in Table 4.5, the following fourteen (14) intersections, including thirteen (13) in the City of Encinitas and one (1) in the City of Carlsbad are projected to operate at a substandard LOS E or F:

### City of Encinitas (13)

- 6. Vulcan Avenue & La Costa Avenue – LOS E during AM peak hour and LOS F during PM peak hour;
- 17. Saxony Road & Leucadia Boulevard – LOS E during both AM and PM peak hours;
- 21. El Camino Real & Leucadia Boulevard – LOS E during PM peak hour;
- 25. Rancho Santa Fe Road & Lone Jack Road – LOS E during both AM and PM peak hours;
- 27. Rancho Santa Fe Road & El Camino Del Norte – LOS E during PM peak hour;
- 36. El Camino Real & Encinitas Boulevard – LOS E during PM peak hour;
- 39. Rancho Santa Fe Road & Encinitas Boulevard – LOS E during AM peak hour;
- 40. San Elijo Avenue & Santa Fe Drive – LOS E during AM peak hour;
- 45. Balour Drive & Santa Fe Drive – LOS F during both AM and PM peak hours;
- 49. I-5 SB Ramps & Birmingham Drive – LOS F during both AM and PM peak hours;
- 50. I-5 NB Ramps & Birmingham Drive – LOS E during both AM and PM peak hours;
- 51. I-5 SB Ramps & Manchester Avenue – LOS F during AM peak hour and LOS E during PM peak hour; and
- 52. I-5 NB Ramps & Manchester Avenue – LOS E during AM peak hour.

### City of Carlsbad (1)

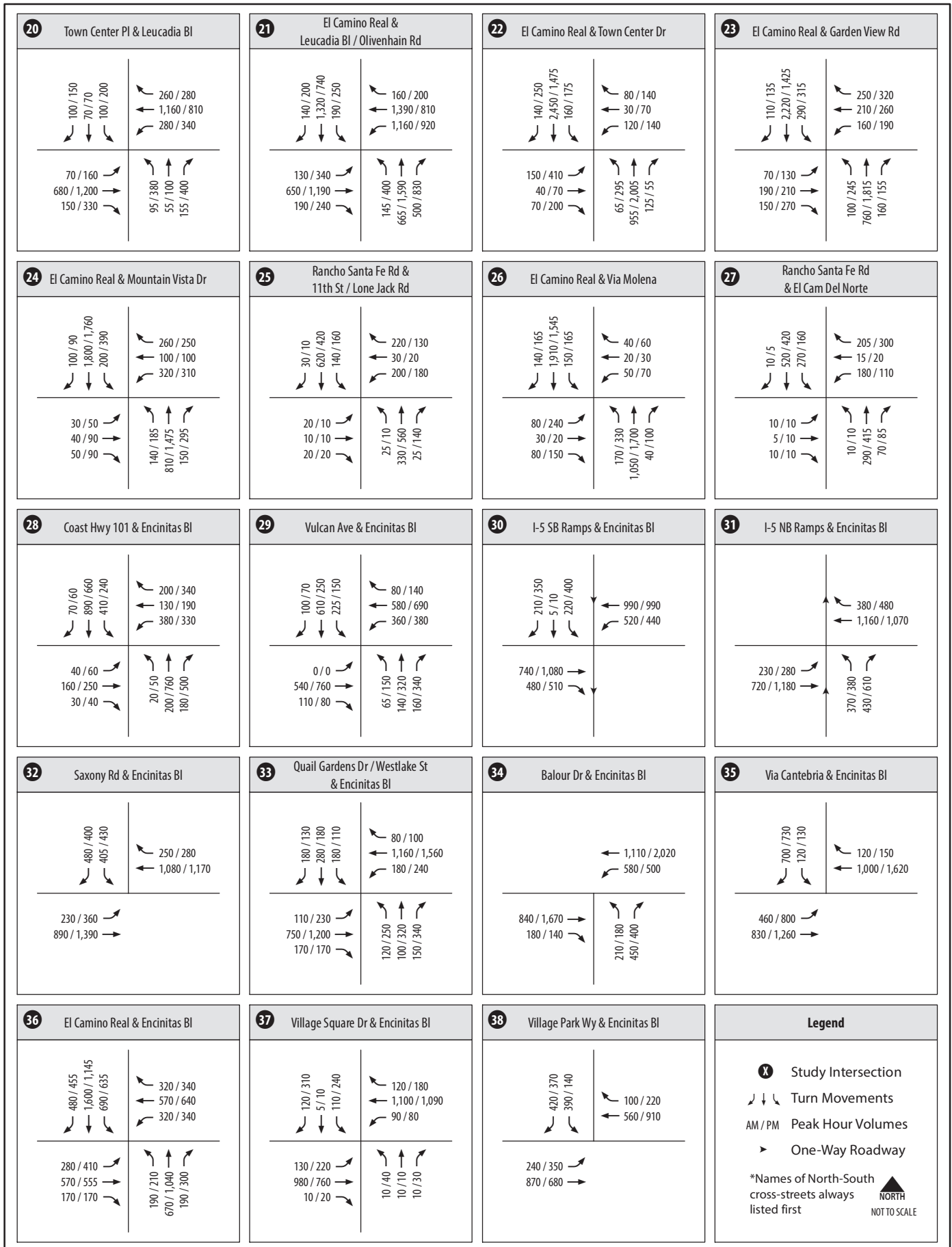
- 11. El Camino Real & La Costa Avenue – LOS E during PM peak hour.



Encinitas Housing Element TIS

Figure 4-2

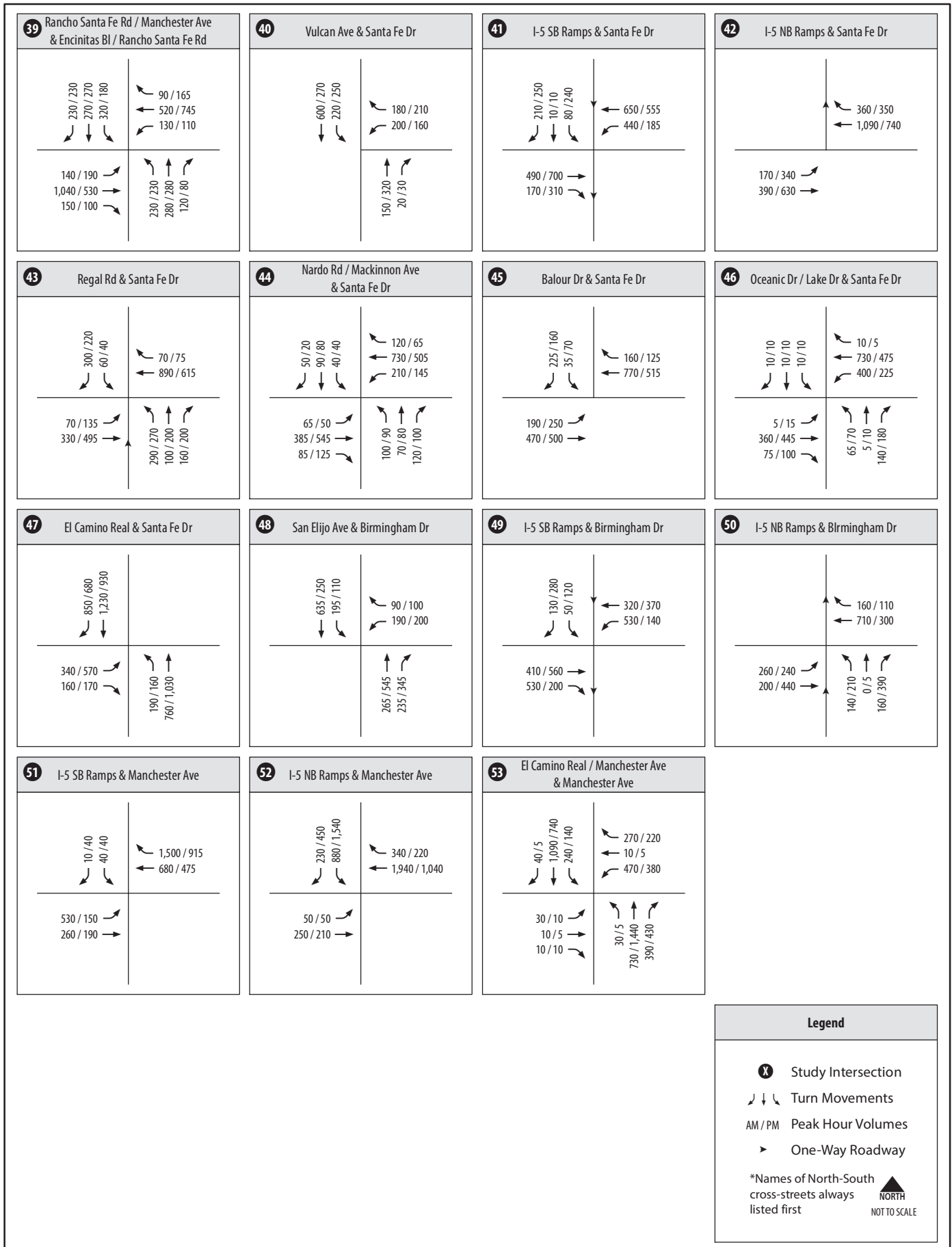
AM/PM Future Year 2035 Intersection Volumes - No-Project  
(Intersections 1-19)



Encinitas Housing Element TIS

Figure 4-2

AM/PM Future Year 2035 Intersection Volumes - No-Project  
(Intersections 20-38)



Encinitas Housing Element TIS

Figure 4-2



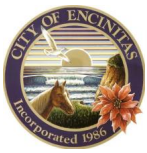
**Table 4.5  
AM / PM Peak Hour Intersection Level of Service – Future Year 2035 No-Project Conditions**

ID	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour		Jurisdiction
			Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS	
1	Carlsbad Boulevard & Poinsettia Lane	Signalized	11.7	B	10.6	B	City of Carlsbad
2	I-5 SB Ramps & Poinsettia Lane	Signalized	15.2	B	21.6	C	Caltrans
3	I-5 NB Ramps & Poinsettia Lane	Signalized	32.4	C	29.7	C	Caltrans
4	Aviara Parkway & Poinsettia Lane	Signalized	29.1	C	30.8	C	City of Carlsbad
5	North Coast Highway 101 & La Costa Avenue	Signalized	18.8	B	16.8	B	City of Encinitas
6	Vulcan Avenue & La Costa Avenue	SSSC	45.2	E	96.4	F	City of Encinitas
7	I-5 SB Ramps & La Costa Avenue	Signalized	44.3	D	34.1	C	Caltrans
8	I-5 NB Ramps & La Costa Avenue	Signalized	28.2	C	31.2	C	Caltrans
9	Piraeus Street & La Costa Avenue	Signalized	22.4	C	34.9	C	Caltrans
10	Saxony Road & La Costa Avenue	Signalized	19.2	B	28.3	C	City of Carlsbad
11	El Camino Real & La Costa Avenue	Signalized	51.7	D	58.3	E	City of Carlsbad
12	North Coast Highway 101 & Leucadia Boulevard	Signalized	30.1	C	35.3	D	City of Encinitas
13	Vulcan Avenue & Leucadia Boulevard	Signalized	12.5	B	11.9	B	City of Encinitas
14	Orpheus Avenue & Leucadia Boulevard	Signalized	17.1	B	16.5	B	Caltrans
15	I-5 SB Ramps & Leucadia Boulevard	Signalized	14.5	B	16.3	B	Caltrans
16	I-5 NB Ramps & Leucadia Boulevard	Signalized	13.3	B	36.4	D	Caltrans
17	Saxony Road & Leucadia Boulevard	Signalized	60.8	E	79.4	E	City of Encinitas
18	Quail Gardens Drive & Leucadia Boulevard	Signalized	31.8	C	42.8	D	City of Encinitas
19	Garden View Road & Leucadia Boulevard	Signalized	47.1	D	53.7	D	City of Encinitas
20	Town Center Place & Leucadia Boulevard	Signalized	24.6	C	43.9	D	City of Encinitas



**Table 4.5  
AM / PM Peak Hour Intersection Level of Service – Future Year 2035 No-Project Conditions**

ID	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour		Jurisdiction
			Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS	
21	El Camino Real & Leucadia Boulevard	Signalized	48.7	D	67.3	E	City of Encinitas
22	El Camino Real & Town Center Drive	Signalized	11.6	B	23.5	C	City of Encinitas
23	El Camino Real & Garden View Road	Signalized	27.7	C	49.6	D	City of Encinitas
24	El Camino Real & Mountain Vista Drive	Signalized	49.4	D	30.9	C	City of Encinitas
25	Rancho Santa Fe Road & Lone Jack Road	AWSC	40.1	E	41.1	E	City of Encinitas
26	El Camino Real & Via Molena	Signalized	27.0	C	35.1	D	City of Encinitas
27	Rancho Santa Fe Road & El Camino Del Norte	AWSC	34.6	D	41.9	E	City of Encinitas
28	North Coast Highway 101 & Encinitas Boulevard	Signalized	35.3	D	34.0	C	City of Encinitas
29	S Vulcan Avenue & Encinitas Boulevard	Signalized	39.1	D	32.3	C	City of Encinitas
30	I-5 SB Ramps & Encinitas Boulevard	Signalized	29.1	C	47.8	D	Caltrans
31	I-5 NB Ramps & Encinitas Boulevard	Signalized	20.9	C	27.5	C	Caltrans
32	Saxony Road & Encinitas Boulevard	Signalized	32.0	C	17.3	B	Caltrans
33	Quail Gardens Drive & Encinitas Boulevard	Signalized	32.2	C	53.9	D	City of Encinitas
34	Balour Drive & Encinitas Boulevard	Signalized	12.1	B	17.7	B	City of Encinitas
35	Via Cantabria & Encinitas Boulevard	Signalized	21.5	C	20.7	C	City of Encinitas
36	El Camino Real & Encinitas Boulevard	Signalized	50.7	D	70.4	E	City of Encinitas
37	Village Square Drive & Encinitas Boulevard	Signalized	18.4	B	44.5	D	City of Encinitas
38	Village Park Way & Encinitas Boulevard	Signalized	26.0	C	44.8	D	City of Encinitas



**Table 4.5  
AM / PM Peak Hour Intersection Level of Service – Future Year 2035 No-Project Conditions**

ID	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour		Jurisdiction
			Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS	
39	Rancho Santa Fe Road & Encinitas Boulevard	Signalized	77.1	<b>E</b>	48.0	D	City of Encinitas
40	San Elijo Avenue & Santa Fe Drive	AWSC	37.0	<b>E</b>	18.8	C	City of Encinitas
41	I-5 SB Ramps & Santa Fe Drive	Signalized	24.3	C	30.7	C	Caltrans
42	I-5 NB On-Ramp & Santa Fe Drive	Signalized	5.5	A	4.1	A	Caltrans
43	I-5 NB Off-Ramp/Regal Road & Santa Fe Drive	Signalized	38.5	D	42.9	D	Caltrans
44	MacKinnon Avenue & Santa Fe Drive	Signalized	28.5	C	20.1	C	City of Encinitas
45	Balour Drive & Santa Fe Drive	SSSC	84.7	<b>F</b>	51.7	<b>F</b>	City of Encinitas
46	Lake Drive & Santa Fe Drive	Signalized	9.3	A	8.9	A	City of Encinitas
47	El Camino Real & Santa Fe Drive	Signalized	20.0	B	23.4	C	City of Encinitas
48	San Elijo Avenue & Birmingham Drive	Signalized	13.0	B	24.2	C	City of Encinitas
49	I-5 SB Ramps & Birmingham Drive	SSSC	250.6	<b>F</b>	47.5	<b>E</b>	Caltrans
50	I-5 NB Ramps & Birmingham Drive	AWSC	45.5	<b>E</b>	41.1	<b>E</b>	Caltrans
51	I-5 SB Ramps & Manchester Avenue	AWSC	54.5	<b>F</b>	35.5	<b>E</b>	Caltrans
52	I-5 NB Ramps & Manchester Avenue	Signalized	57.5	<b>E</b>	45.0	D	Caltrans
53	El Camino Real & Manchester Avenue	Signalized	36.2	D	38.8	D	City of Encinitas

Source: Chen Ryan Associates; January 2016

Notes:

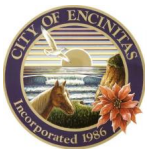
Bold letter indicates substandard LOS E or F.

AWSC = All Way Stop Control.

SSSC = Side Street Stop Control.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.





## Freeway Segment Analysis

**Table 4.6** displays freeway segment LOS analysis results for the key I-5 freeway segments in the vicinity of the project study area under the No-Project conditions. Average Daily Traffic (ADT) volumes were obtained from the City of Encinitas subarea model. The traffic volumes anticipated in the HOV lanes were subtracted from the total ADT. As a result, Table 4.6 only reports I-5 mainline traffic volumes and operations. A table showing the mainline ADT and HOV lane volume comparisons is provided in **Appendix H**.

**Table 4.6**  
**Freeway Segment Level of Service – Future Year 2035 No-Project Conditions**

Freeway	Segment	ADT <sup>(a)</sup> *	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour Volume	V/C	LOS
I-5	Palomar Airport Road and Poinsettia Lane	201,800	NB	4M+1A	10,810	51.3%	6.9%	4.8%	7,500	0.69	C
			SB	4M+1A	10,810	54.2%	7.3%	4.8%	8,400	0.78	C
	Poinsettia Lane and La Costa Avenue	200,000	NB	4M	9,400	51.9%	6.9%	4.8%	7,600	0.81	D
			SB	4M	9,400	54.2%	7.3%	4.8%	8,300	0.88	D
	La Costa Avenue and Leucadia Boulevard	196,700	NB	4M	9,400	51.4%	7.1%	4.8%	7,600	0.81	D
			SB	4M+1A	10,810	63.0%	5.7%	4.8%	7,500	0.69	C
	Leucadia Boulevard and Encinitas Boulevard	117,200	NB	4M+1A	10,810	87.1%	7.1%	4.8%	7,700	0.71	C
			SB	4M	9,400	63.0%	5.7%	4.8%	4,400	0.47	B
	Encinitas Boulevard and Santa Fe Drive	196,900	NB	4M	9,400	51.2%	7.1%	4.8%	7,500	0.80	D
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,500	0.69	C
	Santa Fe Drive and Birmingham Drive	196,300	NB	4M+1A	10,810	52.3%	7.1%	4.8%	7,700	0.71	C
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,500	0.69	C
	Birmingham Drive and Manchester Avenue	198,500	NB	4M+1A	10,810	54.1%	7.1%	4.8%	8,000	0.74	C
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,600	0.70	C



**Table 4.6**  
**Freeway Segment Level of Service – Future Year 2035 No-Project Conditions**

Freeway	Segment	ADT <sup>(a)</sup> *	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour	V/C	LOS
									Volume		
I-5	Manchester Avenue and Lomas Santa Fe Drive	247,700	NB	4M+1A	10,810	50.1%	7.1%	4.8%	9,300	0.86	D
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	9,500	0.88	D
	Lomas Santa Fe Drive and Via De La Valle	250,200	NB	4M+1A	10,810	50.5%	7.1%	4.8%	9,400	0.87	D
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	9,600	0.89	D

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates unacceptable LOS E or F.

M = Mainline. A = Auxiliary Lane.

\*Reduction of estimated HOV volume was applied to the ADT.

<sup>a</sup> Traffic volumes obtained from SANDAG's "No-Project" model (2015).

<sup>b</sup> The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.

<sup>c</sup> D = Directional split.

<sup>d</sup> K = Peak hour %.

<sup>e</sup> HV = Heavy vehicle %.

As shown in Table 4.6, all freeway segments within the study area are projected to operate at LOS D or better under No-Project conditions. The I-5 North Coast Improvement project, which will ultimately improve I-5, from La Jolla Village Drive in San Diego to Harbor Drive in Oceanside, to eight all-purpose lanes and four HOV lanes, was assumed under this scenario.

**Ramp Intersection Capacity Analysis**

Consistent with Caltrans requirements, the ramp intersections located at the freeway interchanges were analyzed using ILV procedures, as described in Section 2.6. ILV analysis results are displayed in **Table 4.7** and analysis worksheets for No-Project conditions are provided in **Appendix I**.

**Table 4.7**  
**Ramp Intersection Capacity Analysis – No-Project Conditions**

#	Ramp Intersection	No-Project Conditions		
		Peak Hour	ILV/Hour	Description
2	I-5 SB Ramps / Poinsettia Lane	AM	740	Under Capacity
		PM	1,030	Under Capacity
3	I-5 NB Ramps / Poinsettia Lane	AM	1,000	Under Capacity
		PM	1,044	Under Capacity
7	I-5 SB Ramps / La Costa Avenue	AM	1,275	At Capacity
		PM	1,220	At Capacity



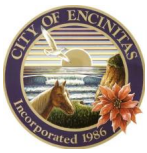
**Table 4.7  
Ramp Intersection Capacity Analysis – No-Project Conditions**

#	Ramp Intersection	No-Project Conditions		
		Peak Hour	ILV/Hour	Description
8	I-5 NB Ramps / La Costa Avenue	AM	1,205	At Capacity
		PM	1,125	Under Capacity
15	I-5 SB Ramps / Leucadia Boulevard	AM	805	Under Capacity
		PM	850	Under Capacity
16	I-5 NB Ramps / Leucadia Boulevard	AM	1,225	At Capacity
		PM	1,531	<b>Over Capacity</b>
30	I-5 SB Ramps / Encinitas Boulevard	AM	1,595	<b>Over Capacity</b>
		PM	1,900	<b>Over Capacity</b>
31	I-5 NB Ramps / Encinitas Boulevard	AM	1,240	At Capacity
		PM	1,425	At Capacity
41	I-5 SB Ramps / Santa Fe Drive	AM	1,140	Under Capacity
		PM	1,135	Under Capacity
42	I-5 NB On-Ramp / Santa Fe Drive	AM	715	Under Capacity
		PM	710	Under Capacity
43	I-5 NB Off-Ramp / Regal Road	AM	1062	Under Capacity
		PM	1,150	Under Capacity
52	I-5 NB Ramps / Manchester Avenue	AM	1,460	At Capacity
		PM	1,340	At Capacity

Source: Chen Ryan Associates; January 2016

As shown, all of the signalized ramp intersections are projected to operate at “Under Capacity” or “At Capacity” conditions during both the AM and PM peak hours, with the exception of the following:

- I-5 NB Ramps / Leucadia Boulevard – Over Capacity during PM peak hour; and
- I-5 SB Ramps / Encinitas Boulevard – Over Capacity during both AM and PM peak hours.



## Ramp Metering Analysis

**Table 4.8** displays the ramp metering analysis conducted at the I-5 on-ramps at Poinsettia Lane, La Costa Avenue, Leucadia Boulevard, Encinitas Boulevard, Santa Fe Drive, Birmingham Drive, and Manchester Avenue under No-Project conditions. Estimated HOV volumes were deducted from the total on-ramp peak hour volumes utilizing the method previously discussed in Section 3.4. To be conservative, existing ramp metering rates were assumed for this analysis.

**Table 4.8**  
**Ramp Metering Analysis - No-Project Conditions**

Location	Peak Hour	Demand <sup>1</sup> (veh/hr)	Estimated SOV Demand <sup>2</sup> (veh/hr)	Demand per Lane (veh/hr/ln)	Meter Rate <sup>3</sup> (veh/hr/ln)	Excess Demand (veh/hr)	Delay beyond Peak Hour (min)	Queue (ft)
I-5 NB On-Ramp @ Poinsettia Lane	AM	615	529	529	Not Metered	0	0	0
	PM	490	377	377	720	0	0	0
I-5 SB On-Ramp @ Poinsettia Lane	AM	585	515	257	720	0	0	0
	PM	1005	864	432	720	0	0	0
I-5 NB On-Ramp @ La Costa Avenue	AM	895	841	841	Not Metered	0	0	0
	PM	675	520	520	720	0	0	0
I-5 SB On-Ramp @ La Costa Avenue	AM	895	788	394	720	0	0	0
	PM	1015	873	436	720	0	0	0
I-5 NB On-Ramp @ Leucadia Boulevard	AM	418	383	383	Not Metered	0	0	0
	PM	664	474	474	360	114	19.0	3,300
I-5 SB On-Ramp @ Leucadia Boulevard	AM	875	770	385	360	25	4.5	725
	PM	780	671	335	360	0	0	0
I-5 NB On-Ramp @ Encinitas Boulevard	AM	610	580	580	Not Metered	0	0	0
	PM	760	456	456	360	96	16.0	2,775
I-5 SB On-Ramp @ Encinitas Boulevard	AM	1005	884	884	720	164	14.0	4,750
	PM	960	826	826	720	106	9.0	3,075



**Table 4.8  
Ramp Metering Analysis - No-Project Conditions**

Location	Peak Hour	Demand <sup>1</sup> (veh/hr)	Estimated SOV Demand <sup>2</sup> (veh/hr)	Demand per Lane (veh/hr/ln)	Meter Rate <sup>3</sup> (veh/hr/ln)	Excess Demand (veh/hr)	Delay beyond Peak Hour (min)	Queue (ft)
I-5 NB On-Ramp @ Santa Fe Drive	AM	530	530	530	Not Metered	0	0	0
	PM	690	690	690	720	0	0	0
I-5 SB On-Ramp @ Santa Fe Drive	AM	610	537	537	360	177	30.0	5,125
	PM	505	434	434	Not Metered	0	0	0
I-5 NB On-Ramp @ Birmingham Drive	AM	485	445	445	Not Metered	0	0	0
	PM	495	353	353	360	0	0	0
I-5 SB On-Ramp @ Birmingham Drive	AM	1200	1,200	600	720	0	0	0
	PM	490	490	245	720	0	0	0
I-5 NB On-Ramp @ Manchester Avenue	AM	390	390	390	Not Metered	0	0	0
	PM	270	270	270	360	0	0	0
I-5 SB On-Ramp @ Manchester Avenue	AM	2030	2,030	1015	720	295	25.0	8,550
	PM	1065	1,065	533	720	0	0	0

Source: Chen Ryan Associates; January 2016

Notes:

1. Demand is the peak hour demand expected to use the on-ramp.
2. HOV volumes was deducted from total demand volumes. SOV = Single Occupancy Vehicle.
3. Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans. The lowest rate within range was utilized for a more conservative calculation.
4. Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
5. Delay beyond Peak Hour = (Excess Demand / Meter Rate) X 60 min/hr. This delay represents how long the peak hour would need to be extended in order to accommodate the excess demand.
6. Queue = (Excess Demand) X 29 ft/veh.

As shown, the majority of the I-5 on-ramps within the study area are not projected to experience significant delays associated with ramp meters during peak hours (over 15 minutes of delay), with the following exceptions, where a delay of 15-minute or more was calculated:

- I-5 NB On-Ramp @ Leucadia Boulevard – 19.0 minutes during PM peak hour;
- I-5 NB On-Ramp @ Encinitas Boulevard – 16.0 minutes during PM peak hour;
- I-5 SB On-Ramp @ Santa Fe Drive – 30.0 minutes during AM peak hour; and
- I-5 SB On-Ramp @ Manchester Avenue – 25.0 minutes during AM peak hour.



## 4.2.2 “Ready-Made” Strategy

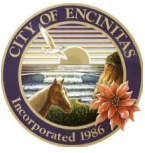
### Roadway Segment Analysis

**Table 4.9** displays the level of service analysis results for study area roadway segments under No-Project conditions and with the implementation of the Ready-Made strategy. **Figure 4-3** displays the projected average daily traffic volumes and the anticipated level of service for each roadway segment.

As shown in Table 4.9, the following thirty-three (33) roadway segments within the project study area are projected to operate at substandard level of service E or F under the Ready-Made strategy, with twenty-seven (27) located in Encinitas, five (5) located in Carlsbad, and one (1) located in the County of San Diego.

#### City of Encinitas (27)

- South Coast Highway 101, between Swami’s Parking and San Elijo State Beach – LOS F;
- Via Cantabria, between Town Center Drive and Garden View Road – LOS F (Not a CE road);
- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – LOS E;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – LOS F;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Blvd – LOS E;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – LOS F;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – LOS F;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – LOS F;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – LOS F;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – LOS F;
- Leucadia Boulevard, between Piraeus Street and Urania Avenue – LOS E;
- Leucadia Boulevard, between Urania Avenue and Saxony Road – LOS E;
- Leucadia Boulevard, between Saxony Road and Sidonia Street – LOS E;
- Leucadia Boulevard, between Sidonia Street and Quail Gardens Drive – LOS E;
- Leucadia Boulevard, between Quail Gardens Drive and Garden View Road – LOS F;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – LOS F;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – LOS F;
- Encinitas Boulevard, between Quail Gardens Drive and Delphinium Street – LOS F;
- Encinitas Boulevard, between Delphinium Street and Balour Drive – LOS F;
- Encinitas Boulevard, between Balour Drive and Via Cantabria – LOS F;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits – LOS E;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – LOS E;
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive – LOS E;
- Santa Fe Drive, between Balour Drive and Lake Drive – LOS E;
- Santa Fe Drive, between Lake Drive and Crest Drive – LOS E;
- Santa Fe Drive, between Crest Drive and El Camino Real – LOS E; and  
Birmingham Drive, between I-5 SB Ramps and I-5 NB Ramps – LOS F.



### City of Carlsbad (5)

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

### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.

Out of the 33 deficient roadway segments, the following fifteen (15) segments are anticipated to be impacted under the Ready-Made strategy, based on the significance criteria outlined in Section 2.8:

### City of Encinitas (14)

- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – LOS E;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – LOS F;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Boulevard – LOS E;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – LOS F;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – LOS F;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – LOS F;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – LOS F;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – LOS F;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits– LOS E;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – LOS E;
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive – LOS E;
- Santa Fe Drive, between Balour Drive and Lake Drive – LOS E;
- Santa Fe Drive, between Lake Drive and Crest Drive – LOS E; and
- Santa Fe Drive, between Crest Drive and El Camino Real – LOS E.

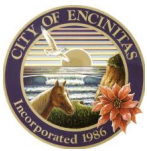
### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.

Mitigation measures addressing these roadway segment impacts are discussed in Chapter 5.







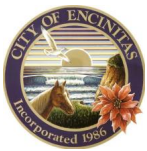
**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Carlsbad Blvd	Between Poinsettia Lane and Avenida Encinas	4-Lane Major Arterial	25,500	40,000	0.638	C	25,300	0.633	C	0.004	City of Carlsbad	No
	Between Avenida Encinas and La Costa Avenue	4-Lane Major Arterial	25,400	40,000	0.635	C	24,700	0.618	C	0.017	City of Carlsbad	No
North Coast Highway 101	Between La Costa Avenue and 600 feet south of La Costa Avenue	4-Lane Major Roadway	21,600	35,200	0.614	C or better	19,900	0.565	C or better	0.049	City of Encinitas	No
	Between 600 feet south of La Costa Avenue and Leucadia Blvd	3-Lane Major Roadway <sup>2</sup>	20,500	26,400	0.777	C or better	18,100	0.686	C or better	0.091	City of Encinitas	No
	Between Leucadia Blvd and Cadmus Street	4-Lane Major Roadway	20,900	35,200	0.594	C or better	19,900	0.565	C or better	0.029	City of Encinitas	No
	Between Cadmus Street and Marcheta Street	4-Lane Major Roadway	20,900	35,200	0.594	C or better	19,900	0.565	C or better	0.029	City of Encinitas	No
	Between Marcheta Street and 660 feet south of Marcheta Street	4-Lane Major Roadway	20,900	35,200	0.594	C or better	19,900	0.565	C or better	0.029	City of Encinitas	No
	Between 660 feet south of Marcheta Street and Encinitas Blvd	4-Lane Major Roadway	19,300	35,200	0.548	C or better	19,900	0.565	C or better	-0.017	City of Encinitas	No
South Coast Highway 101	Between Encinitas Blvd and D Street	4-Lane Major Roadway	19,200	35,200	0.545	C or better	19,400	0.551	C or better	-0.006	City of Encinitas	No



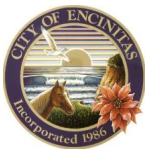
**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
South Coast Highway 101	Between D Street and E Street	4-Lane Major Roadway	19,200	35,200	0.545	C or better	19,400	0.551	C or better	-0.006	City of Encinitas	No
	Between E Street and F Street	4-Lane Major Roadway	19,200	35,200	0.545	C or better	19,400	0.551	C or better	-0.006	City of Encinitas	No
	Between F Street and H Street	4-Lane Major Roadway	19,200	35,200	0.545	C or better	19,400	0.551	C or better	-0.006	City of Encinitas	No
	Between H Street and J Street	4-Lane Major Roadway	20,800	35,200	0.591	C or better	21,100	0.599	C or better	-0.008	City of Encinitas	No
	Between J Street and Swami's Parking	3-Lane Major Roadway <sup>2</sup>	20,800	26,400	0.788	C or better	21,100	0.799	C or better	-0.011	City of Encinitas	No
	Between Swami's Parking and San Elijo State Beach	2-Lane Local Roadway	21,000	14,000	1.500	F	21,300	1.521	F	-0.021	City of Encinitas	No
	Between San Elijo State Beach and Chesterfield	4-Lane Major Roadway	21,500	35,200	0.611	C or better	21,300	0.605	C or better	0.006	City of Encinitas	No
	Between Chesterfield and Cardiff State Beach traffic signal	4-Lane Major Roadway	23,300	35,200	0.662	C or better	23,200	0.659	C or better	0.003	City of Encinitas	No
	Between Cardiff Beach State and Chart House traffic signal	4-Lane Major Roadway	23,300	35,200	0.662	C or better	23,200	0.659	C or better	0.003	City of Encinitas	No
	Between Chart House traffic signal and Las Olas Mexican Restaurant traffic signal	4-Lane Major Roadway	23,300	35,200	0.662	C or better	23,200	0.659	C or better	0.003	City of Encinitas	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
South Coast Highway 101	Between Las Olas Mexican Restaurant traffic signal and City of Solana Beach boundary	4-Lane Major Roadway	23,300	35,200	0.662	C or better	23,200	0.659	C or better	0.003	City of Encinitas	No
North Highway 101	Between City of Solana Beach boundary and West Cliff Street	4-Lane Major Arterial	22,600	40,000	0.565	C	22,500	0.563	C	0.002	City of Solana Beach	No
	Between West Cliff and Lomas Santa Fe	4-Lane Major Arterial	25,100	40,000	0.628	C	25,000	0.625	C	0.002	City of Solana Beach	No
	Between Lomas Santa Fe Drive and Via De La Valle	4-Lane Major Arterial	23,300	40,000	0.583	C	23,600	0.590	C	-0.007	City of Solana Beach	No
Vulcan Avenue	Between La Costa Avenue and Leucadia Boulevard	2-Lane Local Roadway	7,200	14,000	0.514	C or better	7,000	0.500	C or better	0.014	City of Encinitas	No
	Between Leucadia Blvd and Encinitas Boulevard	2-Lane Local Roadway	7,700	14,000	0.550	C or better	7,500	0.536	C or better	0.014	City of Encinitas	No
	Between Encinitas Boulevard and D Street	4-Lane Collector	13,400	32,400	0.414	C or better	12,900	0.398	C or better	0.016	City of Encinitas	No
	Between D Street and E Street	4-Lane Collector	13,400	32,400	0.414	C or better	12,900	0.398	C or better	0.016	City of Encinitas	No
	Between E Street and Santa Fe Drive	2-Lane Local Roadway – Augmented	13,600	20,000	0.680	C or better	13,100	0.655	C or better	0.025	City of Encinitas	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

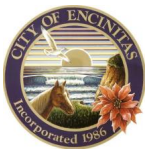
Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
San Elijo Avenue	Between Santa Fe Drive and Birmingham Drive	2-Lane Local Roadway	10,000	14,000	0.714	C or better	10,100	0.721	C or better	-0.007	City of Encinitas	No
	Between Birmingham Drive and Chesterfield Drive	2-Lane Local Roadway - Augmented	12,900	20,000	0.645	C or better	12,500	0.625	C or better	0.020	City of Encinitas	No
	Between Chesterfield Drive and Manchester Avenue	2-Lane Local Roadway – Augmented	13,200	20,000	0.660	C or better	9,500	0.475	C or better	0.185	City of Encinitas	No
Saxony Road	Between La Costa Avenue and Quail Gardens Drive	2-Lane Local Roadway	4,700	14,000	0.336	C or better	4,600	0.329	C or better	0.007	City of Encinitas	No
	Between Quail Hollow Drive and Normandy Road	2-Lane Local Roadway	3,500	14,000	0.250	C or better	3,400	0.243	C or better	0.007	City of Encinitas	No
	Between Normandy Road and Brittany Avenue	2-Lane Local Roadway	4,000	14,000	0.286	C or better	3,900	0.279	C or better	0.007	City of Encinitas	No
	Between Brittany Avenue and Leucadia Boulevard	2-Lane Local Roadway	3,400	14,000	0.243	C or better	3,500	0.250	C or better	-0.007	City of Encinitas	No
	Between Leucadia Boulevard and Silver Berry Place	2-Lane Local Roadway	11,800	14,000	0.843	D	11,800	0.843	D	0.000	City of Encinitas	No
	Between Silver Berry Place and Encinitas Boulevard	2-Lane Local Roadway - Augmented	13,900	20,000	0.695	C or better	13,800	0.690	C or better	0.005	City of Encinitas	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Quail Hollow Drive	Between Swallow Tail Road and Saxony Road	2-Lane Local Roadway	5,000	14,000	0.357	C or better	5,000	0.357	C or better	0.000	City of Encinitas	No
Quail Gardens Drive	Between Swallow Tail Road and Lauren Court	2-Lane Local Roadway – Augmented	4,900	20,000	0.245	C or better	4,900	0.245	C or better	0.000	City of Encinitas	No
	Between Lauren Court and Leucadia Boulevard	2-Lane Local Roadway – Augmented	5,300	20,000	0.265	C or better	5,300	0.265	C or better	0.000	City of Encinitas	No
	Between Leucadia Boulevard and Paseo De Las Flores	2-Lane Local Roadway – Augmented	9,300	20,000	0.465	C or better	9,100	0.455	C or better	0.010	City of Encinitas	No
	Between Paseo De Las Flores and Paseo De Las Verdes	2-Lane Local Roadway – Augmented	9,000	20,000	0.450	C or better	8,900	0.445	C or better	0.005	City of Encinitas	No
	Between Paseo De Las Verdes and Encinitas Boulevard	2-Lane Local Roadway – Augmented	8,500	20,000	0.425	C or better	8,200	0.410	C or better	0.015	City of Encinitas	No
Westlake Street	Between Encinitas Boulevard and Requeza Street	2-Lane Local Roadway - Augmented	11,900	20,000	0.595	C or better	11,800	0.590	C or better	0.005	City of Encinitas	No
Nardo Drive	Between Requeza Street and Melba Road	2-Lane Local Roadway	5,200	14,000	0.371	C or better	5,100	0.364	C or better	0.007	City of Encinitas	No
	Between Melba Road and Santa Fe Drive	2-Lane Local Roadway	5,200	14,000	0.371	C or better	5,100	0.364	C or better	0.007	City of Encinitas	No





**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

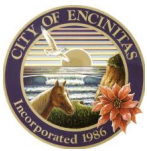
Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
MacKinnon Avenue	Between Santa Fe Drive and Villa Cardiff Drive	2-Lane Local Roadway	6,300	14,000	0.450	C or better	6,200	0.443	C or better	0.007	City of Encinitas	No
Villa Cardiff Drive	Between MacKinnon Avenue and Windsor Road	2-Lane Local Roadway	6,600	14,000	0.471	C or better	6,500	0.464	C or better	0.007	City of Encinitas	No
	Between Windsor Road and Birmingham Drive	2-Lane Local Roadway	6,100	14,000	0.436	C or better	5,700	0.407	C or better	0.029	City of Encinitas	No
Garden View Road	Between Leucadia Boulevard and Via Cantebria	4-Lane Major Roadway	11,400	35,200	0.324	C or better	11,500	0.327	C or better	-0.003	City of Encinitas	No
	Between Via Cantebria and El Camino Real	4-Lane Major Roadway	12,900	35,200	0.366	C or better	12,900	0.366	C or better	0.000	City of Encinitas	No
Town Center Place	Between Leucadia Boulevard and Town Center Place	4-Lane Collector (Not a CE)	20,100	32,400	0.620	C or better	20,000	0.617	C or better	0.003	City of Encinitas	No
	Between Town Center Place and Town Center Drive	4-Lane Collector (Not a CE)	17,900	32,400	0.552	C or better	17,800	0.549	C or better	0.003	City of Encinitas	No
Via Cantebria	Between Town Center Drive and Garden View Road	2-Lane Local Roadway(Not a CE)	15,900	14,000	1.136	F	15,800	1.129	F	0.007	City of Encinitas	No
	Between Garden View Road and Forrest Bluff	3-Lane Collector <sup>3</sup>	14,900	24,300	0.613	C or better	14,900	0.613	C or better	0.000	City of Encinitas	No
	Between Forrest Bluff and Via Montoro	4-Lane Collector	15,300	32,400	0.472	C or better	15,200	0.469	C or better	0.003	City of Encinitas	No





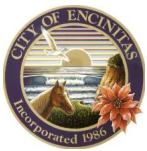
**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Via Cantebria	Between Via Montoro and Via Molena	4-Lane Collector	17,000	32,400	0.525	C or better	17,900	0.552	C or better	-0.027	City of Encinitas	No
	Between Via Molena and Encinitas Boulevard	4-Lane Collector	17,800	32,400	0.549	C or better	17,500	0.540	C or better	0.009	City of Encinitas	No
Balour Drive	Between Encinitas Boulevard and Melba Road	2-Lane Local Roadway	11,200	14,000	0.800	C or better	11,200	0.800	C or better	0.000	City of Encinitas	No
	Between Melba Road and Santa Fe Drive	2-Lane Local Roadway	11,000	14,000	0.786	C or better	10,700	0.764	C or better	0.022	City of Encinitas	No
Lake Drive	Between Santa Fe Drive and Woodlake Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	6,600	0.471	C or better	0.000	City of Encinitas	No
	Between Woodlake Drive and Birmingham Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	6,600	0.471	C or better	0.000	City of Encinitas	No
El Camino Real	Between Aviara Parkway and La Costa Avenue	5-Lane Prime Arterial <sup>4</sup>	54,500	50,000	1.090	F	54,300	1.086	F	0.004	City of Carlsbad	No
	Between La Costa Avenue and Calle Barcelona	6-Lane Prime Arterial	38,400	60,000	0.640	C	38,400	0.640	C	0.000	City of Carlsbad	No
	Between Calle Barcelona and City of Carlsbad boundary	6-Lane Prime Arterial	36,400	60,000	0.607	C	36,500	0.608	C	-0.001	City of Carlsbad	No



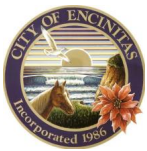
**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
El Camino Real	Between City of Carlsbad boundary and Leucadia Boulevard	6-Lane Prime Arterial – Augmented	46,500	66,000	0.705	C or better	46,700	0.708	C or better	-0.003	City of Encinitas	No
	Between Leucadia Boulevard and Town Center Drive	6-Lane Prime Arterial – Augmented	58,300	66,000	0.883	D	58,600	0.888	D	-0.005	City of Encinitas	No
	Between Town Center Drive and Garden View Road	6-Lane Prime Arterial – Augmented	54,100	66,000	0.820	D	54,200	0.821	D	-0.001	City of Encinitas	No
	Between Garden View Road and 331-339 El Camino Real	6-Lane Prime Arterial – Augmented	43,000	66,000	0.652	C or better	42,900	0.650	C or better	0.002	City of Encinitas	No
	Between 331-339 El Camino Real and Via Montoro	6-Lane Prime Arterial – Augmented	49,100	66,000	0.744	C or better	48,900	0.741	C or better	0.003	City of Encinitas	No
	Between Via Montoro and Mountain Vista	6-Lane Prime Arterial – Augmented	44,600	66,000	0.676	C or better	44,300	0.671	C or better	0.005	City of Encinitas	No
	Between Mountain Vista and Via Molena	6-Lane Prime Arterial – Augmented	46,700	66,000	0.708	C or better	47,000	0.712	C or better	-0.004	City of Encinitas	No
	Between Via Molena and Encinitas Boulevard	6-Lane Prime Arterial – Augmented	57,200	66,000	0.867	D	56,900	0.862	D	0.005	City of Encinitas	No
	Between Encinitas Boulevard and 213 S El Camino Real	6-Lane Prime Arterial	39,500	57,000	0.693	C or better	39,400	0.691	C or better	0.002	City of Encinitas	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
El Camino Real	Between 213 S El Camino Real and Crest Drive	6-Lane Prime Arterial	33,800	57,000	0.593	C or better	33,800	0.593	C or better	0.000	City of Encinitas	No
	Between Crest Drive and Willowspring Drive	6-Lane Prime Arterial	35,400	57,000	0.621	C or better	36,200	0.635	C or better	-0.014	City of Encinitas	No
	Between Willowspring Drive and Santa Fe Drive	4 Lane Major Roadway-Augmented	36,800	45,400	0.811	D	37,500	0.826	D	-0.015	City of Encinitas	No
	Between Santa Fe Drive and Sage Canyon Drive	4 Lane Major Roadway-Augmented	27,600	45,400	0.608	C or better	28,400	0.626	C or better	-0.018	City of Encinitas	No
	Between Sage Canyon Drive and Manchester Avenue	4-Lane Major Roadway	26,800	35,200	0.761	C or better	27,700	0.787	C or better	-0.026	City of Encinitas	No
Village Park Way	Between Mountain Vista Drive and Parkdale Drive	4-Lane Major Roadway	11,000	35,200	0.313	C or better	10,900	0.310	C or better	0.003	City of Encinitas	No
	Between Parkdale Drive and Encinitas Boulevard	4-Lane Major Roadway	14,200	35,200	0.403	C or better	14,200	0.403	C or better	0.000	City of Encinitas	No
Rancho Santa Fe Road	Between Olivenhain Road and Calle Acervo	4-Lane Major Arterial	17,400	40,000	0.435	B	17,400	0.435	B	0.000	City of Carlsbad	No
	Between Calle Acervo/Avenida La Posta and Olive Crest Drive	2-Lane Local Roadway – Augmented	16,400	20,000	0.820	D	15,900	0.795	C or better	0.025	City of Encinitas	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Rancho Santa Fe Road	Between Olive Crest Drive and 13 <sup>th</sup> Street	2-Lane Local Roadway – Augmented	16,300	20,000	0.815	D	15,800	0.790	C or better	0.025	City of Encinitas	No
	Between 13 <sup>th</sup> Street and 11 <sup>th</sup> Street	2-Lane Local Roadway – Augmented	16,200	20,000	0.810	D	15,700	0.785	C or better	0.025	City of Encinitas	No
	Between 11 <sup>th</sup> Street and El Camino Del Norte	2-Lane Local Roadway – Augmented	16,300	20,000	0.815	D	15,800	0.790	C or better	0.025	City of Encinitas	No
	Between El Camino Del Norte and 9 <sup>th</sup> Street	2-Lane Local Roadway – Augmented	13,700	20,000	0.685	C or better	13,300	0.665	C or better	0.020	City of Encinitas	No
	Between 9 <sup>th</sup> Street and 8 <sup>th</sup> Street	2-Lane Local Roadway	13,800	14,000	0.986	E	13,500	0.964	E	0.022	City of Encinitas	Yes
	Between 8 <sup>th</sup> Street and 7 <sup>th</sup> Street	2-Lane Local Roadway	14,300	14,000	1.021	F	13,900	0.993	E	0.028	City of Encinitas	Yes
	Between 7 <sup>th</sup> Street and Encinitas Boulevard	2-Lane Local Roadway – Augmented	18,300	20,000	0.915	E	15,200	0.760	C or better	0.155	City of Encinitas	Yes



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Manchester Avenue	Between Encinitas Boulevard and El Camino Real	2-Lane Local Roadway – Augmented	13,200	20,000	0.660	C or better	12,300	0.615	C or better	0.045	City of Encinitas	No
	Between Manchester Avenue and Mira Costa College	4 Lane Major Roadway-Augmented	35,200	45,400	0.775	C or better	35,400	0.780	C or better	-0.005	City of Encinitas	No
	Between Mira Costa College and I-5 NB On-Ramp	4 Lane Major Roadway-Augmented	35,400	45,400	0.780	C or better	35,700	0.786	C or better	-0.006	City of Encinitas	No
	Between I-5 NB Ramps and I-5 SB Ramps	2-Lane Local Roadway – Augmented	40,000	20,000	2.000	F	40,200	2.010	F	-0.010	City of Encinitas	No
	Between I-5 SB Ramps and Ocean Cove Drive	2-Lane Local Roadway – Augmented	11,800	20,000	0.590	C or better	11,900	0.595	C or better	-0.005	City of Encinitas	No
	Between Ocean Cove Drive and Seaside Cardiff-by-the-sea residential area driveway	2-Lane Local Roadway	11,700	14,000	0.836	D	11,900	0.850	D	-0.014	City of Encinitas	No
	Between Seaside Cardiff-by-the-sea residential area driveway and San Elijo Water Reclamation Facility Driveway	2-Lane Local Roadway – Augmented	11,700	20,000	0.585	C or better	11,900	0.595	C or better	-0.010	City of Encinitas	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

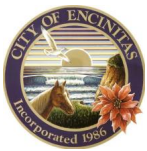
Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Manchester Avenue	Between San Elijo Water Reclamation Facility Driveway and Manchester Avenue	2-Lane Local Roadway	11,600	14,000	0.829	D	11,800	0.843	D	-0.014	City of Encinitas	No
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	2-Lane Local Roadway	17,500	14,000	1.250	F	16,400	1.164	F	0.079	City of Encinitas	Yes
	Between Vulcan Avenue and Sheridan Road	2-Lane Local Roadway	17,300	14,000	1.236	F	16,300	1.164	F	0.072	City of Encinitas	Yes
	Between Sheridan Road and I-5 SB Ramps	2-Lane Local Roadway – Augmented	22,800	20,000	1.140	F	22,000	1.100	F	0.040	City of Encinitas	Yes
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Arterial	29,900	40,000	0.748	C	29,300	0.733	C	0.015	City of Carlsbad	No
	Between I-5 NB Ramps and Piraeus Street	5-Lane Major Arterial <sup>5</sup>	39,600	41,667	0.950	E	39,500	0.948	E	0.002	City of Carlsbad	No
	Between Piraeus Street and Saxony Road	4-Lane Major Arterial	39,700	40,000	0.993	E	39,600	0.990	E	0.003	City of Carlsbad	No
	Between Saxony Road and El Camino Real	4-Lane Major Arterial	42,100	40,000	1.053	F	42,000	1.050	F	0.003	City of Carlsbad	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

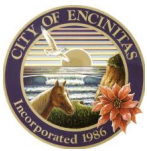
Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
La Costa Avenue	Between El Camino Real and La Costa Towne Center traffic signal	4-Lane Major Arterial	20,800	40,000	0.520	B	20,700	0.518	B	0.002	City of Carlsbad	No
	Between La Costa Towne Center traffic signal and Fairway Lane	4-Lane Major Arterial	21,000	40,000	0.525	B	20,900	0.523	B	0.002	City of Carlsbad	No
	Between Fairway Lane and Calle Madero	3-Lane Collector <sup>6</sup>	20,800	22,500	0.924	E	20,700	0.920	E	0.004	City of Carlsbad	No
Leucadia Blvd	Between North Coast Highway 101 and Vulcan Avenue	4-Lane Collector	15,900	32,400	0.491	C or better	14,300	0.441	C or better	0.050	City of Encinitas	No
	Between Vulcan Avenue and Hermes Avenue	2-Lane Local Roadway – Augmented	17,500	20,000	0.875	D	16,300	0.815	D	0.060	City of Encinitas	No
	Between Hermes Avenue and Hygeia Avenue	2-Lane Local Roadway – Augmented	16,900	20,000	0.845	D	15,700	0.785	C or better	0.060	City of Encinitas	No
	Between Hygeia Avenue and Hymettus Avenue	2-Lane Local Roadway – Augmented	15,000	20,000	0.750	C	17,400	0.870	D	-0.120	City of Encinitas	No
	Between Hymettus Avenue and Orpheus Avenue	2-Lane Local Roadway – Augmented	20,400	20,000	1.020	F	19,200	0.960	E	0.060	City of Encinitas	Yes





**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Leucadia Blvd	Between Orpheus Avenue and I-5 SB Ramps	4-Lane Major Roadway	15,300	35,200	0.435	C or better	17,700	0.503	C or better	-0.068	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Roadway	29,600	35,200	0.841	D	28,600	0.813	D	0.028	City of Encinitas	No
	Between Piraeus Street and Urania Avenue	4 Lane Major Roadway-Augmented	45,000	45,400	0.991	E	44,100	0.971	E	0.020	City of Encinitas	No
	Between Urania Avenue and Saxony Road	4 Lane Major Roadway-Augmented	45,000	45,400	0.991	E	44,100	0.971	E	0.020	City of Encinitas	No
	Between Saxony Road and Sidonia Street	4 Lane Major Roadway-Augmented	42,500	45,400	0.936	E	42,400	0.934	E	0.002	City of Encinitas	No
	Between Sidonia Street and Quail Gardens Drive	4 Lane Major Roadway-Augmented	42,500	45,400	0.936	E	42,400	0.934	E	0.002	City of Encinitas	No
	Between Quail Gardens Drive and Garden View Road	4 Lane Major Roadway-Augmented	47,200	45,400	1.040	F	47,100	1.037	F	0.003	City of Encinitas	No
	Between Garden View Road and Town Center Place	4 Lane Major Roadway-Augmented	33,900	45,400	0.746	C or better	34,700	0.764	C or better	-0.018	City of Encinitas	No
	Between Town Center Place and El Camino Real	6-Lane Prime Arterial	39,000	57,000	0.684	C or better	39,000	0.684	C or better	0.000	City of Encinitas	No



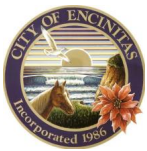
**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Mountain Vista Drive	Between El Camino Real and Wandering Road	2-Lane Local Roadway – Augmented	15,100	20,000	0.755	C or better	15,000	0.750	C or better	0.005	City of Encinitas	No
	Between Wandering Road and Village Park Way	2-Lane Local Roadway – Augmented	9,300	20,000	0.465	C or better	9,300	0.465	C or better	0.000	City of Encinitas	No
Lone Jack Drive	Between Rancho Santa Fe Road and northern terminus	2-Lane Local Roadway	8,200	14,000	0.586	C or better	8,400	0.600	C or better	-0.014	City of Encinitas	No
El Camino Del Norte	Between Rancho Santa Fe Road and San Dieguito CPA boundary	2-Lane Local Roadway	7,800	14,000	0.557	C or better	7,900	0.564	C or better	-0.007	City of Encinitas	No
	Between San Dieguito CPA boundary to Via De Fortuna	2-Lane Light Collector with Reduced Shoulder	7,500	9,700	0.773	C or better	7,800	0.804	D	-0.031	County of San Diego	No
Encinitas Blvd	Between North Coast Highway 101 and Vulcan Avenue	4-Lane Collector	23,600	32,400	0.728	C or better	22,300	0.688	C or better	0.040	City of Encinitas	No
	Between Vulcan Avenue and I-5 SB Ramps	4-Lane Major Roadway – Augmented	35,200	45,400	0.775	C or better	34,100	0.751	C or better	0.024	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Roadway	39,400	35,200	1.119	F	38,500	1.094	F	0.025	City of Encinitas	Yes



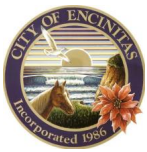
**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Encinitas Blvd	Between I-5 NB Ramps and Saxony Road	4-Lane Major Roadway	42,100	35,200	1.196	F	41,400	1.176	F	0.020	City of Encinitas	No
	Between Saxony Road and Calle Magdalena	6-Lane Prime Arterial – Augmented	35,800	66,000	0.542	C or better	35,400	0.536	C or better	0.006	City of Encinitas	No
	Between Calle Magdalena and Encinitas Town Country traffic signal	6-Lane Prime Arterial	40,500	57,000	0.711	C or better	40,000	0.702	C or better	0.009	City of Encinitas	No
	Between Encinitas Town Country traffic signal and Quail Gardens Drive	4-Lane Major Roadway-Augmented	36,600	45,400	0.806	D	36,000	0.793	C or better	0.013	City of Encinitas	No
	Between Quails Garden Drive and Delphinium Street	4-Lane Major Roadway	38,300	35,200	1.088	F	37,700	1.071	F	0.017	City of Encinitas	No
	Between Delphinium Street and Balour Drive	4-Lane Major Roadway	38,600	35,200	1.097	F	38,300	1.088	F	0.009	City of Encinitas	No
	Between Balour Drive and Via Cantebria	4-Lane Major Roadway	47,800	35,200	1.358	F	47,500	1.349	F	0.009	City of Encinitas	No
	Between Via Cantebria and El Camino Real	4-Lane Major Roadway	29,500	35,200	0.838	D	29,400	0.835	D	0.003	City of Encinitas	No
	Between El Camino Real and Village Square Drive	4-Lane Major Roadway	31,300	35,200	0.889	D	31,000	0.881	D	0.008	City of Encinitas	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Encinitas Blvd	Between Village Square Drive and Turner Avenue	4-Lane Major Roadway	29,800	35,200	0.847	D	29,300	0.832	D	0.015	City of Encinitas	No
	Between Turner Avenue and Cerro Street	4-Lane Major Roadway	29,800	35,200	0.847	D	29,300	0.832	D	0.015	City of Encinitas	No
	Between Cerro Street and Village Park Way	4-Lane Major Roadway	30,300	35,200	0.861	D	29,700	0.844	D	0.017	City of Encinitas	No
	Between Village Park Way to Willowspring Drive	4-Lane Major Roadway	28,800	35,200	0.818	D	27,900	0.793	C or better	0.025	City of Encinitas	No
	Between Willowspring Drive to Rancho Santa Fe Road	4-Lane Major Roadway	23,700	35,200	0.673	C or better	22,700	0.645	C or better	0.028	City of Encinitas	No
South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	2-Lane Local Roadway – Augmented	19,400	20,000	0.970	E	18,580	0.930	E	0.040	City of Encinitas	Yes
	Between City of Encinitas Limits and El Mirlo	2-Lane Light Collector with Reduced Shoulder	19,400	9,700	2.000	F	18,580	1.915	F	0.085	County of San Diego	Yes



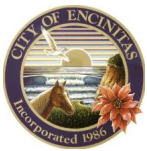
**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
F Street	Between Vulcan Avenue and Cornish Drive	2-Lane Local Roadway	6,200	14,000	0.443	C or better	6,200	0.443	C or better	0.000	City of Encinitas	No
Requeza Street	Between Cornish Drive and San Dieguito Drive	2-Lane Local Roadway	6,700	14,000	0.479	C or better	6,300	0.450	C or better	0.029	City of Encinitas	No
	Between San Dieguito Drive and Stratford Drive	2-Lane Local Roadway	6,700	14,000	0.479	C or better	6,300	0.450	C or better	0.029	City of Encinitas	No
	Between Stratford Drive and Regal Road	2-Lane Local Roadway	7,200	14,000	0.514	C or better	6,800	0.486	C or better	0.028	City of Encinitas	No
	Between Regal Road and West Lake Drive	2-Lane Local Roadway	6,500	14,000	0.464	C or better	6,400	0.457	C or better	0.007	City of Encinitas	No
	Between West Lake Drive and Nardo Drive	2-Lane Local Roadway	4,900	14,000	0.350	C or better	4,800	0.343	C or better	0.007	City of Encinitas	No
Santa Fe Drive	Between Vulcan Avenue and Cornish Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	9,000	0.643	C or better	-0.014	City of Encinitas	No
	Between Cornish Drive and Summit Avenue	2-Lane Local Roadway	9,500	14,000	0.679	C or better	9,000	0.643	C or better	0.036	City of Encinitas	No



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

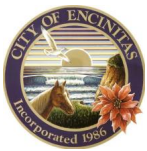
Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Santa Fe Drive	Between Summit Avenue and Devonshire	2-Lane Local Roadway	10,400	14,000	0.743	C or better	10,100	0.721	C or better	0.022	City of Encinitas	No
	Between Devonshire Drive and Scripps Memorial Hospital Encinitas traffic signal	2-Lane Local Roadway – Augmented	15,800	20,000	0.790	C or better	15,200	0.760	C or better	0.030	City of Encinitas	No
	Between Scripps Memorial Hospital Encinitas traffic signal and I-5 SB Ramps	4-Lane Collector	15,800	32,400	0.488	C or better	15,200	0.469	C or better	0.019	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	3-Lane Major Roadway	23,200	26,400	0.879	D	22,400	0.848	D	0.031	City of Encinitas	No
	Between I-5 NB Ramps and Regal Road	2-Lane Local Roadway – Augmented	16,700	20,000	0.835	D	16,100	0.805	D	0.030	City of Encinitas	No
	Between Regal Road and Gardena Road	2-Lane Local Roadway – Augmented	16,700	20,000	0.835	D	16,100	0.805	D	0.030	City of Encinitas	No
	Between Gardena Road and Nardo Road	2-Lane Local Roadway – Augmented	16,700	20,000	0.835	D	16,100	0.805	D	0.030	City of Encinitas	No
	Between Nardo Road and Windsor Road/Bonita Drive	2-Lane Local Roadway – Augmented	18,300	20,000	0.915	E	17,700	0.885	D	0.030	City of Encinitas	Yes



**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Santa Fe Drive	Between Windsor Road/Bonita Drive and Balour Drive	2-Lane Local Roadway – Augmented	18,300	20,000	0.915	E	17,700	0.885	D	0.030	City of Encinitas	Yes
	Between Balour Drive and Lake Drive	2-Lane Local Roadway – Augmented	19,200	20,000	0.960	E	18,600	0.930	E	0.030	City of Encinitas	Yes
	Between Lake Drive and Crest Drive	2-Lane Local Roadway – Augmented	18,400	20,000	0.920	E	17,700	0.885	D	0.035	City of Encinitas	Yes
	Between Crest Drive and El Camino Real	2-Lane Local Roadway – Augmented	18,400	20,000	0.920	E	17,700	0.885	D	0.035	City of Encinitas	Yes
Birmingham Drive	Between San Elijo Avenue and MacKinnon Avenue	2-Lane Local Roadway – Augmented	15,500	20,000	0.775	C or better	15,500	20,000	0.775	0.000	City of Encinitas	No
	Between MacKinnon Avenue and Carol View Drive	2-Lane Local Roadway – Augmented	15,500	20,000	0.775	C or better	15,500	20,000	0.775	0.000	City of Encinitas	No
	Between Carol View Drive and I-5 SB Ramps	2-Lane Local Roadway – Augmented	15,500	20,000	0.775	C or better	15,500	20,000	0.775	0.000	City of Encinitas	No





**Table 4.9  
Roadway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Ready-Made				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Birmingham Drive	Between I-5 SB Ramps and I-5 NB Ramps	2-Lane Local Roadway	17,400	14,000	1.243	<b>F</b>	17,400	14,000	1.243	0.000	City of Encinitas	No
	Between I-5 NB Ramps and Villa Cardiff Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	14,000	0.629	0.000	City of Encinitas	No
	Between Villa Cardiff Drive and Playa Riviera	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	14,000	0.629	0.000	City of Encinitas	No
	Between Playa Riviera and Freda Lane	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	14,000	0.629	0.000	City of Encinitas	No
	Between Freda Lane and Lake Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	14,000	0.629	0.000	City of Encinitas	No

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates substandard LOS E or F.

SI? = Significant Impact?

<sup>1</sup> Functional Classification is representative of existing segment functionality and does not take into consideration the ultimate or final classification.

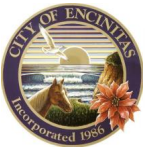
<sup>2</sup> 3-Lane Major Roadway is 75% capacity of a 4-Lane Major Roadway.

<sup>3</sup> 3-Lane Collector is 75% capacity of a 4-Lane Collector.

<sup>4</sup> 5-Lane Prime is 84% capacity of 6-Lane Prime Arterial (SANTEC).

<sup>5</sup> 5-Lane Major is 84% capacity of 6-Lane Major Arterial (SANTEC).

<sup>6</sup> 3-Lane Collector is 75% capacity of 4-Lane Collector (SANTEC).



## Freeway Segment Analysis

**Table 4.10** displays freeway segment LOS analysis results for the key I-5 freeway segments in the vicinity of the project study area under the Ready-Made strategy. Average Daily Traffic (ADT) volumes were obtained from the City of Encinitas subarea model. The traffic volumes anticipated in the HOV lanes were subtracted from the total ADT. As a result, Table 4.10 only reports on I-5 mainline traffic volumes and operations. A table showing the mainline ADT and HOV lane volume comparisons is provided in **Appendix J**.

As shown in the table, all freeway segments within the study area are projected to operate at LOS D or better. In addition, based on the significance criteria outlined in Section 2.8, the “Ready-Made” strategy would not create any significant traffic related impacts to any of the study area freeway segments. The I-5 North Coast Improvement project, which will ultimately improve I-5, from La Jolla Village Drive in San Diego to Harbor Drive in Oceanside, to eight all-purpose lanes and four HOV lanes, was assumed under this scenario.



**Table 4.10  
Freeway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Freeway	Segment	ADT <sup>(a)</sup> *	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour Volume	V/C	LOS	No-Project		Δ V/C	SI?
												V/C	LOS		
I-5	Palomar Airport Road and Poinsettia Lane	202,000	NB	4M+1A	10,810	51.3%	6.9%	4.8%	7,500	0.69	C	0.69	C	0.0	No
			SB	4M+1A	10,810	54.2%	7.3%	4.8%	8,400	0.78	C	0.78	C	0.0	No
	Poinsettia Lane and La Costa Avenue	200,200	NB	4M	9,400	51.9%	6.9%	4.8%	7,600	0.81	D	0.81	D	0.0	No
			SB	4M	9,400	54.2%	7.3%	4.8%	8,300	0.88	D	0.88	D	0.0	No
	La Costa Avenue and Leucadia Boulevard	196,900	NB	4M	9,400	51.4%	7.1%	4.8%	7,600	0.81	D	0.81	D	0.0	No
			SB	4M+1A	10,810	63.0%	5.7%	4.8%	7,500	0.69	C	0.69	C	0.0	No
	Leucadia Boulevard and Encinitas Boulevard	117,600	NB	4M+1A	10,810	87.1%	7.1%	4.8%	7,700	0.71	C	0.71	C	0.0	No
			SB	4M	9,400	63.0%	5.7%	4.8%	4,500	0.48	B	0.47	B	0.01	No
	Encinitas Boulevard and Santa Fe Drive	197,300	NB	4M	9,400	51.2%	7.1%	4.8%	7,500	0.80	D	0.80	D	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,600	0.70	C	0.69	C	0.01	No
	Santa Fe Drive and Birmingham Drive	197,100	NB	4M+1A	10,810	52.3%	7.1%	4.8%	7,700	0.71	C	0.71	C	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,600	0.70	C	0.69	C	0.01	No



**Table 4.10**  
**Freeway Segment Level of Service – Future Year 2035 Ready-Made Strategy**

Freeway	Segment	ADT <sup>(a)</sup> *	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour Volume	V/C	LOS	No-Project		Δ V/C	SI?
												V/C	LOS		
I-5	Birmingham Drive and Manchester Avenue	198,900	NB	4M+1A	10,810	54.1%	7.1%	4.8%	8,000	0.74	C	0.74	C	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,600	0.70	C	0.70	C	0.0	No
	Manchester Avenue and Lomas Santa Fe Drive	247,300	NB	4M+1A	10,810	50.1%	7.1%	4.8%	9,300	0.860	D	0.860	D	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	9,500	0.880	D	0.880	D	0.0	No
	Lomas Santa Fe Drive and Via De La Valle	248,600	NB	4M+1A	10,810	50.5%	7.1%	4.8%	9,400	0.870	D	0.870	D	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	9,500	0.880	D	0.89	D	-0.01	No

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates unacceptable LOS E or F.

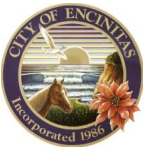
SI? = Significant Impact?

M = Mainline. A = Auxiliary Lane.

<sup>a</sup> Traffic volumes provided by Caltrans (2013). | <sup>\*</sup> Reduction of estimated HOV volume was applied to the AADT.

<sup>b</sup> The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.

<sup>c</sup> D = Directional split. | <sup>d</sup> K = Peak hour %. | <sup>e</sup> HV = Heavy vehicle %.



## 4.2.3 “Build Your Own” Strategy

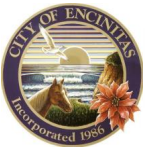
### Roadway Segment Analysis

**Table 4.11** displays the level of service analysis results for the study area roadway segments under No-Project conditions and with the implementation of the Build Your Own strategy. **Figure 4-4** displays the projected average daily traffic volumes and the anticipated level of service for each roadway segment.

As shown in Table 4.11, the following thirty-three (33) roadway segments within the project study area are projected operate at substandard level of service E or F under the Build Your Own strategy, with twenty-seven (27) located in Encinitas, five (5) located in Carlsbad, and one (1) located in the County of San Diego.

#### City of Encinitas (27)

- South Coast Highway 101, between Swami’s Parking and San Elijo State Beach – LOS F;
- Via Cantebria, between Town Center Drive and Garden View Road – LOS F (Not a CE road);
- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – LOS E;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – LOS F;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Blvd – LOS F;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – LOS F;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – LOS F;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – LOS F;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – LOS F;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – LOS E;
- Leucadia Boulevard, between Piraeus Street and Urania Avenue – LOS E;
- Leucadia Boulevard, between Urania Avenue and Saxony Road – LOS E;
- Leucadia Boulevard, between Saxony Road and Sidonia Street – LOS E;
- Leucadia Boulevard, between Sidonia Street and Quail Gardens Drive – LOS E;
- Leucadia Boulevard, between Quail Gardens Drive and Garden View Road – LOS F;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – LOS F;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – LOS F;
- Encinitas Boulevard, between Quail Gardens Drive and Delphinium Street – LOS F;
- Encinitas Boulevard, between Delphinium Street and Balour Drive – LOS F;
- Encinitas Boulevard, between Balour Drive and Via Cantebria – LOS F;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits – LOS E;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – LOS E;
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive – LOS E;
- Santa Fe Drive, between Balour Drive and Lake Drive – LOS E;
- Santa Fe Drive, between Lake Drive and Crest Drive – LOS E;
- Santa Fe Drive, between Crest Drive and El Camino Real – LOS E; and
- Birmingham Drive, between I-5 SB Ramps and I-5 NB Ramps – LOS F.



### City of Carlsbad (5)

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

### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.

Out of the 33 deficient roadway segments, the following twenty (20) segments are anticipated to be impacted under the Build Your Own strategy, based on the significance criteria outlined in Section 2.8:

### City of Encinitas (19)

- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – LOS F;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – LOS F;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Boulevard – LOS E;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – LOS F
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – LOS F;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – LOS F;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – LOS F;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – LOS E;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – LOS F;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – LOS F;
- Encinitas Boulevard, between Quails Garden Drive and Delphinium Street – LOS F;
- Encinitas Boulevard, between Delphinium Street and Balour Drive – LOS F;
- Encinitas Boulevard, between Balour Drive and Via Cantabria – LOS F;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits – LOS E;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – LOS E;
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive – LOS E;
- Santa Fe Drive, between Lake Drive and Crest Drive – LOS E;
- Santa Fe Drive, between Crest Drive and El Camino Real – LOS E; and
- Birmingham Drive, between I-5 SB Ramps and I-5 NB Ramps – LOS F.

### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.

Mitigation measures addressing these roadway segment impacts are discussed in Chapter 5.



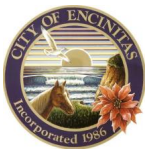




**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Carlsbad Blvd	Between Poinsettia Lane and Avenida Encinas	4-Lane Major Arterial	25,400	40,000	0.635	C	25,300	0.633	C	0.002	City of Carlsbad	No
	Between Avenida Encinas and La Costa Avenue	4-Lane Major Arterial	25,100	40,000	0.628	C	24,700	0.618	C	0.009	City of Carlsbad	No
North Coast Highway 101	Between La Costa Avenue and 600 feet south of La Costa Avenue	4-Lane Major Roadway	21,200	35,200	0.602	C or better	19,900	0.565	C or better	0.037	City of Encinitas	No
	Between 600 feet south of La Costa Avenue and Leucadia Blvd	3-Lane Major Roadway <sup>2</sup>	19,900	26,400	0.754	C or better	18,100	0.686	C or better	0.068	City of Encinitas	No
	Between Leucadia Blvd and Cadmus Street	4-Lane Major Roadway	20,500	35,200	0.582	C or better	19,900	0.565	C or better	0.017	City of Encinitas	No
	Between Cadmus Street and Marcheta Street	4-Lane Major Roadway	20,500	35,200	0.582	C or better	19,900	0.565	C or better	0.017	City of Encinitas	No
	Between Marcheta Street and 660 feet south of Marcheta Street	4-Lane Major Roadway	20,500	35,200	0.582	C or better	19,900	0.565	C or better	0.017	City of Encinitas	No
	Between 660 feet south of Marcheta Street and Encinitas Blvd	4-Lane Major Roadway	19,200	35,200	0.545	C or better	19,900	0.565	C or better	-0.020	City of Encinitas	No
South Coast Highway 101	Between Encinitas Blvd and D Street	4-Lane Major Roadway	19,100	35,200	0.543	C or better	19,400	0.551	C or better	-0.008	City of Encinitas	No





**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
South Coast Highway 101	Between D Street and E Street	4-Lane Major Roadway	19,100	35,200	0.543	C or better	19,400	0.551	C or better	-0.008	City of Encinitas	No
	Between E Street and F Street	4-Lane Major Roadway	19,100	35,200	0.543	C or better	19,400	0.551	C or better	-0.008	City of Encinitas	No
	Between F Street and H Street	4-Lane Major Roadway	19,100	35,200	0.543	C or better	19,400	0.551	C or better	-0.008	City of Encinitas	No
	Between H Street and J Street	4-Lane Major Roadway	20,700	35,200	0.588	C or better	21,100	0.599	C or better	-0.011	City of Encinitas	No
	Between J Street and Swami's Parking	3-Lane Major Roadway <sup>2</sup>	20,700	26,400	0.784	C or better	21,100	0.799	C or better	-0.015	City of Encinitas	No
	Between Swami's Parking and San Elijo State Beach	2-Lane Local Roadway	20,900	14,000	1.493	F	21,300	1.521	F	-0.028	City of Encinitas	No
	Between San Elijo State Beach and Chesterfield	4-Lane Major Roadway	21,400	35,200	0.608	C or better	21,300	0.605	C or better	0.003	City of Encinitas	No
	Between Chesterfield and Cardiff State Beach traffic signal	4-Lane Major Roadway	23,300	35,200	0.662	C or better	23,200	0.659	C or better	0.003	City of Encinitas	No
	Between Cardiff Beach State and Chart House traffic signal	4-Lane Major Roadway	23,300	35,200	0.662	C or better	23,200	0.659	C or better	0.003	City of Encinitas	No
	Between Chart House traffic signal and Las Olas Mexican Restaurant traffic signal	4-Lane Major Roadway	23,300	35,200	0.662	C or better	23,200	0.659	C or better	0.003	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
South Coast Highway 101	Between Las Olas Mexican Restaurant traffic signal and City of Solana Beach boundary	4-Lane Major Roadway	23,300	35,200	0.662	C or better	23,200	0.659	C or better	0.003	City of Encinitas	No
North Highway 101	Between City of Solana Beach boundary and West Cliff Street	4-Lane Major Arterial	22,700	40,000	0.568	C	22,500	0.563	C	0.005	City of Solana Beach	No
	Between West Cliff and Lomas Santa Fe	4-Lane Major Arterial	25,100	40,000	0.628	C	25,000	0.625	C	0.002	City of Solana Beach	No
	Between Lomas Santa Fe Drive and Via De La Valle	4-Lane Major Arterial	23,600	40,000	0.590	C	23,600	0.590	C	0.000	City of Solana Beach	No
Vulcan Avenue	Between La Costa Avenue and Leucadia Boulevard	2-Lane Local Roadway	7,200	14,000	0.514	C or better	7,000	0.500	C or better	0.014	City of Encinitas	No
	Between Leucadia Blvd and Encinitas Boulevard	2-Lane Local Roadway	7,500	14,000	0.536	C or better	7,500	0.536	C or better	0.000	City of Encinitas	No
	Between Encinitas Boulevard and D Street	4-Lane Collector	13,300	32,400	0.410	C or better	12,900	0.398	C or better	0.012	City of Encinitas	No
	Between D Street and E Street	4-Lane Collector	13,300	32,400	0.410	C or better	12,900	0.398	C or better	0.012	City of Encinitas	No
	Between E Street and Santa Fe Drive	2-Lane Local Roadway - Augmented	13,500	20,000	0.675	C or better	13,100	0.655	C or better	0.020	City of Encinitas	No



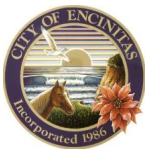
**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
San Elijo Avenue	Between Santa Fe Drive and Birmingham Drive	2-Lane Local Roadway	10,100	14,000	0.721	C or better	10,100	0.721	C or better	0.000	City of Encinitas	No
	Between Birmingham Drive and Chesterfield Drive	2-Lane Local Roadway - Augmented	12,600	20,000	0.630	C or better	12,500	0.625	C or better	0.005	City of Encinitas	No
	Between Chesterfield Drive and Manchester Avenue	2-Lane Local Roadway – Augmented	9,500	20,000	0.475	C or better	9,500	0.475	C or better	0.000	City of Encinitas	No
Saxony Road	Between La Costa Avenue and Quail Gardens Drive	2-Lane Local Roadway	4,700	14,000	0.336	C or better	4,600	0.329	C or better	0.007	City of Encinitas	No
	Between Quail Hollow Drive and Normandy Road	2-Lane Local Roadway	3,500	14,000	0.250	C or better	3,400	0.243	C or better	0.007	City of Encinitas	No
	Between Normandy Road and Brittany Avenue	2-Lane Local Roadway	3,900	14,000	0.279	C or better	3,900	0.279	C or better	0.000	City of Encinitas	No
	Between Brittany Avenue and Leucadia Boulevard	2-Lane Local Roadway	3,500	14,000	0.250	C or better	3,500	0.250	C or better	0.000	City of Encinitas	No
	Between Leucadia Boulevard and Silver Berry Place	2-Lane Local Roadway	11,900	14,000	0.850	D	11,800	0.843	D	0.007	City of Encinitas	No
	Between Silver Berry Place and Encinitas Boulevard	2-Lane Local Roadway – Augmented	14,800	20,000	0.740	C or better	13,800	0.690	C or better	0.050	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Quail Hollow Drive	Between Swallow Tail Road and Saxony Road	2-Lane Local Roadway	5,000	14,000	0.357	C or better	5,000	0.357	C or better	0.000	City of Encinitas	No
Quail Gardens Drive	Between Swallow Tail Road and Lauren Court	2-Lane Local Roadway - Augmented	4,900	20,000	0.245	C or better	4,900	0.245	C or better	0.000	City of Encinitas	No
	Between Lauren Court and Leucadia Boulevard	2-Lane Local Roadway - Augmented	5,300	20,000	0.265	C or better	5,300	0.265	C or better	0.000	City of Encinitas	No
	Between Leucadia Boulevard and Paseo De Las Flores	2-Lane Local Roadway - Augmented	8,300	20,000	0.415	C or better	9,100	0.455	C or better	-0.040	City of Encinitas	No
	Between Paseo De Las Flores and Paseo De Las Verdes	2-Lane Local Roadway - Augmented	8,300	20,000	0.415	C or better	8,900	0.445	C or better	-0.030	City of Encinitas	No
	Between Paseo De Las Verdes and Encinitas Boulevard	2-Lane Local Roadway - Augmented	8,700	20,000	0.435	C or better	8,200	0.410	C or better	0.025	City of Encinitas	No
	Westlake Street	Between Encinitas Boulevard and Requeza Street	2-Lane Local Roadway - Augmented	16,300	20,000	0.815	D	11,800	0.590	C or better	0.225	City of Encinitas
Nardo Drive	Between Requeza Street and Melba Road	2-Lane Local Roadway	5,600	14,000	0.400	C or better	5,100	0.364	C or better	0.036	City of Encinitas	No
	Between Melba Road and Santa Fe Drive	2-Lane Local Roadway	4,900	14,000	0.350	C or better	5,100	0.364	C or better	-0.014	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
MacKinnon Avenue	Between Santa Fe Drive and Villa Cardiff Drive	2-Lane Local Roadway	6,500	14,000	0.464	C or better	6,200	0.443	C or better	0.021	City of Encinitas	No
Villa Cardiff Drive	Between MacKinnon Avenue and Windsor Road	2-Lane Local Roadway	6,800	14,000	0.486	C or better	6,500	0.464	C or better	0.022	City of Encinitas	No
	Between Windsor Road and Birmingham Drive	2-Lane Local Roadway	6,200	14,000	0.443	C or better	5,700	0.407	C or better	0.036	City of Encinitas	No
Garden View Road	Between Leucadia Boulevard and Via Cantebria	4-Lane Major Roadway	11,400	35,200	0.324	C or better	11,500	0.327	C or better	-0.003	City of Encinitas	No
	Between Via Cantebria and El Camino Real	4-Lane Major Roadway	12,600	35,200	0.358	C or better	12,900	0.366	C or better	-0.008	City of Encinitas	No
Town Center Place	Between Leucadia Boulevard and Town Center Place	4-Lane Collector (Not a CE)	20,500	32,400	0.633	C or better	20,000	0.617	C or better	0.016	City of Encinitas	No
	Between Town Center Place and Town Center Drive	4-Lane Collector (Not a CE)	17,100	32,400	0.528	C or better	17,800	0.549	C or better	-0.021	City of Encinitas	No
Via Cantebria	Between Town Center Drive and Garden View Road	2-Lane Local Roadway (Not a CE)	15,500	14,000	1.107	F	15,800	1.129	F	-0.022	City of Encinitas	No
	Between Garden View Road and Forrest Bluff	3-Lane Collector <sup>3</sup>	15,000	24,300	0.617	C or better	14,900	0.613	C or better	0.004	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

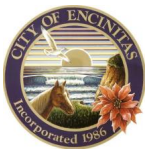
Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Via Cantabria	Between Forrest Bluff and Via Montoro	4-Lane Collector	15,400	32,400	0.475	C or better	15,200	0.469	C or better	0.006	City of Encinitas	No
	Between Via Montoro and Via Molena	4-Lane Collector	17,300	32,400	0.534	C or better	17,900	0.552	C or better	-0.018	City of Encinitas	No
	Between Via Molena and Encinitas Boulevard	4-Lane Collector	18,200	32,400	0.562	C or better	17,500	0.540	C or better	0.022	City of Encinitas	No
Balour Drive	Between Encinitas Boulevard and Melba Road	2-Lane Local Roadway	11,500	14,000	0.821	D	11,200	0.800	C or better	0.021	City of Encinitas	No
	Between Melba Road and Santa Fe Drive	2-Lane Local Roadway	10,700	14,000	0.764	C or better	10,700	0.764	C or better	0.000	City of Encinitas	No
Lake Drive	Between Santa Fe Drive and Woodlake Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	6,600	0.471	C or better	0.000	City of Encinitas	No
	Between Woodlake Drive and Birmingham Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	6,600	0.471	C or better	0.000	City of Encinitas	No
El Camino Real	Between Aviara Parkway and La Costa Avenue	5-Lane Prime Arterial <sup>4</sup>	54,200	50,000	1.084	F	54,300	1.086	F	-0.002	City of Carlsbad	No
	Between La Costa Avenue and Calle Barcelona	6-Lane Prime Arterial	38,300	60,000	0.638	C	38,400	0.640	C	-0.002	City of Carlsbad	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
El Camino Real	Between Calle Barcelona and City of Carlsbad boundary	6-Lane Prime Arterial	36,000	60,000	0.600	C	36,500	0.608	C	-0.008	City of Carlsbad	No
	Between City of Carlsbad boundary and Leucadia Boulevard	6-Lane Prime Arterial - Augmented	46,200	66,000	0.700	C or better	46,700	0.708	C or better	-0.008	City of Encinitas	No
	Between Leucadia Boulevard and Town Center Drive	6-Lane Prime Arterial - Augmented	58,700	66,000	0.889	D	58,600	0.888	D	0.001	City of Encinitas	No
	Between Town Center Drive and Garden View Road	6-Lane Prime Arterial - Augmented	54,000	66,000	0.818	D	54,200	0.821	D	-0.003	City of Encinitas	No
	Between Garden View Road and 331-339 El Camino Real	6-Lane Prime Arterial - Augmented	42,800	66,000	0.648	C or better	42,900	0.650	C or better	-0.002	City of Encinitas	No
	Between 331-339 El Camino Real and Via Montoro	6-Lane Prime Arterial - Augmented	49,000	66,000	0.742	C or better	48,900	0.741	C or better	0.001	City of Encinitas	No
	Between Via Montoro and Mountain Vista	6-Lane Prime Arterial - Augmented	44,400	66,000	0.673	C or better	44,300	0.671	C or better	0.002	City of Encinitas	No
	Between Mountain Vista and Via Molena	6-Lane Prime Arterial - Augmented	47,000	66,000	0.712	C or better	47,000	0.712	C or better	0.000	City of Encinitas	No
	Between Via Molena and Encinitas Boulevard	6-Lane Prime Arterial - Augmented	58,100	66,000	0.880	D	56,900	0.862	D	0.018	City of Encinitas	No





**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
El Camino Real	Between Encinitas Boulevard and 213 S El Camino Real	6-Lane Prime Arterial	39,800	57,000	0.698	C or better	39,400	0.691	C or better	0.007	City of Encinitas	No
	Between 213 S El Camino Real and Crest Drive	6-Lane Prime Arterial	33,800	57,000	0.593	C or better	33,800	0.593	C or better	0.000	City of Encinitas	No
	Between Crest Drive and Willowspring Drive	6-Lane Prime Arterial	36,100	57,000	0.633	C or better	36,200	0.635	C or better	-0.002	City of Encinitas	No
	Between Willowspring Drive and Santa Fe Drive	4 Lane Major Roadway-Augmented	37,600	45,400	0.828	D	37,500	0.826	D	0.002	City of Encinitas	No
	Between Santa Fe Drive and Sage Canyon Drive	4 Lane Major Roadway-Augmented	29,300	45,400	0.645	C or better	28,400	0.626	C or better	0.019	City of Encinitas	No
	Between Sage Canyon Drive and Manchester Avenue	4-Lane Major Roadway	28,600	35,200	0.813	D	27,700	0.787	C or better	0.026	City of Encinitas	No
Village Park Way	Between Mountain Vista Drive and Parkdale Drive	4-Lane Major Roadway	11,000	35,200	0.313	C or better	10,900	0.310	C or better	0.003	City of Encinitas	No
	Between Parkdale Drive and Encinitas Boulevard	4-Lane Major Roadway	14,400	35,200	0.409	C or better	14,200	0.403	C or better	0.006	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Rancho Santa Fe Road	Between Olivenhain Road and Calle Acervo	4-Lane Major Arterial	17,400	40,000	0.435	B	17,400	0.435	B	0.000	City of Carlsbad	No
	Between Calle Acervo/Avenida La Posta and Olive Crest Drive	2-Lane Local Roadway – Augmented	16,400	20,000	0.820	D	15,900	0.795	C or better	0.025	City of Encinitas	No
	Between Olive Crest Drive and 13 <sup>th</sup> Street	2-Lane Local Roadway – Augmented	16,200	20,000	0.810	D	15,800	0.790	C or better	0.020	City of Encinitas	No
	Between 13 <sup>th</sup> Street and 11 <sup>th</sup> Street	2-Lane Local Roadway - Augmented	16,100	20,000	0.805	D	15,700	0.785	C or better	0.020	City of Encinitas	No
	Between 11 <sup>th</sup> Street and El Camino Del Norte	2-Lane Local Roadway - Augmented	16,300	20,000	0.815	D	15,800	0.790	C or better	0.025	City of Encinitas	No
	Between El Camino Del Norte and 9 <sup>th</sup> Street	2-Lane Local Roadway - Augmented	13,700	20,000	0.685	C or better	13,300	0.665	C or better	0.020	City of Encinitas	No
	Between 9 <sup>th</sup> Street and 8 <sup>th</sup> Street	2-Lane Local Roadway	14,000	14,000	1.000	E	13,500	0.964	E	0.036	City of Encinitas	Yes
	Between 8 <sup>th</sup> Street and 7 <sup>th</sup> Street	2-Lane Local Roadway	14,400	14,000	1.029	F	13,900	0.993	E	0.036	City of Encinitas	Yes
	Between 7 <sup>th</sup> Street and Encinitas Boulevard	2-Lane Local Roadway - Augmented	18,300	20,000	0.915	E	15,200	0.760	C or better	0.155	City of Encinitas	Yes



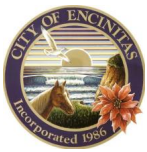
**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Manchester Avenue	Between Encinitas Boulevard and El Camino Real	2-Lane Local Roadway – Augmented	13,500	20,000	0.675	C or better	12,300	0.615	C or better	0.060	City of Encinitas	No
	Between Manchester Avenue and Mira Costa College	4 Lane Major Roadway- Augmented	36,700	45,400	0.808	D	35,400	0.780	C or better	0.028	City of Encinitas	No
	Between Mira Costa College and I-5 NB On-Ramp	4 Lane Major Roadway- Augmented	36,800	45,400	0.811	D	35,700	0.786	C or better	0.025	City of Encinitas	No
	Between I-5 NB Ramps and I-5 SB Ramps	2-Lane Local Roadway - Augmented	40,700	20,000	2.035	F	40,200	2.010	F	0.025	City of Encinitas	Yes
	Between I-5 SB Ramps and Ocean Cove Drive	2-Lane Local Roadway - Augmented	12,000	20,000	0.600	C or better	11,900	0.595	C or better	0.005	City of Encinitas	No
	Between Ocean Cove Drive and Seaside Cardiff-by-the-sea residential area driveway	2-Lane Local Roadway	11,900	14,000	0.850	D	11,900	0.850	D	0.000	City of Encinitas	No
	Between Seaside Cardiff-by-the-sea residential area driveway and San Elijo Water Reclamation Facility Driveway	2-Lane Local Roadway - Augmented	11,900	20,000	0.595	C or better	11,900	0.595	C or better	0.000	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Manchester Avenue	Between San Elijo Water Reclamation Facility Driveway and Manchester Avenue	2-Lane Local Roadway	11,800	14,000	0.843	D	11,800	0.843	D	0.000	City of Encinitas	No
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	2-Lane Local Roadway	17,100	14,000	1.221	F	16,400	1.164	F	0.050	City of Encinitas	Yes
	Between Vulcan Avenue and Sheridan Road	2-Lane Local Roadway	17,000	14,000	1.214	F	16,300	1.164	F	0.050	City of Encinitas	Yes
	Between Sheridan Road and I-5 SB Ramps	2-Lane Local Roadway - Augmented	22,600	20,000	1.130	F	22,000	1.100	F	0.030	City of Encinitas	Yes
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Arterial	29,700	40,000	0.743	C	29,300	0.733	C	0.010	City of Carlsbad	No
	Between I-5 NB Ramps and Piraeus Street	5-Lane Major Arterial <sup>5</sup>	39,700	41,667	0.953	E	39,500	0.948	E	0.005	City of Carlsbad	No
	Between Piraeus Street and Saxony Road	4-Lane Major Arterial	39,900	40,000	0.998	E	39,600	0.990	E	0.008	City of Carlsbad	No
	Between Saxony Road and El Camino Real	4-Lane Major Arterial	42,000	40,000	1.050	F	42,000	1.050	F	0.000	City of Carlsbad	No
	Between El Camino Real and La Costa Towne Center traffic signal	4-Lane Major Arterial	20,900	40,000	0.523	B	20,700	0.518	B	0.004	City of Carlsbad	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
La Costa Avenue	Between La Costa Towne Center traffic signal and Fairway Lane	4-Lane Major Arterial	21,000	40,000	0.525	B	20,900	0.523	B	0.002	City of Carlsbad	No
	Between Fairway Lane and Calle Madero	3-Lane Collector <sup>6</sup>	20,800	22,500	0.924	E	20,700	0.920	E	0.004	City of Carlsbad	No
Leucadia Blvd	Between North Coast Highway 101 and Vulcan Avenue	4-Lane Collector	15,600	32,400	0.481	C or better	14,300	0.441	C or better	0.040	City of Encinitas	No
	Between Vulcan Avenue and Hermes Avenue	2-Lane Local Roadway - Augmented	17,200	20,000	0.860	D	16,300	0.815	D	0.045	City of Encinitas	No
	Between Hermes Avenue and Hygeia Avenue	2-Lane Local Roadway - Augmented	16,600	20,000	0.830	D	15,700	0.785	C or better	0.045	City of Encinitas	No
	Between Hygeia Avenue and Hymettus Avenue	2-Lane Local Roadway - Augmented	15,000	20,000	0.750	C or better	17,400	0.870	D	-0.120	City of Encinitas	No
	Between Hymettus Avenue and Orpheus Avenue	2-Lane Local Roadway - Augmented	20,000	20,000	1.000	E	19,200	0.960	E	0.040	City of Encinitas	Yes
	Between Orpheus Avenue and I-5 SB Ramps	4-Lane Major Roadway	18,500	35,200	0.526	C or better	17,700	0.503	C or better	0.023	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Roadway	28,900	35,200	0.821	D	28,600	0.813	D	0.008	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Leucadia Blvd	Between Piraeus Street and Urania Avenue	4 Lane Major Roadway-Augmented	44,200	45,400	0.974	E	44,100	0.971	E	0.003	City of Encinitas	No
	Between Urania Avenue and Saxony Road	4 Lane Major Roadway-Augmented	44,000	45,400	0.969	E	44,100	0.971	E	-0.002	City of Encinitas	No
	Between Saxony Road and Sidonia Street	4 Lane Major Roadway-Augmented	42,000	45,400	0.925	E	42,400	0.934	E	-0.009	City of Encinitas	No
	Between Sidonia Street and Quail Gardens Drive	4 Lane Major Roadway-Augmented	42,100	45,400	0.927	E	42,400	0.934	E	-0.007	City of Encinitas	No
	Between Quail Gardens Drive and Garden View Road	4 Lane Major Roadway-Augmented	47,100	45,400	1.037	F	47,100	1.037	F	0.000	City of Encinitas	No
	Between Garden View Road and Town Center Place	4 Lane Major Roadway-Augmented	32,000	45,400	0.705	C or better	34,700	0.764	C or better	-0.059	City of Encinitas	No
	Between Town Center Place and El Camino Real	6-Lane Prime Arterial	38,900	57,000	0.682	C or better	39,000	0.684	C or better	-0.002	City of Encinitas	No
Mountain Vista Drive	Between El Camino Real and Wandering Road	2-Lane Local Roadway - Augmented	15,000	20,000	0.750	C or better	15,000	0.750	C or better	0.000	City of Encinitas	No
	Between Wandering Road and Village Park Way	2-Lane Local Roadway - Augmented	9,300	20,000	0.465	C or better	9,300	0.465	C or better	0.000	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

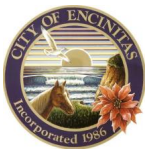
Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Lone Jack Drive	Between Rancho Santa Fe Road and northern terminus	2-Lane Local Roadway	8,200	14,000	0.586	C or better	8,400	0.600	C or better	-0.014	City of Encinitas	No
El Camino Del Norte	Between Rancho Santa Fe Road and San Dieguito CPA boundary	2-Lane Local Roadway	7,800	14,000	0.557	C or better	7,900	0.564	C or better	-0.007	City of Encinitas	No
	Between San Dieguito CPA boundary to Via De Fortuna	2-Lane Light Collector with Reduced Shoulder	7,600	9,700	0.784	C or better	7,800	0.804	D	-0.020	County of San Diego	No
Encinitas Blvd	Between North Coast Highway 101 and Vulcan Avenue	4-Lane Collector	22,700	32,400	0.701	C or better	22,300	0.688	C or better	0.013	City of Encinitas	No
	Between Vulcan Avenue and I-5 SB Ramps	4-Lane Major Roadway – Augmented	33,900	45,400	0.746	C or better	34,100	0.751	C or better	-0.005	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Roadway	39,600	35,200	1.125	F	38,500	1.094	F	0.031	City of Encinitas	Yes
	Between I-5 NB Ramps and Saxony Road	4-Lane Major Roadway	43,000	35,200	1.222	F	41,400	1.176	F	0.046	City of Encinitas	Yes
	Between Saxony Road and Calle Magdalena	6-Lane Prime Arterial - Augmented	36,400	66,000	0.552	C or better	35,400	0.536	C or better	0.016	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Encinitas Blvd	Between Calle Magdalena and Encinitas Town Country traffic signal	6-Lane Prime Arterial	41,400	57,000	0.726	C or better	40,000	0.702	C or better	0.024	City of Encinitas	No
	Between Encinitas Town Country traffic signal and Quail Gardens Drive	4-Lane Major Roadway-Augmented	38,400	45,400	0.846	D	36,000	0.793	C or better	0.053	City of Encinitas	No
	Between Quails Garden Drive and Delphinium Street	4-Lane Major Roadway	39,700	35,200	1.128	F	37,700	1.071	F	0.057	City of Encinitas	Yes
	Between Delphinium Street and Balour Drive	4-Lane Major Roadway	39,900	35,200	1.134	F	38,300	1.088	F	0.046	City of Encinitas	Yes
	Between Balour Drive and Via Cantebria	4-Lane Major Roadway	48,700	35,200	1.384	F	47,500	1.349	F	0.035	City of Encinitas	Yes
	Between Via Cantebria and El Camino Real	4-Lane Major Roadway	30,400	35,200	0.864	D	29,400	0.835	D	0.029	City of Encinitas	No
	Between El Camino Real and Village Square Drive	4-Lane Major Roadway	29,900	35,200	0.849	D	31,000	0.881	D	-0.032	City of Encinitas	No
	Between Village Square Drive and Turner Avenue	4-Lane Major Roadway	30,000	35,200	0.852	D	29,300	0.832	D	0.020	City of Encinitas	No
	Between Turner Avenue and Cerro Street	4-Lane Major Roadway	30,000	35,200	0.852	D	29,300	0.832	D	0.020	City of Encinitas	No
	Between Cerro Street and Village Park Way	4-Lane Major Roadway	30,700	35,200	0.872	D	29,700	0.844	D	0.028	City of Encinitas	No





**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Encinitas Blvd	Between Village Park Way to Willowspring Drive	4-Lane Major Roadway	29,000	35,200	0.824	D	27,900	0.793	C or better	0.031	City of Encinitas	No
	Between Willowspring Drive to Rancho Santa Fe Road	4-Lane Major Roadway	23,900	35,200	0.679	C or better	22,700	0.645	C or better	0.034	City of Encinitas	No
South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	2-Lane Local Roadway - Augmented	19,500	20,000	0.975	E	18,580	0.930	E	0.045	City of Encinitas	Yes
	Between City of Encinitas Limits and El Mirlo	2-Lane Light Collector with Reduced Shoulder	19,500	9,700	2.010	F	18,580	1.915	F	0.095	County of San Diego	Yes
F Street	Between Vulcan Avenue and Cornish Drive	2-Lane Local Roadway	6,400	14,000	0.457	C or better	6,200	0.443	C or better	0.014	City of Encinitas	No
Requeza Street	Between Cornish Drive and San Dieguito Drive	2-Lane Local Roadway	6,500	14,000	0.464	C or better	6,300	0.450	C or better	0.014	City of Encinitas	No
	Between San Dieguito Drive and Stratford Drive	2-Lane Local Roadway	6,500	14,000	0.464	C or better	6,300	0.450	C or better	0.014	City of Encinitas	No
	Between Stratford Drive and Regal Road	2-Lane Local Roadway	7,000	14,000	0.500	C or better	6,800	0.486	C or better	0.014	City of Encinitas	No
	Between Regal Road and West Lake Drive	2-Lane Local Roadway	7,600	14,000	0.543	C or better	6,400	0.457	C or better	0.086	City of Encinitas	No
	Between West Lake Drive and Nardo Drive	2-Lane Local Roadway	5,200	14,000	0.371	C or better	4,800	0.343	C or better	0.028	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Santa Fe Drive	Between Vulcan Avenue and Cornish Drive	2-Lane Local Roadway	9,000	14,000	0.643	C or better	9,000	0.643	C or better	0.000	City of Encinitas	No
	Between Cornish Drive and Summit Avenue	2-Lane Local Roadway	9,000	14,000	0.643	C or better	9,000	0.643	C or better	0.000	City of Encinitas	No
	Between Summit Avenue and Devonshire	2-Lane Local Roadway	10,300	14,000	0.736	C or better	10,100	0.721	C or better	0.015	City of Encinitas	No
	Between Devonshire Drive and Scripps Memorial Hospital Encinitas traffic signal	2-Lane Local Roadway - Augmented	15,600	20,000	0.780	C or better	15,200	0.760	C or better	0.020	City of Encinitas	No
	Between Scripps Memorial Hospital Encinitas traffic signal and I-5 SB Ramps	4-Lane Collector	15,600	32,400	0.481	C or better	15,200	0.469	C or better	0.012	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	3-Lane Major Roadway	22,900	26,400	0.867	D	22,400	0.848	D	0.019	City of Encinitas	No
	Between I-5 NB Ramps and Regal Road	2-Lane Local Roadway - Augmented	16,500	20,000	0.825	D	16,100	0.805	D	0.020	City of Encinitas	No
	Between Regal Road and Gardena Road	2-Lane Local Roadway - Augmented	16,500	20,000	0.825	D	16,100	0.805	D	0.020	City of Encinitas	No
	Between Gardena Road and Nardo Road	2-Lane Local Roadway - Augmented	16,500	20,000	0.825	D	16,100	0.805	D	0.020	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Santa Fe Drive	Between Nardo Road and Windsor Road/Bonita Drive	2-Lane Local Roadway - Augmented	18,100	20,000	0.905	E	17,700	0.885	D	0.020	City of Encinitas	Yes
	Between Windsor Road/Bonita Drive and Balour Drive	2-Lane Local Roadway - Augmented	18,100	20,000	0.905	E	17,700	0.885	D	0.020	City of Encinitas	Yes
	Between Balour Drive and Lake Drive	2-Lane Local Roadway - Augmented	19,000	20,000	0.950	E	18,600	0.930	E	0.020	City of Encinitas	No
	Between Lake Drive and Crest Drive	2-Lane Local Roadway – Augmented	18,200	20,000	0.910	E	17,700	0.885	D	0.025	City of Encinitas	Yes
	Between Crest Drive and El Camino Real	2-Lane Local Roadway - Augmented	18,200	20,000	0.910	E	17,700	0.885	D	0.025	City of Encinitas	Yes
Birmingham Drive	Between San Elijo Avenue and MacKinnon Avenue	2-Lane Local Roadway – Augmented	15,500	20,000	0.775	C or better	15,500	20,000	0.775	0.000	City of Encinitas	No
	Between MacKinnon Avenue and Carol View Drive	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	15,500	20,000	0.775	0.000	City of Encinitas	No
	Between Carol View Drive and I-5 SB Ramps	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	15,500	20,000	0.775	0.000	City of Encinitas	No



**Table 4.11  
Roadway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Build Your Own				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Birmingham Drive	Between I-5 SB Ramps and I-5 NB Ramps	2-Lane Local Roadway	17,400	14,000	1.243	<b>F</b>	17,400	14,000	1.243	0.000	City of Encinitas	No
	Between I-5 NB Ramps and Villa Cardiff Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	14,000	0.629	0.000	City of Encinitas	No
	Between Villa Cardiff Drive and Playa Riviera	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	14,000	0.629	0.000	City of Encinitas	No
	Between Playa Riviera and Freda Lane	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	14,000	0.629	0.000	City of Encinitas	No
	Between Freda Lane and Lake Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	14,000	0.629	0.000	City of Encinitas	No

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates substandard LOS E or F.

SI? = Significant Impact?

<sup>1</sup> Functional Classification is representative of existing segment functionality and does not take into consideration the ultimate or final classification.

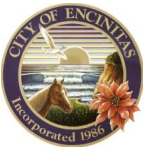
<sup>2</sup> 3-Lane Major Roadway is 75% capacity of a 4-Lane Major Roadway.

<sup>3</sup> 3-Lane Collector is 75% capacity of a 4-Lane Collector.

<sup>4</sup> 5-Lane Prime is 84% capacity of 6-Lane Prime Arterial (SANTEC).

<sup>5</sup> 5-Lane Major is 84% capacity of 6-Lane Major Arterial (SANTEC).

<sup>6</sup> 3-Lane Collector is 75% capacity of 4-Lane Collector (SANTEC).



## Freeway Segment Analysis

**Table 4.12** displays freeway segment LOS analysis results for the key I-5 freeway segments in the vicinity of the project study area under the Build Your Own strategy. Average Daily Traffic (ADT) volumes were obtained from the City of Encinitas subarea model. The traffic volumes anticipated in the HOV lanes were subtracted from the total ADT. As a result, Table 4.12 only reports the I-5 mainline traffic volumes and operations. A table showing the mainline ADT and HOV lane volume comparisons is also provided in **Appendix K**.

As shown in the table, all freeway segments within the study area are projected to operate at LOS D or better. In addition, based on the significance criteria outlined in Section 2.8, the “Build Your Own” strategy would not create a significant traffic related impact to any of the study area freeway segments. The I-5 North Coast Improvement project, which will ultimately improve I-5, from La Jolla Village Drive in San Diego to Harbor Drive in Oceanside, to eight all-purpose lanes and four HOV lanes, was assumed under this scenario.



**Table 4.12  
Freeway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Freeway	Segment	ADT <sup>(a)</sup>	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour Volume	V/C	LOS	No-Project		Δ V/C	SI?
												V/C	LOS		
I-5	Palomar Airport Road and Poinsettia Lane	201,800	NB	4M+1A	10,810	51.3%	6.9%	4.8%	7,500	0.69	C	0.69	C	0.0	No
			SB	4M+1A	10,810	54.2%	7.3%	4.8%	8,400	0.78	C	0.78	C	0.0	No
	Poinsettia Lane and La Costa Avenue	200,100	NB	4M	9,400	51.9%	6.9%	4.8%	7,600	0.810	D	0.810	D	0.0	No
			SB	4M	9,400	54.2%	7.3%	4.8%	8,300	0.880	D	0.880	D	0.0	No
	La Costa Avenue and Leucadia Boulevard	197,100	NB	4M	9,400	51.4%	7.1%	4.8%	7,600	0.810	D	0.810	D	0.0	No
			SB	4M+1A	10,810	63.0%	5.7%	4.8%	7,500	0.69	C	0.69	C	0.0	No
	Leucadia Boulevard and Encinitas Boulevard	116,900	NB	4M+1A	10,810	87.1%	7.1%	4.8%	7,600	0.70	C	0.71	C	-0.01	No
			SB	4M	9,400	63.0%	5.7%	4.8%	4,400	0.470	B	0.470	B	0.0	No
	Encinitas Boulevard and Santa Fe Drive	196,200	NB	4M	9,400	51.2%	7.1%	4.8%	7,500	0.80	D	0.800	D	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,500	0.69	C	0.69	C	0.0	No
	Santa Fe Drive and Birmingham Drive	197,000	NB	4M+1A	10,810	52.3%	7.1%	4.8%	7,700	0.71	C	0.71	C	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,600	0.70	C	0.69	C	0.01	No



**Table 4.12  
Freeway Segment Level of Service – Future Year 2035 Build Your Own Strategy**

Freeway	Segment	ADT <sup>(a)</sup>	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour Volume	V/C	LOS	No-Project		Δ V/C	SI?
												V/C	LOS		
I-5	Birmingham Drive and Manchester Avenue	198,500	NB	4M+1A	10,810	54.1%	7.1%	4.8%	8,000	0.74	C	0.74	C	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,600	0.70	C	0.70	C	0.0	No
	Manchester Avenue and Lomas Santa Fe Drive	249,300	NB	4M+1A	10,810	50.1%	7.1%	4.8%	9,300	0.860	D	0.860	D	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	9,600	0.890	D	0.880	D	0.01	No
	Lomas Santa Fe Drive and Via De La Valle	248,500	NB	4M+1A	10,810	50.5%	7.1%	4.8%	9,400	0.870	D	0.870	D	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	9,500	0.880	D	0.89	D	-0.01	No

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates unacceptable LOS E or F.

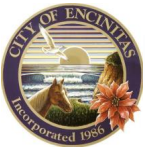
SI? = Significant Impact?

M = Mainline. A = Auxiliary Lane.

<sup>a</sup> Traffic volumes provided by Caltrans (2013). | \* Reduction of estimated HOV volume was applied to the AADT.

<sup>b</sup> The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.

<sup>c</sup> D = Directional split. | <sup>d</sup> K = Peak hour %. | <sup>e</sup> HV = Heavy vehicle %.



## 4.2.4 Modified Mixed Use Plan “MMUP” Strategy

### Roadway Segment Analysis

**Table 4.13** displays the level of service analysis results for the study area roadway segments within the study area under No-Project conditions and with the implementation of the Modified Mixed Use Plan strategy. **Figure 4-5** displays the projected average daily traffic volumes, the anticipated roadway level of service, as well as intersection level of service results within the study area.

As shown in Table 4.13, the following thirty-three (33) roadway segments within the project study area are projected operate at substandard level of service E or F under the Modified Mixed Use Plan strategy, with twenty-seven (27) located in Encinitas, five (5) located in Carlsbad, and one (1) located in the unincorporated County of San Diego:

#### City of Encinitas (27)

- South Coast Highway 101, between Swami’s Parking and San Elijo State Beach – LOS F;
- Via Cantabria, between Town Center Drive and Garden View Road – LOS F (Not a CE road);
- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – LOS E;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – LOS F;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Blvd – LOS F;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – LOS F;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – LOS F;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – LOS F;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – LOS F;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – LOS F;
- Leucadia Boulevard, between Piraeus Street and Urania Avenue – LOS E;
- Leucadia Boulevard, between Urania Avenue and Saxony Road – LOS E;
- Leucadia Boulevard, between Saxony Road and Sidonia Street – LOS E;
- Leucadia Boulevard, between Sidonia Street and Quail Gardens Drive – LOS E;
- Leucadia Boulevard, between Quail Gardens Drive and Garden View Road – LOS F;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – LOS F;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – LOS F;
- Encinitas Boulevard, between Quail Gardens Drive and Delphinium Street – LOS F;
- Encinitas Boulevard, between Delphinium Street and Balour Drive – LOS F;
- Encinitas Boulevard, between Balour Drive and Via Cantabria – LOS F;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits – LOS E;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – LOS E;
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive – LOS E;
- Santa Fe Drive, between Balour Drive and Lake Drive – LOS E;
- Santa Fe Drive, between Lake Drive and Crest Drive – LOS E;
- Santa Fe Drive, between Crest Drive and El Camino Real – LOS E; and
- Birmingham Drive, between I-5 SB Ramps and I-5 NB Ramps – LOS F.





### City of Carlsbad (5)

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

### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.

Out of the 33 deficient roadway segments, the following twenty (20) segments are anticipated to be impacted under the Modified Mixed Use Plan strategy, based on the significance criteria outlined in Section 2.8:

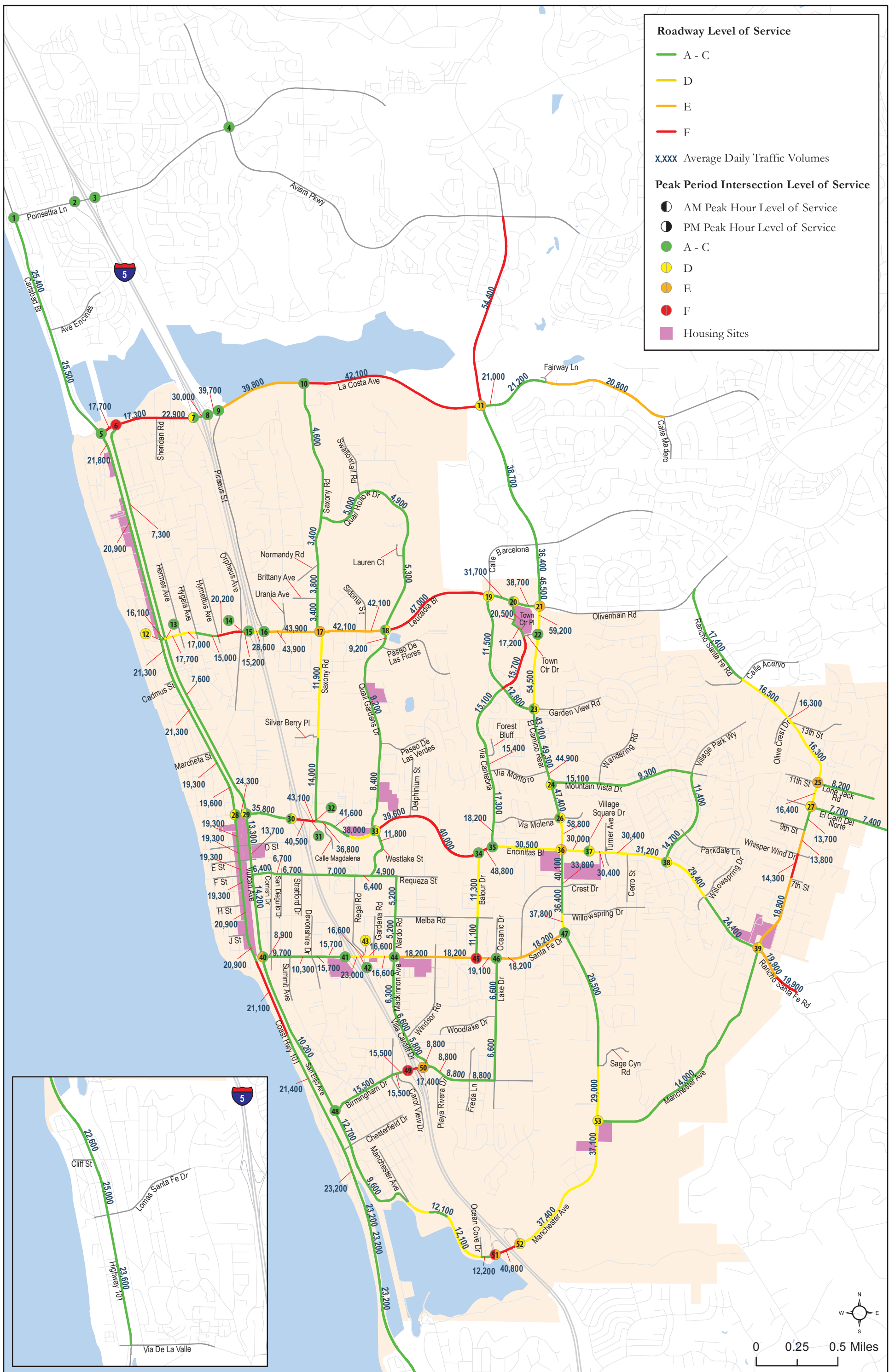
### City of Encinitas (19)

- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – LOS E;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – LOS F;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Boulevard – LOS E;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – LOS F;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – LOS F;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – LOS F;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – LOS F;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – LOS F;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – LOS F;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – LOS F;
- Encinitas Boulevard, between Quail Gardens Drive and Delphinium Street – LOS F;
- Encinitas Boulevard, between Delphinium Street and Balour Drive – LOS F;
- Encinitas Boulevard, between Balour Drive and Via Cantabria – LOS F;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits – LOS E;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – LOS E;
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive – LOS E;
- Santa Fe Drive, between Balour Drive and Lake Drive – LOS E;
- Santa Fe Drive, between Lake Drive and Crest Drive – LOS E; and
- Santa Fe Drive, between Crest Drive and El Camino Real – LOS E.

### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.

Mitigation measures addressing these roadway segment impacts are discussed in Chapter 5.



Encinitas Housing Element TIS

Figure 4-5

Future Year 2035 Roadway ADT and LOS and Intersection LOS - Modified Mixed Use Plan



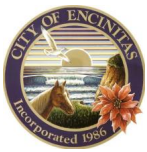
**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Carlsbad Blvd	Between Poinsettia Lane and Avenida Encinas	4-Lane Major Arterial	25,500	40,000	0.638	C	25,300	0.633	C	0.004	City of Carlsbad	No
	Between Avenida Encinas and La Costa Avenue	4-Lane Major Arterial	25,400	40,000	0.635	C	24,700	0.618	C	0.017	City of Carlsbad	No
North Coast Highway 101	Between La Costa Avenue and 600 feet south of La Costa Avenue	4-Lane Major Roadway	21,800	35,200	0.619	C or better	19,900	0.565	C or better	0.054	City of Encinitas	No
	Between 600 feet south of La Costa Avenue and Leucadia Blvd	3-Lane Major Roadway <sup>2</sup>	20,900	26,400	0.792	C or better	18,100	0.686	C or better	0.106	City of Encinitas	No
	Between Leucadia Blvd and Cadmus Street	4-Lane Major Roadway	21,300	35,200	0.605	C or better	19,900	0.565	C or better	0.040	City of Encinitas	No
	Between Cadmus Street and Marcheta Street	4-Lane Major Roadway	21,300	35,200	0.605	C or better	19,900	0.565	C or better	0.040	City of Encinitas	No
	Between Marcheta Street and 660 feet south of Marcheta Street	4-Lane Major Roadway	19,300	35,200	0.548	C or better	19,900	0.565	C or better	-0.017	City of Encinitas	No
	Between 660 feet south of Marcheta Street and Encinitas Blvd	4-Lane Major Roadway	19,600	35,200	0.557	C or better	19,900	0.565	C or better	-0.008	City of Encinitas	No
South Coast Highway 101	Between Encinitas Blvd and D Street	4-Lane Major Roadway	19,300	35,200	0.548	C or better	19,400	0.551	C or better	-0.003	City of Encinitas	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

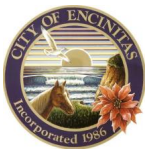
Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
South Coast Highway 101	Between D Street and E Street	4-Lane Major Roadway	19,300	35,200	0.548	C or better	19,400	0.551	C or better	-0.003	City of Encinitas	No
	Between E Street and F Street	4-Lane Major Roadway	19,300	35,200	0.548	C or better	19,400	0.551	C or better	-0.003	City of Encinitas	No
	Between F Street and H Street	4-Lane Major Roadway	19,300	35,200	0.548	C or better	19,400	0.551	C or better	-0.003	City of Encinitas	No
	Between H Street and J Street	4-Lane Major Roadway	20,900	35,200	0.594	C or better	21,100	0.599	C or better	-0.005	City of Encinitas	No
	Between J Street and Swami's Parking	3-Lane Major Roadway <sup>2</sup>	20,900	26,400	0.792	C or better	21,100	0.799	C or better	-0.007	City of Encinitas	No
	Between Swami's Parking and San Elijo State Beach	2-Lane Local Roadway	21,100	14,000	1.507	F	21,300	1.521	F	-0.014	City of Encinitas	No
	Between San Elijo State Beach and Chesterfield	4-Lane Major Roadway	21,400	35,200	0.608	C or better	21,300	0.605	C or better	0.003	City of Encinitas	No
	Between Chesterfield and Cardiff State Beach traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	23,200	0.659	C or better	0.000	City of Encinitas	No
	Between Cardiff Beach State and Chart House traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	23,200	0.659	C or better	0.000	City of Encinitas	No
	Between Chart House traffic signal and Las Olas Mexican Restaurant traffic signal	4-Lane Major Roadway	23,200	35,200	0.659	C or better	23,200	0.659	C or better	0.000	City of Encinitas	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?	
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS				
South Coast Highway 101	Between Las Olas Mexican Restaurant traffic signal and City of Solana Beach boundary	4-Lane Major Roadway	23,200	35,200	0.659	C or better	23,200	0.659	C or better	0.000	City of Encinitas	No	
	North Highway 101	Between City of Solana Beach boundary and West Cliff Street	4-Lane Major Arterial	22,600	40,000	0.565	C	22,500	0.563	C	0.002	City of Solana Beach	No
		Between West Cliff and Lomas Santa Fe	4-Lane Major Arterial	25,000	40,000	0.625	C	25,000	0.625	C	0.000	City of Solana Beach	No
Between Lomas Santa Fe Drive and Via De La Valle		4-Lane Major Arterial	23,600	40,000	0.590	C	23,600	0.590	C	0.000	City of Solana Beach	No	
Vulcan Avenue	Between La Costa Avenue and Leucadia Boulevard	2-Lane Local Roadway	7,300	14,000	0.521	C or better	7,000	0.500	C or better	0.021	City of Encinitas	No	
	Between Leucadia Blvd and Encinitas Boulevard	2-Lane Local Roadway	7,600	14,000	0.543	C or better	7,500	0.536	C or better	0.007	City of Encinitas	No	
	Between Encinitas Boulevard and D Street	4-Lane Collector	13,300	32,400	0.410	C or better	12,900	0.398	C or better	0.012	City of Encinitas	No	
	Between D Street and E Street	4-Lane Collector	13,700	32,400	0.423	C or better	12,900	0.398	C or better	0.025	City of Encinitas	No	
	Between E Street and Santa Fe Drive	2-Lane Local Roadway – Augmented	14,200	20,000	0.710	C or better	13,100	0.655	C or better	0.055	City of Encinitas	No	





**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
San Elijo Avenue	Between Santa Fe Drive and Birmingham Drive	2-Lane Local Roadway	10,200	14,000	0.729	C or better	10,100	0.721	C or better	0.008	City of Encinitas	No
	Between Birmingham Drive and Chesterfield Drive	2-Lane Local Roadway - Augmented	12,700	20,000	0.635	C or better	12,500	0.625	C or better	0.010	City of Encinitas	No
	Between Chesterfield Drive and Manchester Avenue	2-Lane Local Roadway – Augmented	9,600	20,000	0.480	C or better	9,500	0.475	C or better	0.005	City of Encinitas	No
Saxony Road	Between La Costa Avenue and Quail Gardens Drive	2-Lane Local Roadway	4,600	14,000	0.329	C or better	4,600	0.329	C or better	0.000	City of Encinitas	No
	Between Quail Hollow Drive and Normandy Road	2-Lane Local Roadway	3,400	14,000	0.243	C or better	3,400	0.243	C or better	0.000	City of Encinitas	No
	Between Normandy Road and Brittany Avenue	2-Lane Local Roadway	3,800	14,000	0.271	C or better	3,900	0.279	C or better	-0.008	City of Encinitas	No
	Between Brittany Avenue and Leucadia Boulevard	2-Lane Local Roadway	3,400	14,000	0.243	C or better	3,500	0.250	C or better	-0.007	City of Encinitas	No
	Between Leucadia Boulevard and Silver Berry Place	2-Lane Local Roadway	11,900	14,000	0.850	D	11,800	0.843	D	0.007	City of Encinitas	No
	Between Silver Berry Place and Encinitas Boulevard	2-Lane Local Roadway – Augmented	14,000	20,000	0.700	C or better	13,800	0.690	C or better	0.010	City of Encinitas	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

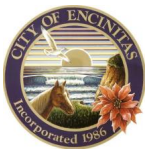
Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Quail Hollow Drive	Between Swallow Tail Road and Saxony Road	2-Lane Local Roadway	5,000	14,000	0.357	C or better	5,000	0.357	C or better	0.000	City of Encinitas	No
Quail Gardens Drive	Between Swallow Tail Road and Lauren Court	2-Lane Local Roadway - Augmented	4,900	20,000	0.245	C or better	4,900	0.245	C or better	0.000	City of Encinitas	No
	Between Lauren Court and Leucadia Boulevard	2-Lane Local Roadway - Augmented	5,300	20,000	0.265	C or better	5,300	0.265	C or better	0.000	City of Encinitas	No
	Between Leucadia Boulevard and Paseo De Las Flores	2-Lane Local Roadway - Augmented	9,200	20,000	0.460	C or better	9,100	0.455	C or better	0.005	City of Encinitas	No
	Between Paseo De Las Flores and Paseo De Las Verdes	2-Lane Local Roadway - Augmented	9,200	20,000	0.460	C or better	8,900	0.445	C or better	0.015	City of Encinitas	No
	Between Paseo De Las Verdes and Encinitas Boulevard	2-Lane Local Roadway - Augmented	8,400	20,000	0.420	C or better	8,200	0.410	C or better	0.010	City of Encinitas	No
Westlake Street	Between Encinitas Boulevard and Requeza Street	2-Lane Local Roadway – Augmented	11,800	20,000	0.590	C or better	11,800	0.590	C or better	0.000	City of Encinitas	No
Nardo Drive	Between Requeza Street and Melba Road	2-Lane Local Roadway	5,200	14,000	0.371	C or better	5,100	0.364	C or better	0.007	City of Encinitas	No
	Between Melba Road and Santa Fe Drive	2-Lane Local Roadway	5,200	14,000	0.371	C or better	5,100	0.364	C or better	0.007	City of Encinitas	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
MacKinnon Avenue	Between Santa Fe Drive and Villa Cardiff Drive	2-Lane Local Roadway	6,300	14,000	0.450	C or better	6,200	0.443	C or better	0.007	City of Encinitas	No
Villa Cardiff Drive	Between MacKinnon Avenue and Windsor Road	2-Lane Local Roadway	6,600	14,000	0.471	C or better	6,500	0.464	C or better	0.007	City of Encinitas	No
	Between Windsor Road and Birmingham Drive	2-Lane Local Roadway	5,800	14,000	0.414	C or better	5,700	0.407	C or better	0.007	City of Encinitas	No
Garden View Road	Between Leucadia Boulevard and Via Cantebria	4-Lane Major Roadway	11,500	35,200	0.327	C or better	11,500	0.327	C or better	0.000	City of Encinitas	No
	Between Via Cantebria and El Camino Real	4-Lane Major Roadway	12,800	35,200	0.364	C or better	12,900	0.366	C or better	-0.002	City of Encinitas	No
Town Center Place	Between Leucadia Boulevard and Town Center Place	4-Lane Collector (Not a CE)	20,500	32,400	0.633	C or better	20,000	0.617	C or better	0.016	City of Encinitas	No
	Between Town Center Place and Town Center Drive	4-Lane Collector (Not a CE)	17,200	32,400	0.531	C or better	17,800	0.549	C or better	-0.018	City of Encinitas	No
Via Cantebria	Between Town Center Drive and Garden View Road	2-Lane Local Roadway(Not a CE)	15,700	14,000	1.121	F	15,800	1.129	F	-0.008	City of Encinitas	No
	Between Garden View Road and Forrest Bluff	3-Lane Collector <sup>3</sup>	15,100	24,300	0.621	C or better	14,900	0.613	C or better	0.008	City of Encinitas	No
	Between Forrest Bluff and Via Montoro	4-Lane Collector	15,400	32,400	0.475	C or better	15,200	0.469	C or better	0.006	City of Encinitas	No





**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Via Cantebría	Between Via Montoro and Via Molena	4-Lane Collector	17,300	32,400	0.534	C or better	17,900	0.552	C or better	-0.018	City of Encinitas	No
	Between Via Molena and Encinitas Boulevard	4-Lane Collector	18,200	32,400	0.562	C or better	17,500	0.540	C or better	0.022	City of Encinitas	No
Balour Drive	Between Encinitas Boulevard and Melba Road	2-Lane Local Roadway	11,300	14,000	0.807	D	11,200	0.800	C or better	0.007	City of Encinitas	No
	Between Melba Road and Santa Fe Drive	2-Lane Local Roadway	11,100	14,000	0.793	C or better	10,700	0.764	C or better	0.029	City of Encinitas	No
Lake Drive	Between Santa Fe Drive and Woodlake Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	6,600	0.471	C or better	0.000	City of Encinitas	No
	Between Woodlake Drive and Birmingham Drive	2-Lane Local Roadway	6,600	14,000	0.471	C or better	6,600	0.471	C or better	0.000	City of Encinitas	No
El Camino Real	Between Aviara Parkway and La Costa Avenue	5-Lane Prime Arterial <sup>4</sup>	54,400	50,000	1.088	F	54,300	1.086	F	0.002	City of Carlsbad	No
	Between La Costa Avenue and Calle Barcelona	6-Lane Prime Arterial	38,700	60,000	0.645	C	38,400	0.640	C	0.005	City of Carlsbad	No
	Between Calle Barcelona and City of Carlsbad boundary	6-Lane Prime Arterial	36,400	60,000	0.607	C	36,500	0.608	C	-0.001	City of Carlsbad	No



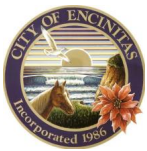
**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
El Camino Real	Between City of Carlsbad boundary and Leucadia Boulevard	6-Lane Prime Arterial - Augmented	46,500	66,000	0.705	C or better	46,700	0.708	C or better	-0.003	City of Encinitas	No
	Between Leucadia Boulevard and Town Center Drive	6-Lane Prime Arterial - Augmented	59,200	66,000	0.897	D	58,600	0.888	D	0.009	City of Encinitas	No
	Between Town Center Drive and Garden View Road	6-Lane Prime Arterial - Augmented	54,500	66,000	0.826	D	54,200	0.821	D	0.005	City of Encinitas	No
	Between Garden View Road and 331-339 El Camino Real	6-Lane Prime Arterial - Augmented	43,100	66,000	0.653	C or better	42,900	0.650	C or better	0.003	City of Encinitas	No
	Between 331-339 El Camino Real and Via Montoro	6-Lane Prime Arterial - Augmented	49,300	66,000	0.747	C or better	48,900	0.741	C or better	0.006	City of Encinitas	No
	Between Via Montoro and Mountain Vista	6-Lane Prime Arterial - Augmented	44,900	66,000	0.680	C or better	44,300	0.671	C or better	0.009	City of Encinitas	No
	Between Mountain Vista and Via Molena	6-Lane Prime Arterial - Augmented	47,400	66,000	0.718	C or better	47,000	0.712	C or better	0.006	City of Encinitas	No
	Between Via Molena and Encinitas Boulevard	6-Lane Prime Arterial - Augmented	58,800	66,000	0.891	D	56,900	0.862	D	0.029	City of Encinitas	No
	Between Encinitas Boulevard and 213 S El Camino Real	6-Lane Prime Arterial	40,100	57,000	0.704	C or better	39,400	0.691	C or better	0.013	City of Encinitas	No



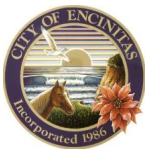
**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
El Camino Real	Between 213 S El Camino Real and Crest Drive	6-Lane Prime Arterial	33,800	57,000	0.593	C or better	33,800	0.593	C or better	0.000	City of Encinitas	No
	Between Crest Drive and Willowspring Drive	6-Lane Prime Arterial	36,400	57,000	0.639	C or better	36,200	0.635	C or better	0.004	City of Encinitas	No
	Between Willowspring Drive and Santa Fe Drive	4 Lane Major Roadway-Augmented	37,800	45,400	0.833	D	37,500	0.826	D	0.007	City of Encinitas	No
	Between Santa Fe Drive and Sage Canyon Drive	4 Lane Major Roadway-Augmented	29,500	45,400	0.650	C or better	28,400	0.626	C or better	0.024	City of Encinitas	No
	Between Sage Canyon Drive and Manchester Avenue	4-Lane Major Roadway	29,000	35,200	0.824	D	27,700	0.787	C or better	0.037	City of Encinitas	No
Village Park Way	Between Mountain Vista Drive and Parkdale Drive	4-Lane Major Roadway	11,400	35,200	0.324	C or better	10,900	0.310	C or better	0.014	City of Encinitas	No
	Between Parkdale Drive and Encinitas Boulevard	4-Lane Major Roadway	14,700	35,200	0.418	C or better	14,200	0.403	C or better	0.015	City of Encinitas	No
Rancho Santa Fe Road	Between Olivenhain Road and Calle Acervo	4-Lane Major Arterial	17,400	40,000	0.435	B	17,400	0.435	B	0.000	City of Carlsbad	No
	Between Calle Acervo/Avenida La Posta and Olive Crest Drive	2-Lane Local Roadway – Augmented	16,500	20,000	0.825	D	15,900	0.795	C or better	0.030	City of Encinitas	No



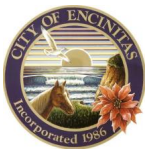
**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Rancho Santa Fe Road	Between Olive Crest Drive and 13th Street	2-Lane Local Roadway – Augmented	16,300	20,000	0.815	D	15,800	0.790	C or better	0.025	City of Encinitas	No
	Between 13th Street and 11th Street	2-Lane Local Roadway - Augmented	16,300	20,000	0.815	D	15,700	0.785	C or better	0.030	City of Encinitas	No
	Between 11th Street and El Camino Del Norte	2-Lane Local Roadway - Augmented	16,400	20,000	0.820	D	15,800	0.790	C or better	0.030	City of Encinitas	No
	Between El Camino Del Norte and 9th Street	2-Lane Local Roadway - Augmented	13,700	20,000	0.685	C or better	13,300	0.665	C or better	0.020	City of Encinitas	No
	Between 9th Street and 8th Street	2-Lane Local Roadway	13,800	14,000	0.986	E	13,500	0.964	E	0.022	City of Encinitas	Yes
	Between 8th Street and 7th Street	2-Lane Local Roadway	14,300	14,000	1.021	F	13,900	0.993	E	0.028	City of Encinitas	Yes
	Between 7th Street and Encinitas Boulevard	2-Lane Local Roadway - Augmented	18,800	20,000	0.940	E	15,200	0.760	C or better	0.180	City of Encinitas	Yes
Manchester Avenue	Between Encinitas Boulevard and El Camino Real	2-Lane Local Roadway – Augmented	14,000	20,000	0.700	C or better	12,300	0.615	C or better	0.085	City of Encinitas	No
	Between Manchester Avenue and Mira Costa College	4 Lane Major Roadway- Augmented	37,100	45,400	0.817	D	35,400	0.780	C or better	0.037	City of Encinitas	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Manchester Avenue	Between Mira Costa College and I-5 NB On-Ramp	4 Lane Major Roadway-Augmented	37,400	45,400	0.824	D	35,700	0.786	C or better	0.038	City of Encinitas	No
	Between I-5 NB Ramps and I-5 SB Ramps	2-Lane Local Roadway - Augmented	40,800	20,000	2.040	F	40,200	2.010	F	0.030	City of Encinitas	Yes
	Between I-5 SB Ramps and Ocean Cove Drive	2-Lane Local Roadway - Augmented	12,200	20,000	0.610	C or better	11,900	0.595	C or better	0.015	City of Encinitas	No
	Between Ocean Cove Drive and Seaside Cardiff-by-the-sea residential area driveway	2-Lane Local Roadway	12,100	14,000	0.864	D	11,900	0.850	D	0.014	City of Encinitas	No
	Between Seaside Cardiff-by-the-sea residential area driveway and San Elijo Water Reclamation Facility Driveway	2-Lane Local Roadway - Augmented	12,100	20,000	0.605	C or better	11,900	0.595	C or better	0.010	City of Encinitas	No
	Between San Elijo Water Reclamation Facility Driveway and Manchester Avenue	2-Lane Local Roadway	12,000	14,000	0.857	D	11,800	0.843	D	0.014	City of Encinitas	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	2-Lane Local Roadway	17,700	14,000	1.264	F	16,400	1.164	F	0.093	City of Encinitas	Yes
	Between Vulcan Avenue and Sheridan Road	2-Lane Local Roadway	17,300	14,000	1.236	F	16,300	1.164	F	0.072	City of Encinitas	Yes
	Between Sheridan Road and I-5 SB Ramps	2-Lane Local Roadway - Augmented	22,900	20,000	1.145	F	22,000	1.100	F	0.045	City of Encinitas	Yes
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Arterial	30,000	40,000	0.750	C or better	29,300	0.733	C	0.017	City of Carlsbad	No
	Between I-5 NB Ramps and Piraeus Street	5-Lane Major Arterial <sup>5</sup>	39,700	41,667	0.953	E	39,500	0.948	E	0.005	City of Carlsbad	No
	Between Piraeus Street and Saxony Road	4-Lane Major Arterial	39,800	40,000	0.995	E	39,600	0.990	E	0.005	City of Carlsbad	No
	Between Saxony Road and El Camino Real	4-Lane Major Arterial	42,100	40,000	1.053	F	42,000	1.050	F	0.002	City of Carlsbad	No
	Between El Camino Real and La Costa Towne Center traffic signal	4-Lane Major Arterial	21,000	40,000	0.525	B	20,700	0.518	B	0.007	City of Carlsbad	No
	Between La Costa Towne Center traffic signal and Fairway Lane	4-Lane Major Arterial	21,200	40,000	0.530	C	20,900	0.523	B	0.007	City of Carlsbad	No
	Between Fairway Lane and Calle Madero	3-Lane Collector <sup>6</sup>	20,800	22,500	0.924	E	20,700	0.920	E	0.004	City of Carlsbad	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

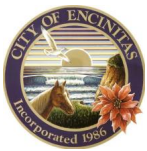
Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Leucadia Blvd	Between North Coast Highway 101 and Vulcan Avenue	4-Lane Collector	16,100	32,400	0.497	C or better	14,300	0.441	C or better	0.056	City of Encinitas	No
	Between Vulcan Avenue and Hermes Avenue	2-Lane Local Roadway - Augmented	17,700	20,000	0.885	D	16,300	0.815	D	0.070	City of Encinitas	No
	Between Hermes Avenue and Hygeia Avenue	2-Lane Local Roadway - Augmented	17,000	20,000	0.850	D	15,700	0.785	C or better	0.065	City of Encinitas	No
	Between Hygeia Avenue and Hymettus Avenue	2-Lane Local Roadway - Augmented	15,000	20,000	0.750	C or better	17,400	0.870	D	-0.120	City of Encinitas	No
	Between Hymettus Avenue and Orpheus Avenue	2-Lane Local Roadway - Augmented	20,200	20,000	1.010	F	19,200	0.960	E	0.050	City of Encinitas	Yes
	Between Orpheus Avenue and I-5 SB Ramps	4-Lane Major Roadway	15,200	35,200	0.432	C or better	17,700	0.503	C or better	-0.071	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Roadway	28,600	35,200	0.813	D	28,600	0.813	D	0.000	City of Encinitas	No
	Between Piraeus Street and Urania Avenue	4 Lane Major Roadway- Augmented	43,900	45,400	0.967	E	44,100	0.971	E	-0.004	City of Encinitas	No
	Between Urania Avenue and Saxony Road	4 Lane Major Roadway- Augmented	43,900	45,400	0.967	E	44,100	0.971	E	-0.004	City of Encinitas	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Leucadia Blvd	Between Saxony Road and Sidonia Street	4 Lane Major Roadway-Augmented	42,100	45,400	0.927	E	42,400	0.934	E	-0.007	City of Encinitas	No
	Between Sidonia Street and Quail Gardens Drive	4 Lane Major Roadway-Augmented	42,100	45,400	0.927	E	42,400	0.934	E	-0.007	City of Encinitas	No
	Between Quail Gardens Drive and Garden View Road	4 Lane Major Roadway-Augmented	47,000	45,400	1.035	F	47,100	1.037	F	-0.002	City of Encinitas	No
	Between Garden View Road and Town Center Place	4 Lane Major Roadway-Augmented	31,700	45,400	0.698	C or better	34,700	0.764	C or better	-0.066	City of Encinitas	No
	Between Town Center Place and El Camino Real	6-Lane Prime Arterial	38,700	57,000	0.679	C or better	39,000	0.684	C or better	-0.005	City of Encinitas	No
Mountain Vista Drive	Between El Camino Real and Wandering Road	2-Lane Local Roadway - Augmented	15,100	20,000	0.755	C or better	15,000	0.750	C or better	0.005	City of Encinitas	No
	Between Wandering Road and Village Park Way	2-Lane Local Roadway - Augmented	9,300	20,000	0.465	C or better	9,300	0.465	C or better	0.000	City of Encinitas	No
Lone Jack Drive	Between Rancho Santa Fe Road and northern terminus	2-Lane Local Roadway	8,200	14,000	0.586	C or better	8,400	0.600	C or better	-0.014	City of Encinitas	No





**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Modified Mixed Use Plan					No-Project			Δ V/C	Jurisdiction	SI?
		Functional Classification <sup>1</sup>	ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
El Camino Del Norte	Between Rancho Santa Fe Road and San Dieguito CPA boundary	2-Lane Local Roadway	7,700	14,000	0.550	C or better	7,900	0.564	C or better	-0.014	City of Encinitas	No
	Between San Dieguito CPA boundary to Via De Fortuna	2-Lane Light Collector with Reduced Shoulder	7,400	9,700	0.763	C	7,800	0.804	D	-0.041	County of San Diego	No
Encinitas Blvd	Between North Coast Highway 101 and Vulcan Avenue	4-Lane Collector	24,300	32,400	0.750	C or better	22,300	0.688	C or better	0.062	City of Encinitas	No
	Between Vulcan Avenue and I-5 SB Ramps	4-Lane Major Roadway – Augmented	35,800	45,400	0.788	C or better	34,100	0.751	C or better	0.037	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	4-Lane Major Roadway	40,500	35,200	1.151	F	38,500	1.094	F	0.057	City of Encinitas	Yes
	Between I-5 NB Ramps and Saxony Road	4-Lane Major Roadway	43,100	35,200	1.224	F	41,400	1.176	F	0.048	City of Encinitas	Yes
	Between Saxony Road and Calle Magdalena	6-Lane Prime Arterial - Augmented	36,800	66,000	0.558	C or better	35,400	0.536	C or better	0.022	City of Encinitas	No
	Between Calle Magdalena and Encinitas Town Country traffic signal	6-Lane Prime Arterial	41,600	57,000	0.730	C or better	40,000	0.702	C or better	0.028	City of Encinitas	No
	Between Encinitas Town Country traffic signal and Quail Gardens Drive	4-Lane Major Roadway-Augmented	38,000	45,400	0.837	D	36,000	0.793	C or better	0.044	City of Encinitas	No



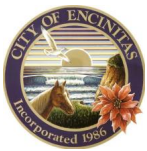
**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Encinitas Blvd	Between Quails Garden Drive and Delphinium Street	4-Lane Major Roadway	39,600	35,200	1.125	F	37,700	1.071	F	0.054	City of Encinitas	Yes
	Between Delphinium Street and Balour Drive	4-Lane Major Roadway	40,000	35,200	1.136	F	38,300	1.088	F	0.048	City of Encinitas	Yes
	Between Balour Drive and Via Cantabria	4-Lane Major Roadway	48,800	35,200	1.386	F	47,500	1.349	F	0.037	City of Encinitas	Yes
	Between Via Cantabria and El Camino Real	4-Lane Major Roadway	30,500	35,200	0.866	D	29,400	0.835	D	0.031	City of Encinitas	No
	Between El Camino Real and Village Square Drive	4-Lane Major Roadway	30,000	35,200	0.852	D	31,000	0.881	D	-0.029	City of Encinitas	No
	Between Village Square Drive and Turner Avenue	4-Lane Major Roadway	30,400	35,200	0.864	D	29,300	0.832	D	0.032	City of Encinitas	No
	Between Turner Avenue and Cerro Street	4-Lane Major Roadway	30,400	35,200	0.864	D	29,300	0.832	D	0.032	City of Encinitas	No
	Between Cerro Street and Village Park Way	4-Lane Major Roadway	31,200	35,200	0.886	D	29,700	0.844	D	0.042	City of Encinitas	No
	Between Village Park Way to Willowspring Drive	4-Lane Major Roadway	29,400	35,200	0.835	D	27,900	0.793	C or better	0.042	City of Encinitas	No
	Between Willowspring Drive to Rancho Santa Fe Road	4-Lane Major Roadway	24,400	35,200	0.693	C or better	22,700	0.645	C or better	0.048	City of Encinitas	No



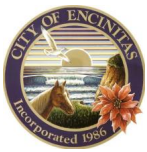
**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	2-Lane Local Roadway - Augmented	19,900	20,000	0.995	E	18,580	0.930	E	0.065	City of Encinitas	Yes
	Between City of Encinitas Limits and El Mirlo	2-Lane Light Collector with Reduced Shoulder	19,900	9,700	2.052	F	18,580	1.915	F	0.137	County of San Diego	Yes
F Street	Between Vulcan Avenue and Cornish Drive	2-Lane Local Roadway	6,400	14,000	0.457	C or better	6,200	0.443	C or better	0.014	City of Encinitas	No
Requeza Street	Between Cornish Drive and San Dieguito Drive	2-Lane Local Roadway	6,700	14,000	0.479	C or better	6,300	0.450	C or better	0.029	City of Encinitas	No
	Between San Dieguito Drive and Stratford Drive	2-Lane Local Roadway	6,700	14,000	0.479	C or better	6,300	0.450	C or better	0.029	City of Encinitas	No
Requeza Street	Between Stratford Drive and Regal Road	2-Lane Local Roadway	7,000	14,000	0.500	C or better	6,800	0.486	C or better	0.014	City of Encinitas	No
	Between Regal Road and West Lake Drive	2-Lane Local Roadway	6,400	14,000	0.457	C or better	6,400	0.457	C or better	0.000	City of Encinitas	No
	Between West Lake Drive and Nardo Drive	2-Lane Local Roadway	4,900	14,000	0.350	C or better	4,800	0.343	C or better	0.007	City of Encinitas	No
Santa Fe Drive	Between Vulcan Avenue and Cornish Drive	2-Lane Local Roadway	8,900	14,000	0.636	C or better	9,000	0.643	C or better	-0.007	City of Encinitas	No
	Between Cornish Drive and Summit Avenue	2-Lane Local Roadway	9,700	14,000	0.693	C or better	9,000	0.643	C or better	0.050	City of Encinitas	No
	Between Summit Avenue and Devonshire	2-Lane Local Roadway	10,300	14,000	0.736	C or better	10,100	0.721	C or better	0.015	City of Encinitas	No



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Santa Fe Drive	Between Devonshire Drive and Scripps Memorial Hospital Encinitas traffic signal	2-Lane Local Roadway - Augmented	15,700	20,000	0.785	C or better	15,200	0.760	C or better	0.025	City of Encinitas	No
	Between Scripps Memorial Hospital Encinitas traffic signal and I-5 SB Ramps	4-Lane Collector	15,700	32,400	0.485	C or better	15,200	0.469	C or better	0.016	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	3-Lane Major Roadway	23,000	26,400	0.871	D	22,400	0.848	D	0.023	City of Encinitas	No
	Between I-5 NB Ramps and Regal Road	2-Lane Local Roadway - Augmented	16,600	20,000	0.830	D	16,100	0.805	D	0.025	City of Encinitas	No
	Between Regal Road and Gardena Road	2-Lane Local Roadway - Augmented	16,600	20,000	0.830	D	16,100	0.805	D	0.025	City of Encinitas	No
	Between Gardena Road and Nardo Road	2-Lane Local Roadway - Augmented	16,600	20,000	0.830	D	16,100	0.805	D	0.025	City of Encinitas	No
	Between Nardo Road and Windsor Road/Bonita Drive	2-Lane Local Roadway - Augmented	18,200	20,000	0.910	E	17,700	0.885	D	0.025	City of Encinitas	Yes
	Between Windsor Road/Bonita Drive and Balour Drive	2-Lane Local Roadway - Augmented	18,200	20,000	0.910	E	17,700	0.885	D	0.025	City of Encinitas	Yes



**Table 4.13  
Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Santa Fe Drive	Between Balour Drive and Lake Drive	2-Lane Local Roadway - Augmented	19,100	20,000	0.955	E	18,600	0.930	E	0.025	City of Encinitas	Yes
	Between Lake Drive and Crest Drive	2-Lane Local Roadway – Augmented	18,200	20,000	0.910	E	17,700	0.885	D	0.025	City of Encinitas	Yes
	Between Crest Drive and El Camino Real	2-Lane Local Roadway - Augmented	18,200	20,000	0.910	E	17,700	0.885	D	0.025	City of Encinitas	Yes
Birmingham Drive	Between San Elijo Avenue and MacKinnon Avenue	2-Lane Local Roadway – Augmented	15,500	20,000	0.775	C or better	15,500	0.775	C or better	0.000	City of Encinitas	No
	Between MacKinnon Avenue and Carol View Drive	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	15,500	0.775	C or better	0.000	City of Encinitas	No
	Between Carol View Drive and I-5 SB Ramps	2-Lane Local Roadway - Augmented	15,500	20,000	0.775	C or better	15,500	0.775	C or better	0.000	City of Encinitas	No
	Between I-5 SB Ramps and I-5 NB Ramps	2-Lane Local Roadway	17,400	14,000	1.243	F	17,400	1.243	F	0.000	City of Encinitas	No
	Between I-5 NB Ramps and Villa Cardiff Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	0.629	C or better	0.000	City of Encinitas	No



**Table 4.13**  
**Roadway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Roadway	Segment	Functional Classification <sup>1</sup>	Modified Mixed Use Plan				No-Project			Δ V/C	Jurisdiction	SI?
			ADT	Capacity (LOS E)	V/C	LOS	ADT	V/C	LOS			
Birmingham Drive	Between Villa Cardiff Drive and Playa Riviera	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	0.629	C or better	0.000	City of Encinitas	No
	Between Playa Riviera and Freda Lane	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	0.629	C or better	0.000	City of Encinitas	No
	Between Freda Lane and Lake Drive	2-Lane Local Roadway	8,800	14,000	0.629	C or better	8,800	0.629	C or better	0.000	City of Encinitas	No

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates substandard LOS E or F.

SI? = Significant Impact?

<sup>1</sup> Functional Classification is representative of existing segment functionality and does not take into consideration the ultimate or final classification.

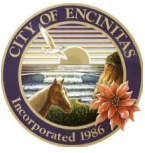
<sup>2</sup> 3-Lane Major Roadway is 75% capacity of a 4-Lane Major Roadway.

<sup>3</sup> 3-Lane Collector is 75% capacity of a 4-Lane Collector.

<sup>4</sup> 5-Lane Prime is 84% capacity of 6-Lane Prime Arterial (SANTEC).

<sup>5</sup> 5-Lane Major is 84% capacity of 6-Lane Major Arterial (SANTEC).

<sup>6</sup> 3-Lane Collector is 75% capacity of 4-Lane Collector (SANTEC).



## Intersection Analysis

**Figure 4-6** shows projected turning movement volumes for both the AM and PM peak hours under the Modified Mixed Use Plan strategy. Future Year 2035 – Modified Mixed Use Plan daily roadway volumes were derived from the aforementioned SANDAG Series 12 Transportation Forecast Model. Peak hour intersection turning movements were developed by comparing existing daily roadway segment volumes to the forecasted Future Year 2035 daily volumes contained in the SANDAG model. Based on this comparison, Future Year 2035 respective growth rates were applied to existing peak hour intersection approach and departure volumes. Manual adjustments were also made to ensure that traffic volumes among adjacent intersections are reasonably balanced.

**Table 4.14** summarizes the level of service analysis results for the 53 key study area intersections, conducted using the methodologies outlined in Chapter 2. Intersection level of service worksheets are provided in **Appendix L**. Figure 4-5 displays the projected intersection LOS analysis results under the Modified Mixed Use Plan strategy. It should be noted that the intersection signal timings were assumed to be optimized under future year conditions; therefore, some intersections experienced an improvement in delay from existing conditions.

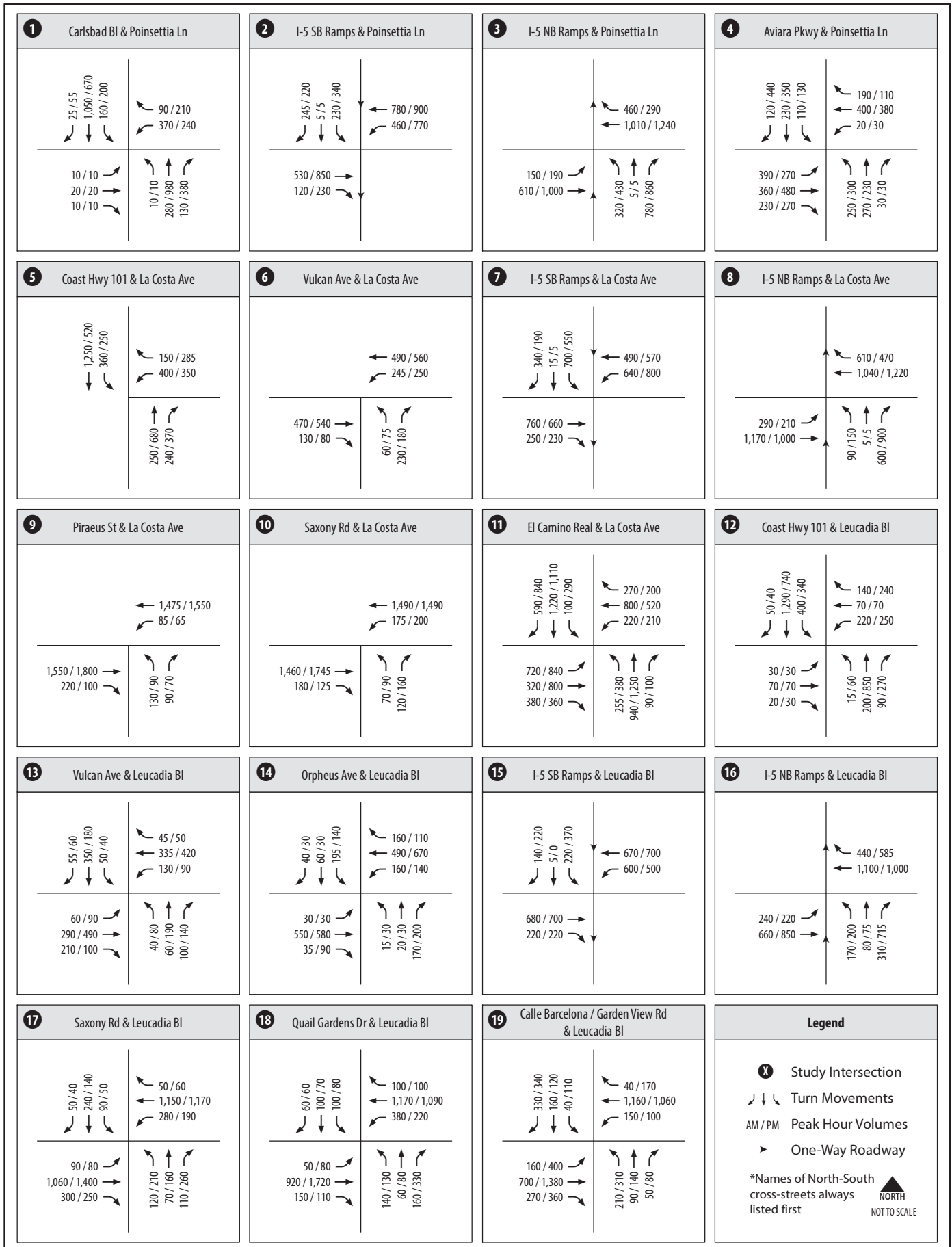
As shown in Table 4.14, the following fourteen (14) intersections including thirteen (13) in the City of Encinitas and one (1) in the City of Carlsbad are projected to operate at a substandard LOS E or F:

### City of Encinitas (13)

6. Vulcan Avenue & La Costa Avenue – LOS F during both AM and PM peak hours;
17. Saxony Road & Leucadia Boulevard – LOS E during both AM and PM peak hours;
21. El Camino Real & Leucadia Boulevard – LOS E during PM peak hour;
25. Rancho Santa Fe Road & Lone Jack Road – LOS E during both AM and PM peak hours;
27. Rancho Santa Fe Road & El Camino Del Norte – LOS E during PM peak hour;
36. El Camino Real & Encinitas Boulevard – LOS E during PM peak hour;
39. Rancho Santa Fe Road & Encinitas Boulevard – LOS E during AM peak hour;
40. San Elijo Avenue & Santa Fe Drive – LOS E during AM peak hour;
45. Balour Drive & Santa Fe Drive – LOS F during both AM and PM peak hours;
49. I-5 SB Ramps & Birmingham Drive – LOS F during both AM and PM peak hours;
50. I-5 NB Ramps & Birmingham Drive – LOS E during both AM and PM peak hours;
51. I-5 SB Ramps & Manchester Avenue – LOS F during AM peak hour and LOS E during PM peak hour; and
52. I-5 NB Ramps & Manchester Avenue – LOS E during AM peak hour.

### City of Carlsbad (1)

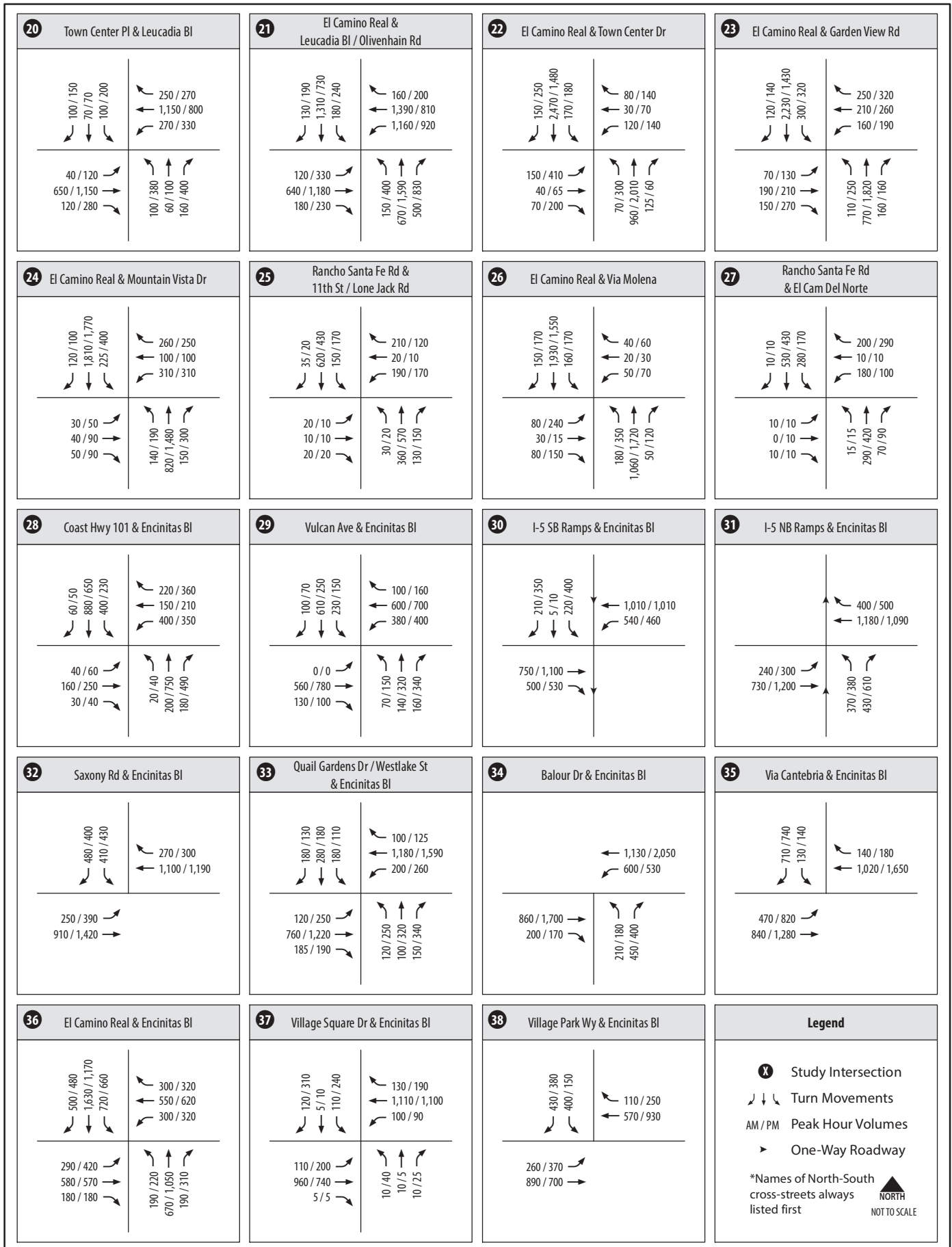
11. El Camino Real & La Costa Avenue – LOS E during PM peak hour.



Encinitas Housing Element TIS

Figure 4-6

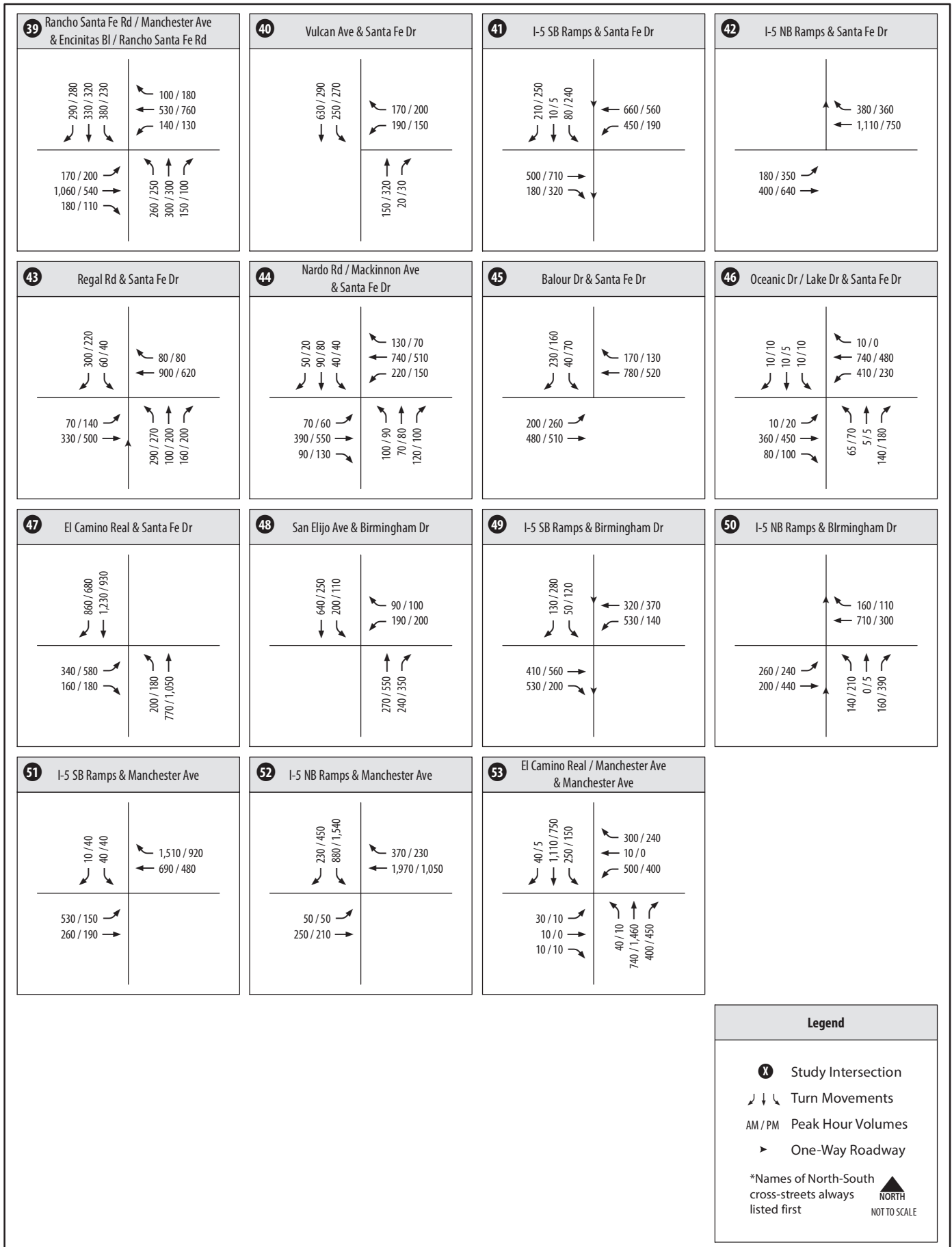




Encinitas Housing Element TIS

Figure 4-6

AM/PM Future Year 2035 Intersection Volumes - Modified Mixed Use Project (Intersections 20-38)



Encinitas Housing Element TIS

Figure 4-6



**Table 4.14**  
**AM / PM Peak Hour Intersection Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

ID	Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Δ in Delay (sec)	Jurisdiction	SI?
			Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS					
1	Carlsbad Boulevard & Poinsettia Lane	Signalized	11.7	B	10.8	B	11.7 / 10.6	B / B	0.0 / 0.2	City of Carlsbad	No
2	I-5 SB Ramps & Poinsettia Lane	Signalized	15.2	B	21.6	C	15.2 / 21.6	B / C	0.0 / 0.0	Caltrans	No
3	I-5 NB Ramps & Poinsettia Lane	Signalized	32.4	C	34.8	C	32.4 / 29.7	C / C	0.0 / 5.1	Caltrans	No
4	Aviara Parkway & Poinsettia Lane	Signalized	29.1	C	30.8	C	29.1 / 30.8	C / C	0.0 / 0.0	City of Carlsbad	No
5	North Coast Highway 101 & La Costa Avenue	Signalized	19.6	B	18.2	B	18.8 / 16.8	B / B	0.8 / 1.4	City of Encinitas	No
6	Vulcan Avenue & La Costa Avenue	SSSC	60.2	F	161.4	F	45.2 / 96.4	E / F	15.0 / 65.0	City of Encinitas	Yes
7	I-5 SB Ramps & La Costa Avenue	Signalized	44.8	D	34.7	C	44.3 / 34.1	D / C	0.5 / 0.6	Caltrans	No
8	I-5 NB Ramps & La Costa Avenue	Signalized	28.5	C	31.8	C	28.2 / 31.2	C / C	0.3 / 0.6	Caltrans	No
9	Piraeus Street & La Costa Avenue	Signalized	22.4	C	34.9	C	22.4 / 34.9	C / C	0.0 / 0.0	Caltrans	No
10	Saxony Road & La Costa Avenue	Signalized	19.2	B	28.7	C	19.2 / 28.3	B / C	0.0 / 0.4	City of Carlsbad	No
11	El Camino Real & La Costa Avenue	Signalized	51.7	D	58.8	E	51.7 / 58.3	D / E	0.0 / 0.5	City of Carlsbad	No



**Table 4.14**  
**AM / PM Peak Hour Intersection Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

ID	Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Δ in Delay (sec)	Jurisdiction	SI?
			Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS					
12	North Coast Highway 101 & Leucadia Boulevard	Signalized	36.0	D	43.8	D	30.1 / 35.3	C / D	5.9 / 8.5	City of Encinitas	No
13	Vulcan Avenue & Leucadia Boulevard	Signalized	13.5	B	12.5	B	12.5 / 11.9	B / B	1.0 / 0.6	City of Encinitas	No
14	Orpheus Avenue & Leucadia Boulevard	Signalized	16.8	B	16.7	B	17.1 / 16.5	B / B	-0.3 / 0.2	Caltrans	No
15	I-5 SB Ramps & Leucadia Boulevard	Signalized	14.1	B	15.7	B	14.5 / 16.3	B / B	-0.4 / -0.6	Caltrans	No
16	I-5 NB Ramps & Leucadia Boulevard	Signalized	13.3	B	34.2	C	13.3 / 36.4	B / D	0.0 / -2.2	Caltrans	No
17	Saxony Road & Leucadia Boulevard	Signalized	55.0	E	75.3	E	60.8 / 79.4	E / E	-5.8 / -4.1	City of Encinitas	No
18	Quail Gardens Drive & Leucadia Boulevard	Signalized	30.4	C	40.7	D	31.8 / 42.8	C / D	-1.4 / -2.1	City of Encinitas	No
19	Garden View Road & Leucadia Boulevard	Signalized	43.6	D	52.1	D	47.1 / 53.7	D / D	-3.5 / -1.6	City of Encinitas	No
20	Town Center Place & Leucadia Boulevard	Signalized	24.8	C	42.2	D	24.6 / 43.9	C / D	0.2 / -1.7	City of Encinitas	No
21	El Camino Real & Leucadia Boulevard	Signalized	47.8	D	61.9	E	48.7 / 67.3	D / E	-0.9 / -5.4	City of Encinitas	No
22	El Camino Real & Town Center Drive	Signalized	11.7	B	23.5	C	11.6 / 23.5	B / C	0.1 / 0.0	City of Encinitas	No



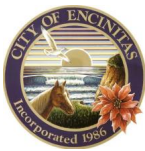
**Table 4.14**  
**AM / PM Peak Hour Intersection Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

ID	Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Δ in Delay (sec)	Jurisdiction	SI?
			Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS					
23	El Camino Real & Garden View Road	Signalized	27.8	C	49.7	D	27.7 / 49.6	C / D	0.1 / 0.1	City of Encinitas	No
24	El Camino Real & Mountain Vista Drive	Signalized	53.5	D	31.0	C	49.4 / 30.9	D / C	4.1 / 0.1	City of Encinitas	No
25	Rancho Santa Fe Road & Lone Jack Road	AWSC	41.2	E	42.7	E	40.1 / 41.1	E / E	1.1 / 1.6	City of Encinitas	No
26	El Camino Real & Via Molena	Signalized	27.3	C	36.0	D	27.0 / 35.1	C / D	0.3 / 0.9	City of Encinitas	No
27	Rancho Santa Fe Road & El Camino Del Norte	AWSC	34.9	D	43.8	E	34.6 / 41.9	D / E	0.3 / 1.9	City of Encinitas	No
28	North Coast Highway 101 & Encinitas Boulevard	Signalized	35.8	D	34.4	C	35.3 / 34	D / C	0.5 / 0.4	City of Encinitas	No
29	S Vulcan Avenue & Encinitas Boulevard	Signalized	44.2	D	34.6	C	39.1 / 32.3	D / C	5.1 / 2.3	City of Encinitas	No
30	I-5 SB Ramps & Encinitas Boulevard	Signalized	30.7	C	51.5	D	29.1 / 47.8	C / D	1.6 / 3.7	Caltrans	No
31	I-5 NB Ramps & Encinitas Boulevard	Signalized	21.2	C	29.6	C	20.9 / 27.5	C / C	0.3 / 2.1	Caltrans	No
32	Saxony Road & Encinitas Boulevard	Signalized	31.6	C	17.9	B	32.0 / 17.3	C / B	-0.4 / 0.6	Caltrans	No
33	Quail Gardens Drive & Encinitas Boulevard	Signalized	32.3	C	54.1	D	32.2 / 53.9	C / D	0.1 / 0.2	City of Encinitas	No



**Table 4.14**  
**AM / PM Peak Hour Intersection Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

ID	Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Δ in Delay (sec)	Jurisdiction	SI?
			Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS					
34	Balour Drive & Encinitas Boulevard	Signalized	12.5	B	21.1	C	12.1 / 17.7	B / B	0.4 / 3.4	City of Encinitas	No
35	Via Cantebria & Encinitas Boulevard	Signalized	18.9	B	25.2	C	21.5 / 20.7	C / C	-2.6 / 4.5	City of Encinitas	No
36	El Camino Real & Encinitas Boulevard	Signalized	48.6	D	71.3	E	50.7 / 70.4	D / E	-2.1 / 0.9	City of Encinitas	No
37	Village Square Drive & Encinitas Boulevard	Signalized	17.8	B	42.8	D	18.4 / 44.5	B / D	-0.6 / -1.7	City of Encinitas	No
38	Village Park Way & Encinitas Boulevard	Signalized	29.0	C	53.9	D	26.0 / 44.8	C / D	3.0 / 9.1	City of Encinitas	No
39	Rancho Santa Fe Road & Encinitas Boulevard	Signalized	77.9	E	54.7	D	77.1 / 48	E / D	0.8 / 6.7	City of Encinitas	No
40	San Elijo Avenue & Santa Fe Drive	AWSC	36.7	E	18.7	C	37.0 / 18.8	E / C	-0.3 / -0.1	City of Encinitas	No
41	I-5 SB Ramps & Santa Fe Drive	Signalized	25.7	C	29.9	C	24.3 / 30.7	C / C	1.4 / -0.8	Caltrans	No
42	I-5 NB On-Ramp & Santa Fe Drive	Signalized	5.6	A	4.1	A	5.5 / 4.1	A / A	0.1 / 0.0	Caltrans	No
43	I-5 NB Off-Ramp/Regal Road & Santa Fe Drive	Signalized	39.2	D	42.6	D	38.5 / 42.9	D / D	0.7 / -0.3	Caltrans	No
44	MacKinnon Avenue & Santa Fe Drive	Signalized	30.7	C	21.0	C	28.5 / 20.1	C / C	2.2 / 0.9	City of Encinitas	No



**Table 4.14**  
**AM / PM Peak Hour Intersection Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

ID	Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Δ in Delay (sec)	Jurisdiction	SI?
			Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS					
45	Balour Drive & Santa Fe Drive	SSSC	108.6	<b>F</b>	56.9	<b>F</b>	84.7 / 51.7	<b>F / F</b>	23.9 / 5.2	City of Encinitas	<b>Yes</b>
46	Lake Drive & Santa Fe Drive	Signalized	9.6	A	8.7	A	9.3 / 8.9	A / A	0.3 / -0.2	City of Encinitas	No
47	El Camino Real & Santa Fe Drive	Signalized	21.0	C	28.5	C	20.0 / 23.4	B / C	1.0 / 5.1	City of Encinitas	No
48	San Elijo Avenue & Birmingham Drive	Signalized	13.4	B	25.0	C	13.0 / 24.2	B / C	0.4 / 0.8	City of Encinitas	No
49	I-5 SB Ramps & Birmingham Drive	SSSC	250.6	<b>F</b>	47.5	<b>E</b>	250.6 / 47.5	<b>F / E</b>	0.0 / 0.0	Caltrans	No
50	I-5 NB Ramps & Birmingham Drive	AWSC	45.5	<b>E</b>	41.1	<b>E</b>	45.5 / 41.1	<b>E / E</b>	0.0 / 0.0	Caltrans	No
51	I-5 SB Ramps & Manchester Avenue	AWSC	54.5	<b>F</b>	35.7	<b>E</b>	54.5 / 35.5	<b>F / E</b>	0.0 / 0.2	Caltrans	No
52	I-5 NB Ramps & Manchester Avenue	Signalized	58.8	<b>E</b>	45.6	D	57.5 / 45	<b>E / D</b>	1.3 / 0.6	Caltrans	No
53	El Camino Real & Manchester Avenue	Signalized	40.4	D	42.7	D	36.2 / 38.8	D / D	4.2 / 3.9	City of Encinitas	No

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates substandard LOS E or F.

SI? = Significant Impact?

AWSC = All Way Stop Control.

SSSC = Side Street Stop Control.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.



Out of the 14 deficient intersections identified, the following two would be significantly impacted under the Modified Mixed Use Plan strategy, based on the significance criteria outlined in Section 2.8:

6. Vulcan Avenue & La Costa Avenue – LOS F during both AM and PM peak hours; and
45. Balour Drive & Santa Fe Drive – LOS F during both AM and PM peak hours.

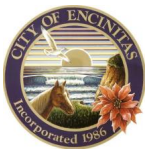
Mitigation measures addressing these intersection impacts are discussed in Chapter 5.

### **Freeway Segment Analysis**

**Table 4.15** displays freeway segment LOS analysis results for the key I-5 freeway segments in the vicinity of the project study area under the Modified Mixed Use Plan strategy. Average Daily Traffic (ADT) volumes were obtained from the City of Encinitas subarea model. The traffic volumes anticipated in the HOV lanes were subtracted from the total ADT. As a result, Table 4.15 only reports the I-5 mainline traffic volumes and operations. A table showing the mainline ADT and HOV lane volume comparisons is also provided in **Appendix M**.

As shown in Table 4.15, all freeway segments within the study area are projected to operate at LOS D or better. In addition, the “Modified Mixed Use Plan” strategy would not create a significant traffic related impact to any of the study area freeway segments, based on the significance criteria outlined in Section 2.8. The I-5 North Coast Improvement project, which will ultimately improve I-5, from La Jolla Village Drive in San Diego to Harbor Drive in Oceanside, to eight all-purpose lanes and four HOV lanes, was assumed under this scenario.





**Table 4.15**  
**Freeway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Freeway	Segment	ADT <sup>(a)</sup> *	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour Volume	V/C	LOS	No-Project		Δ V/C	SI?
												V/C	LOS		
I-5	Palomar Airport Road and Poinsettia Lane	202,200	NB	4M+1A	10,810	51.3%	6.9%	4.8%	7,600	0.70	C	0.69	C	0.01	No
			SB	4M+1A	10,810	54.2%	7.3%	4.8%	8,400	0.78	C	0.78	C	0.0	No
	Poinsettia Lane and La Costa Avenue	199,900	NB	4M	9,400	51.9%	6.9%	4.8%	7,600	0.81	D	0.810	D	0.0	No
			SB	4M	9,400	54.2%	7.3%	4.8%	8,300	0.88	D	0.880	D	0.0	No
	La Costa Avenue and Leucadia Boulevard	196,700	NB	4M	9,400	51.4%	7.1%	4.8%	7,600	0.81	D	0.810	D	0.0	No
			SB	4M+1A	10,810	63.0%	5.7%	4.8%	7,500	0.69	C	0.69	C	0.0	No
	Leucadia Boulevard and Encinitas Boulevard	117,500	NB	4M+1A	10,810	87.1%	7.1%	4.8%	7,700	0.71	C	0.71	C	0.0	No
			SB	4M	9,400	63.0%	5.7%	4.8%	4,500	0.48	B	0.470	B	0.01	No
	Encinitas Boulevard and Santa Fe Drive	196,200	NB	4M	9,400	51.2%	7.1%	4.8%	7,500	0.80	D	0.80	D	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,500	0.69	C	0.69	C	0.0	No
	Santa Fe Drive and Birmingham Drive	196,100	NB	4M+1A	10,810	52.3%	7.1%	4.8%	7,700	0.71	C	0.71	C	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,500	0.69	C	0.69	C	0.0	No



**Table 4.15**  
**Freeway Segment Level of Service – Future Year 2035 Modified Mixed Use Plan Strategy**

Freeway	Segment	ADT <sup>(a)</sup> *	Direction	# of Lanes	Capacity <sup>(b)</sup>	D <sup>(c)</sup>	K <sup>(d)</sup>	HVF <sup>(e)</sup>	Peak Hour Volume	V/C	LOS	No-Project		Δ V/C	SI?
												V/C	LOS		
I-5	Birmingham Drive and Manchester Avenue	198,600	NB	4M+1A	10,810	54.1%	7.1%	4.8%	8,000	0.74	C	0.74	C	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	7,600	0.70	C	0.70	C	0.0	No
	Manchester Avenue and Lomas Santa Fe Drive	247,700	NB	4M+1A	10,810	50.1%	7.1%	4.8%	9,300	0.86	D	0.860	D	0.0	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	9,500	0.88	D	0.880	D	0.0	No
	Lomas Santa Fe Drive and Via De La Valle	247,500	NB	4M+1A	10,810	50.5%	7.1%	4.8%	9,300	0.86	D	0.870	D	-0.01	No
			SB	4M+1A	10,810	53.8%	6.8%	4.8%	9,500	0.88	D	0.89	D	-0.01	No

Source: Chen Ryan Associates; January 2016

Notes:

Bold letter indicates unacceptable LOS E or F.

SI? = Significant Impact?

M = Mainline. A = Auxiliary Lane.

<sup>a</sup> Traffic volumes provided by Caltrans (2013). | \* Reduction of estimated HOV volume was applied to the AADT.

<sup>b</sup> The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.

<sup>c</sup> D = Directional split. | <sup>d</sup> K = Peak hour %. | <sup>e</sup> HV = Heavy vehicle %.



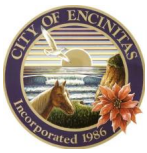
## Ramp Intersection Capacity Analysis

Consistent with Caltrans requirements, the ramp intersections located at the freeway interchanges were analyzed using ILV procedures, as described in Section 2.6. ILV analysis results are displayed in **Table 4.16** and analysis worksheets for the Modification Mixed Use Plan strategy conditions are provided in **Appendix N**.

**Table 4.16**  
**Ramp Intersection Capacity Analysis – Future Year 2035 Modified Mixed Use Plan Conditions**

#	Ramp Intersection	Modified Mixed Use Plan			No-Project	
		Peak Hour	ILV/Hour	Description	ILV/Hour	Description
2	I-5 SB Ramps / Poinsettia Lane	AM	740	Under Capacity	740	Under Capacity
		PM	1,030	Under Capacity	1,030	Under Capacity
3	I-5 NB Ramps / Poinsettia Lane	AM	1,000	Under Capacity	1,000	Under Capacity
		PM	1,034	Under Capacity	1,044	Under Capacity
7	I-5 SB Ramps / La Costa Avenue	AM	1,350	At Capacity	1,275	At Capacity
		PM	1,240	At Capacity	1,220	At Capacity
8	I-5 NB Ramps / La Costa Avenue	AM	1,205	At Capacity	1,205	At Capacity
		PM	1,135	Under Capacity	1,125	Under Capacity
15	I-5 SB Ramps / Leucadia Boulevard	AM	780	Under Capacity	805	Under Capacity
		PM	830	Under Capacity	850	Under Capacity
16	I-5 NB Ramps / Leucadia Boulevard	AM	1,212	At Capacity	1,225	At Capacity
		PM	1,497	At Capacity	1,531	<b>Over Capacity</b>
30	I-5 SB Ramps / Encinitas Boulevard	AM	1,640	<b>Over Capacity</b>	1,595	<b>Over Capacity</b>
		PM	1,950	<b>Over Capacity</b>	1,900	<b>Over Capacity</b>
31	I-5 NB Ramps / Encinitas Boulevard	AM	1,260	At Capacity	1,240	At Capacity
		PM	1,455	At Capacity	1,425	At Capacity
41	I-5 SB Ramps / Santa Fe Drive	AM	1,160	Under Capacity	1,140	Under Capacity
		PM	1,150	Under Capacity	1,135	Under Capacity
42	I-5 NB On-Ramp / Santa Fe Drive	AM	735	Under Capacity	715	Under Capacity
		PM	725	Under Capacity	710	Under Capacity
43	I-5 NB Off-Ramp / Regal Road	AM	1075	Under Capacity	1062	Under Capacity
		PM	1155	Under Capacity	1,150	Under Capacity
52	I-5 NB Ramps / Manchester Avenue	AM	1,475	At Capacity	1,460	At Capacity
		PM	1,345	At Capacity	1,340	At Capacity

Source: Chen Ryan Associates; January 2016



As shown in Table 4.16, all of the signalized ramp intersections are projected to operate at “Under Capacity” or “At Capacity” conditions during both the AM and PM peak hours with the exception of the following:

- I-5 NB Ramps / Leucadia Boulevard – Over Capacity during PM peak hour.
- I-5 SB Ramps / Encinitas Boulevard – Over Capacity during both AM and PM peak hour.

### Ramp Metering Analysis

**Table 4.17** displays the ramp metering analysis conducted at the I-5 on-ramps at Poinsettia Lane, La Costa Avenue, Leucadia Boulevard, Encinitas Boulevard, Santa Fe Drive, Birmingham Drive, and Manchester Avenue under the Modified Mixed Use Plan conditions. Estimated HOV volumes were deducted from the total on-ramp peak hour volumes utilizing the method previously discussed in Section 3.4. To be conservative, existing ramp metering rates were assumed for this analysis.

**Table 4.17**  
Ramp Metering Analysis – Future Year 2035 Modified Mixed Use Plan Strategy

Location	Peak Hour	Demand <sup>1</sup> (veh/hr)	Estimated SOV Demand <sup>2</sup> (veh/hr)	Demand per Lane (veh/hr/ln)	Meter Rate <sup>3</sup> (veh/hr/ln)	Future Excess Demand (veh/hr)	Future Delay beyond Peak Hour (min)	Future Queue (ft)	No-Project Excess Demand (veh/hr)	No-Project Delay beyond Peak Hour (min)	No-Project Queue (ft)
I-5 NB On-Ramp @ Poinsettia Lane	AM	615	529	529	Not Metered	0	0	0	0	0	0
	PM	485	373	373	720	0	0	0	0	0	0
I-5 SB On-Ramp @ Poinsettia Lane	AM	585	515	257	720	0	0	0	0	0	0
	PM	1005	864	432	720	0	0	0	0	0	0
I-5 NB On-Ramp @ La Costa Avenue	AM	905	851	851	Not Metered	0	0	0	0	0	0
	PM	685	527	527	720	0	0	0	0	0	0
I-5 SB On-Ramp @ La Costa Avenue	AM	905	796	398	720	0	0	0	0	0	0
	PM	1035	890	445	720	0	0	0	0	0	0
I-5 NB On-Ramp @ Leucadia Boulevard	AM	418	383	383	Not Metered	0	0	0	0	0	0
	PM	664	474	474	360	114	19.0	3,300	114	19.0	3,300
I-5 SB On-Ramp @ Leucadia Boulevard	AM	825	726	363	360	3	0.5	75	25	4.5	725
	PM	720	619	310	360	0	0	0	0	0	0



**Table 4.17  
Ramp Metering Analysis – Future Year 2035 Modified Mixed Use Plan Strategy**

Location	Peak Hour	Demand <sup>1</sup> (veh/hr)	Estimated SOV Demand <sup>2</sup> (veh/hr)	Demand per Lane (veh/hr/ln)	Meter Rate <sup>3</sup> (veh/hr/ln)	Future Excess Demand (veh/hr)	Future Delay beyond Peak Hour (min)	Future Queue (ft)	No-Project Excess Demand (veh/hr)	No-Project Delay beyond Peak Hour (min)	No-Project Queue (ft)
I-5 NB On-Ramp @ Encinitas Boulevard	AM	640	608	608	Not Metered	0	0	0	0	0	0
	PM	800	480	480	360	120	20.0	3,475	96	16.0	2,775
I-5 SB On-Ramp @ Encinitas Boulevard	AM	1045	920	920	720	200	17.0	5,800	164	14.0	4,750
	PM	1000	860	860	720	140	12.0	4,050	106	9.0	3,075
I-5 NB On-Ramp @ Santa Fe Drive	AM	560	560	560	Not Metered	0	0	0	0	0	0
	PM	710	710	710	720	0	0	0	0	0	0
I-5 SB On-Ramp @ Santa Fe Drive	AM	640	563	563	360	203	34.0	5,875	177	30.0	5,125
	PM	515	443	443	Not Metered	0	0	0	0	0	0
I-5 NB On-Ramp @ Birmingham Drive	AM	570	523	523	Not Metered	0	0	0	0	0	0
	PM	485	346	346	360	0	0	0	0	0	0
I-5 SB On-Ramp @ Birmingham Drive	AM	1080	1,080	540	720	0	0	0	0	0	0
	PM	395	395	198	720	0	0	0	0	0	0
I-5 NB On-Ramp @ Manchester Avenue	AM	420	420	420	Not Metered	0	0	0	0	0	0
	PM	280	280	280	360	0	0	0	0	0	0
I-5 SB On-Ramp @ Manchester Avenue	AM	2040	2,040	1020	720	300	25.0	8,700	295	25.0	8,550
	PM	1070	1,070	535	720	0	0	0	0	0	0

Source: Chen Ryan Associates; January 2016

Notes:

1. Demand is the peak hour demand expected to use the on-ramp.
2. HOV volumes was deducted from total demand volumes. SOV = Single Occupancy Vehicle.
3. Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans. The lowest rate within range was utilized for a more conservative calculation.
4. Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
5. Delay = (Excess Demand / Meter Rate) X 60 min/hr. This delay represents how long the peak hour would need to be extended in order to accommodate the excess demand.
6. Queue = (Excess Demand) X 29 ft/veh.



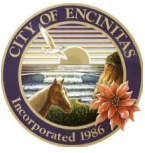
As shown in Table 4.17, the majority of the I-5 on-ramps within the study area are not projected to experience significant delays associated with ramp meters during peak hours (over 15 minutes), with the following exceptions where a delay of 15-minute or more was calculated:

- I-5 NB On-Ramp @ Leucadia Boulevard – 19.0 minutes during PM peak hour;
- I-5 NB On-Ramp @ Encinitas Boulevard – 20.0 minutes during PM peak hour;
- I-5 SB On-Ramp @ Encinitas Boulevard – 17.0 minutes during AM peak hour;
- I-5 SB On-Ramp @ Santa Fe Drive – 34.0 minutes during AM peak hour; and
- I-5 SB On-Ramp @ Manchester Avenue – 25.0 minutes during AM peak hour.

Out of the five (5) ramps identified, the following three (3) ramps are anticipated to be impacted under the Modified Mixed Use Plan strategy, based on the significance criteria outlined in Section 2.8:

- I-5 NB On-Ramp @ Encinitas Boulevard – 20.0 minutes during PM peak hour;
- I-5 SB On-Ramp @ Encinitas Boulevard – 17.0 minutes during AM peak hour;
- I-5 SB On-Ramp @ Santa Fe Drive – 34.0 minutes during AM peak hour.

The City of Encinitas shall work with Caltrans to adjust the ramp meter rate at the projected impacted ramps such that the ramp meter rates reflect the additional vehicle traffic attributable to the project.



## 5.0 SIGNIFICANT IMPACTS AND MITIGATION MEASURES

This section identifies recommended mitigation measures for roadway facilities and intersections that would be significantly impacted by the City of Encinitas Housing Element Update under the three different housing strategies: Ready-Made, Build Your Own, and Modified Mixed Use Plan.

### Roadway Mitigation Measures

#### **Ready Made Strategy**

##### City of Encinitas (14)

- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – Provide additional right-of-way and widen the roadway to a 2-Lane Local Roadway Augmented, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – Provide additional right-of-way and widen the roadway to a 2-Lane Local Roadway Augmented, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Blvd – Provide additional right-of-way and widen the roadway to a 4-Lane Collector which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.

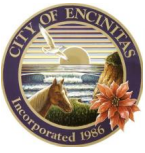


- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Major Roadway Augmented, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- South Rancho Santa Fe Road, between Manchester Avenue and 770 feet east of Manchester Avenue - Provide additional right-of-way and widen the roadway to a 4-Lane Major Roadway, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Ready Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.

Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive - Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.

- Santa Fe Drive, between Balour Drive and Lake Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.





- Santa Fe Drive, between Lake Drive and Crest Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Crest Drive and El Camino Real - Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.

#### County of San Diego (1)

- South Rancho Santa Fe Road, City of Encinitas Limits and El Mirlo – Provide additional right-of-way and widen the roadway to a 2-Lane Community Collector with Improvement Options, which exceeds the roadway classification designation in the currently adopted County of San Diego Circulation Element. The significant traffic impact associated with the Ready-Made strategy along this roadway segment would be fully mitigated with the implementation of this measure.

**Table 5.1** displays a summary of the impacted roadways and the mitigation measures under the Ready-Made strategy.



**Table 5.1  
Ready-Made Strategy – Mitigation Measures**

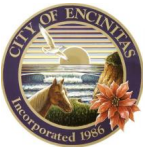
Roadway	Segment	Jurisdiction	After Mitigation		Before Mitigation	
			Functional Classification	LOS	Functional Classification	LOS
Rancho Santa Fe Road	Between 9th Street and 8th Street	City of Encinitas	2-Lane Local Roadway – Augmented	C or better	2-Lane Local Roadway	E
	Between 8th Street and 7th Street	City of Encinitas	2-Lane Local Roadway - Augmented	C or better	2-Lane Local Roadway	F
	Between 7th Street and Encinitas Boulevard	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway – Augmented	E
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	City of Encinitas	4-Lane Local Collector	C or better	2-Lane Local Roadway	F
	Between Vulcan Avenue and Sheridan Road	City of Encinitas	4-Lane Local Collector	C or better	2-Lane Local Roadway	F
	Between Sheridan Road and I-5 SB Ramps	City of Encinitas	4-Lane Local Collector	C or better	2-Lane Local Roadway – Augmented	F
Leucadia Blvd	Between Hymettus Avenue and Orpheus Avenue	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	F
Encinitas Blvd	Between I-5 SB Ramps and I-5 NB Ramps	City of Encinitas	4-Lane Major Roadway - Augmented	C or better	4-Lane Major Roadway	F
South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	City of Encinitas	4-Lane Major Roadway	C	2-Lane Local Roadway - Augmented	E
	Between City of Encinitas Limits and El Mirlo	County of San Diego	2-Lane Community Collector with Improvement Options	D	Light Collector with Reduced Shoulder	F



**Table 5.1  
Ready-Made Strategy – Mitigation Measures**

Roadway	Segment	Jurisdiction	After Mitigation		Before Mitigation	
			Functional Classification	LOS	Functional Classification	LOS
Santa Fe Drive	Between Nardo Road and Windsor Road/Bonita Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Windsor Road/Bonita Drive and Balour Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Balour Drive and Lake Drive	County of San Diego	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Lake Drive and Crest Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Crest Drive and El Camino Real	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E

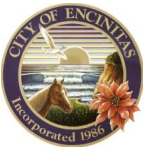
Source: Chen Ryan Associates; January 2016



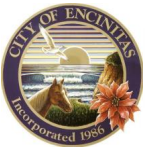
## Build Your Own Strategy

### City of Encinitas (19)

- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – Provide additional right-of-way and widen the roadway to a 2-Lane Local Roadway Augmented, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – Provide additional right-of-way and widen the roadway to a 2-Lane Local Roadway Augmented, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Blvd – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Major Roadway Augmented, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.



- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Major Roadway Augmented, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between Quail Gardens Drive and Delphinium Street – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between Delphinium Street and Balour Drive – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between Balour Drive and Via Cantebria – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.



- South Rancho Santa Fe Road, between Manchester Avenue and 770 feet east of Manchester Avenue - Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Lake Drive and Crest Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Crest Drive and El Camino Real - Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Birmingham Drive, between I-5 SB Ramps and I-5 NB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.

### County of San Diego (1)

South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – Provide additional right-of-way and widen the roadway to a 2-Lane Community Collector with Improvement Options, which exceeds the roadway classification designation in the currently adopted County of San Diego Circulation Element. The significant traffic impact associated with the Build Your Own strategy along this roadway segment would be fully mitigated with the implementation of this measure.



**Table 5.2** displays a summary of the impacted roadways and the mitigation measures under the Build Your Own strategy.

**Table 5.2  
Build Your Own Strategy – Mitigation Measures**

Roadway	Segment	Jurisdiction	After Mitigation		Before Mitigation	
			Functional Classification	LOS	Functional Classification	LOS
Rancho Santa Fe Road	Between 9th Street and 8th Street	City of Encinitas	2-Lane Local Roadway – Augmented	C or better	2-Lane Local Roadway	E
	Between 8th Street and 7th Street	City of Encinitas	2-Lane Local Roadway – Augmented	C or better	2-Lane Local Roadway	F
	Between 7th Street and Encinitas Boulevard	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway – Augmented	E
Manchester Avenue	Between I-5 NB Ramps and I-5 SB Ramps	City of Encinitas	4-Lane Major Roadway - Augmented	D	2-Lane Local Roadway - Augmented	F
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway	F
	Between Vulcan Avenue and Sheridan Road	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway	F
	Between Sheridan Road and I-5 SB Ramps	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway – Augmented	F
Leucadia Blvd	Between Hymettus Avenue and Orpheus Avenue	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
Encinitas Blvd	Between I-5 SB Ramps and I-5 NB Ramps	City of Encinitas	4-Lane Major Roadway – Augmented	D	4-Lane Major Roadway	F
	Between I-5 NB Ramps and Saxony Road	City of Encinitas	6-Lane Prime Arterial	C or better	4-Lane Major Roadway	F

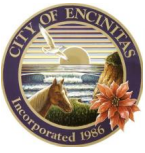


**Table 5.2  
Build Your Own Strategy – Mitigation Measures**

Roadway	Segment	Jurisdiction	After Mitigation		Before Mitigation	
			Functional Classification	LOS	Functional Classification	LOS
Encinitas Blvd	Between Quails Garden Drive and Delphinium Street	City of Encinitas	6-Lane Prime Arterial	C or better	4-Lane Major Roadway	F
	Between Delphinium Street and Balour Drive	City of Encinitas	6-Lane Prime Arterial	C or better	4-Lane Major Roadway	F
	Between Balour Drive and Via Cantabria	City of Encinitas	6-Lane Prime Arterial	D	4-Lane Major Roadway	F
South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	City of Encinitas	4-Lane Major Roadway	C or better	2-Lane Local Roadway - Augmented	E
	Between City of Encinitas Limits and El Mirlo	County of San Diego	2-Lane Community Collector with Improvement Options	D	Light Collector with Reduced Shoulder	F
Santa Fe Drive	Between Nardo Road and Windsor Road/Bonita Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Windsor Road/Bonita Drive and Balour Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Lake Drive and Crest Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Crest Drive and El Camino Real	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
Birmingham Drive	Between I-5 SB Ramps and I-5 NB Ramps	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway	F

Source: Chen Ryan Associates; January 2016

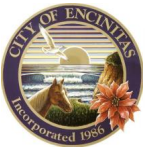




## Modified Mixed Use Plan Strategy

### City of Encinitas (19)

- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street – Provide additional right-of-way and widen the roadway to a 2-Lane Local Roadway Augmented, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street – Provide additional right-of-way and widen the roadway to a 2-Lane Local Roadway Augmented, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Blvd – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Major Roadway Augmented, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- La Costa Avenue between North Coast Highway 101 and Vulcan Avenue – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- La Costa Avenue, between Vulcan Avenue and Sheridan Road – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.



- La Costa Avenue, between Sheridan Road and I-5 SB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps – Provide additional right-of-way and widen the roadway to a 4-Lane Major Roadway Augmented, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between Quail Gardens Drive and Delphinium Street – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between Delphinium Street and Balour Drive – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Encinitas Boulevard, between Balour Drive and Via Cantebria – Provide additional right-of-way and widen the roadway to a 6-Lane Prime Arterial, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.



- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits - Provide additional right-of-way and widen the roadway to a 4-Lane Major Roadway, which is consistent with the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive - Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Balour Drive and Lake Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Lake Drive and Crest Drive – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use strategy along this roadway segment would be fully mitigated with the implementation of this measure.
- Santa Fe Drive, between Crest Drive and El Camino Real – Provide additional right-of-way and widen the roadway to a 4-Lane Collector, which exceeds the roadway classification designation in the currently adopted Circulation Element. The significant traffic impact associated with the Modified Mixed Use strategy along this roadway segment would be fully mitigated with the implementation of this measure.

#### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – Provide additional right-of-way and widen the roadway to a 2-Lane Community Collector with Improvement Options, which exceeds the roadway classification designation in the currently adopted County of San Diego Circulation Element. The significant traffic impact associated with the Modified Mixed Use Plan strategy along this roadway segment would be fully mitigated with the implementation of this measure.



**Table 5.3** displays a summary of the impacted roadways and the mitigation measures under Modified Mixed Use Plan strategy.

**Table 5.3  
Modified Mixed Use Plan Strategy – Mitigation Measures**

Roadway	Segment	Jurisdiction	After Mitigation		Before Mitigation	
			Functional Classification	LOS	Functional Classification	LOS
Rancho Santa Fe Road	Between 9th Street and 8th Street	City of Encinitas	2-Lane Local Roadway - Augmented	C or better	2-Lane Local Roadway	E
	Between 8th Street and 7th Street	City of Encinitas	2-Lane Local Roadway - Augmented	C or better	2-Lane Local Roadway	F
	Between 7th Street and Encinitas Boulevard	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway – Augmented	E
Manchester Avenue	Between I-5 NB Ramps and I-5 SB Ramps	City of Encinitas	4-Lane Major Roadway - Augmented	D	2-Lane Local Roadway - Augmented	F
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway	F
	Between Vulcan Avenue and Sheridan Road	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway	F
	Between Sheridan Road and I-5 SB Ramps	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway – Augmented	F
Leucadia Blvd	Between Hymettus Avenue and Orpheus Avenue	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	F
Encinitas Blvd	Between I-5 SB Ramps and I-5 NB Ramps	City of Encinitas	4-Lane Major Roadway - Augmented	C or better	4-Lane Major Roadway	F
	Between I-5 NB Ramps and Saxony Road	City of Encinitas	6-Lane Prime Arterial	C or better	4-Lane Major Roadway	F
	Between Quails Garden Drive and Delphinium Street	City of Encinitas	6-Lane Prime Arterial	C or better	4-Lane Major Roadway	F
	Between Delphinium Street and Balour Drive	City of Encinitas	6-Lane Prime Arterial	C or better	4-Lane Major Roadway	F
	Between Balour Drive and Via Cantabria	City of Encinitas	6-Lane Prime Arterial	D	4-Lane Major Roadway	F



**Table 5.3  
Modified Mixed Use Plan Strategy – Mitigation Measures**

Roadway	Segment	Jurisdiction	After Mitigation		Before Mitigation	
			Functional Classification	LOS	Functional Classification	LOS
South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	City of Encinitas	4-Lane Major Roadway	C or better	2-Lane Local Roadway - Augmented	E
	Between City of Encinitas Limits and El Mirlo	County of San Diego	2-Lane Community Collector with Improvement Options	D	Light Collector with Reduced Shoulder	F
Santa Fe Drive	Between Nardo Road and Windsor Road/Bonita Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Windsor Road/Bonita Drive and Balour Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Balour Drive and Lake Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E
	Between Lake Drive and Crest Drive	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway – Augmented	E
	Between Crest Drive and El Camino Real	City of Encinitas	4-Lane Collector	C or better	2-Lane Local Roadway - Augmented	E

Source: Chen Ryan Associates; January 2016

**Intersection Mitigation Measures**

**Ready-Made Strategy**

Intersections were not analyzed under this scenario.

**Build Your Own Strategy**

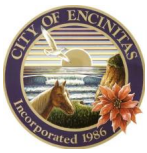
Intersections were not analyzed under this scenario.

**Modified Mixed Use Plan Strategy**

The Modified Mixed Use Plan traffic would create a direct impact at two (2) study area intersections. The following intersection improvements would be required to mitigate the identified traffic impacts:

**City of Encinitas**

- Vulcan Avenue & La Costa Avenue (Side Street Stop Controlled) –  
A traffic signal warrant was conducted. Based upon California Manual of Uniformed Traffic Control Devices (MUTCD) 2014 Edition Figure 4C-103 (CA), this intersection would meet both the “Minimum Vehicular Volume” and the “Interruption of Continuous Traffic” warrants. The signal warrant worksheet for this intersection is provided in **Appendix O**.



- Balour Drive & Santa Fe Drive (Side Street Stop Controlled) – Signalization and construction of a left-turn lane at the eastbound Santa Fe Drive approach would be required to mitigate direct project impacts. A traffic signal warrant was conducted. Based upon California Manual of Uniformed Traffic Control Devices (MUTCD) 2014 Edition Figure 4C-103 (CA), this intersection would meet both the “Minimum Vehicular Volume” and the “Interruption of Continuous Traffic” warrants. The signal warrant worksheet for this intersection is provided in Appendix O.

**Table 5.4** displays level of service analysis results for the mitigated intersections under the Modified Mixed Use Plan strategy. Calculation worksheets for the intersection analysis are provided in **Appendix P**.

As shown, after installation of the proposed mitigation measures, the two impacted intersections would operate at acceptable LOS D or better during both the AM and PM peak hours.

**Table 5.4**  
Mitigated Intersection Level of Service  
Modified Mixed Use Plan Conditions

ID	Intersection	After Mitigation				Before Mitigation	
		AM Peak Hour		PM Peak Hour		Avg. Delay AM/PM (Sec)	LOS AM/PM
		Avg. Delay (Sec)	LOS	Avg. Delay (Sec)	LOS		
6	Vulcan Avenue & La Costa Avenue	31.8	C	31.8	C	45.2 / 96.4	E / F
45	Balour Drive & Santa Fe Drive	53.5	D	23.8	C	84.7 / 51.7	F / F

Source: Chen Ryan Associates; January 2016

### **Freeway Mitigation Measures**

#### **Ready-Made Strategy**

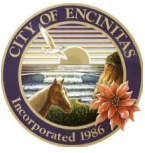
No freeway facilities were identified to be impacted under the Ready-Made strategy.

#### **Build Your Own**

No freeway facilities were identified to be impacted under the Build Your Own strategy.

#### **Modified Mixed Use Plan Strategy**

No freeway facilities were identified to be impacted under the Modified Mixed Use Plan strategy.



## **Ramp Metering Mitigation Measures**

### **Ready-Made Strategy**

Ramp Metering Analysis was not performed under the Ready-Made strategy.

### **Build Your Own**

Ramp Metering Analysis was not performed under the Build Your Own strategy.

### **Modified Mixed Use Plan Strategy**

The following three (3) ramps are anticipated to be impacted under the Modified Mixed Use Plan strategy:

- I-5 NB On-Ramp @ Encinitas Boulevard – 20.0 minutes during PM peak hour;
- I-5 SB On-Ramp @ Encinitas Boulevard – 16.7 minutes during AM peak hour;
- I-5 SB On-Ramp @ Santa Fe Drive – 33.8 minutes during AM peak hour.

The City of Encinitas shall work with Caltrans to adjust the ramp meter rate at the projected impacted ramps such that the ramp meter rates reflect the additional vehicle traffic attributable to the project.



## 6.0 SUMMARY

This section provides a summary of the roadway, intersection, freeway, ramp intersection, and ramp metering operating conditions for Existing conditions as well as for the four (4) analyzed future scenarios: No-Project, Ready-Made, Build Your Own, and Modified Mixed Use Plan.

### 6.1 Roadway Segment Analysis

**Table 6.1** displays the roadway segment level of service results within the project study area for four analyzed scenarios.

**Table 6.1**  
**Summary of Roadway Segments Level of Service Results**

Roadway	Segment	Existing	No-Project	RM	BYO	MMUP	Jurisdiction
Carlsbad Blvd	Between Poinsettia Lane and Avenida Encinas	A	C	C	C	C	City of Carlsbad
	Between Avenida Encinas and La Costa Avenue	B	C	C	C	C	City of Carlsbad
North Coast Highway 101	Between La Costa Avenue and 600 feet south of La Costa Avenue	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between 600 feet south of La Costa Avenue and Leucadia Blvd	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Leucadia Blvd and Cadmus Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Cadmus Street and Marcheta Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Marcheta Street and 660 feet south of Marcheta Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between 660 feet south of Marcheta Street and Encinitas Blvd	C or better	C or better	C or better	C or better	C or better	City of Encinitas
South Coast Highway 101	Between Encinitas Blvd and D Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between D Street and E Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas





**Table 6.1  
Summary of Roadway Segments Level of Service Results**

<b>Roadway</b>	<b>Segment</b>	<b>Existing</b>	<b>No-Project</b>	<b>RM</b>	<b>BYO</b>	<b>MMUP</b>	<b>Jurisdiction</b>
South Coast Highway 101	Between E Street and F Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between F Street and H Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between H Street and J Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between J Street and Swami's Parking	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Swami's Parking and San Elijo State Beach	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	City of Encinitas
	Between San Elijo State Beach and Chesterfield	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Chesterfield and Cardiff State Beach traffic signal	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Cardiff Beach State and Chart House traffic signal	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Chart House traffic signal and Las Olas Mexican Restaurant traffic signal	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Las Olas Mexican Restaurant traffic signal and City of Solana Beach boundary	C or better	C or better	C or better	C or better	C or better	City of Encinitas
North Highway 101	Between City of Solana Beach boundary and West Cliff Street	B	C	C	C	C	City of Solana Beach
	Between West Cliff and Lomas Santa Fe	B	C	C	C	C	City of Solana Beach
	Between Lomas Santa Fe Drive and Via De La Valle	B	C	C	C	C	City of Solana Beach
Vulcan Avenue	Between La Costa Avenue and Leucadia Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas



**Table 6.1  
Summary of Roadway Segments Level of Service Results**

<b>Roadway</b>	<b>Segment</b>	<b>Existing</b>	<b>No-Project</b>	<b>RM</b>	<b>BYO</b>	<b>MMUP</b>	<b>Jurisdiction</b>
Vulcan Avenue	Between Leucadia Blvd and Encinitas Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Encinitas Boulevard and D Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between D Street and E Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between E Street and Santa Fe Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
San Elijo Avenue	Between Santa Fe Drive and Birmingham Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Birmingham Drive and Chesterfield Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Chesterfield Drive and Manchester Avenue	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Saxony Road	Between La Costa Avenue and Quail Gardens Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Quail Hollow Drive and Normandy Road	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Normandy Road and Brittany Avenue	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Brittany Avenue and Leucadia Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Leucadia Boulevard and Silver Berry Place	C or better	D	D	D	D	City of Encinitas
	Between Silver Berry Place and Encinitas Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Quail Hollow Drive	Between Swallow Tail Road and Saxony Road	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Quail Gardens Drive	Between Swallow Tail Road and Lauren Court	C or better	C or better	C or better	C or better	C or better	City of Encinitas



**Table 6.1  
Summary of Roadway Segments Level of Service Results**

<b>Roadway</b>	<b>Segment</b>	<b>Existing</b>	<b>No-Project</b>	<b>RM</b>	<b>BYO</b>	<b>MMUP</b>	<b>Jurisdiction</b>
Quail Gardens Drive	Between Lauren Court and Leucadia Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Leucadia Boulevard and Paseo De Las Flores	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Paseo De Las Flores and Paseo De Las Verdes	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Paseo De Las Verdes and Encinitas Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Westlake Street	Between Encinitas Boulevard and Requeza Street	C or better	C or better	C or better	D	C or better	City of Encinitas
Nardo Drive	Between Requeza Street and Melba Road	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Melba Road and Santa Fe Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
MacKinnon Avenue	Between Santa Fe Drive and Villa Cardiff Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between MacKinnon Avenue and Windsor Road	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Windsor Road and Birmingham Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Garden View Road	Between Leucadia Boulevard and Via Cantebria	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Via Cantebria and El Camino Real	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Town Center Place	Between Leucadia Boulevard and Town Center Place	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Town Center Place and Town Center Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Via Cantebria	Between Town Center Drive and Garden View Road	C or better	F	F	F	F	City of Encinitas



**Table 6.1  
Summary of Roadway Segments Level of Service Results**

Roadway	Segment	Existing	No-Project	RM	BYO	MMUP	Jurisdiction
Via Cantebria	Between Garden View Road and Forrest Bluff	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Forrest Bluff and Via Montoro	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Via Montoro and Via Molena	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Via Molena and Encinitas Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Balour Drive	Between Encinitas Boulevard and Melba Road	C or better	C or better	C or better	D	D	City of Encinitas
	Between Melba Road and Santa Fe Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Lake Drive	Between Santa Fe Drive and Woodlake Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Woodlake Drive and Birmingham Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
El Camino Real	Between Aviara Parkway and La Costa Avenue	D	F	F	F	F	City of Carlsbad
	Between La Costa Avenue and Calle Barcelona	B	C	C	C	C	City of Carlsbad
	Between Calle Barcelona and City of Carlsbad boundary	B	C	C	C	C	City of Carlsbad
	Between City of Carlsbad boundary and Leucadia Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Leucadia Boulevard and Town Center Drive	C or better	D	D	D	D	City of Encinitas
	Between Town Center Drive and Garden View Road	C or better	D	D	D	D	City of Encinitas
	Between Garden View Road and 331-339 El Camino Real	C or better	C or better	C or better	C or better	C or better	City of Encinitas



**Table 6.1  
Summary of Roadway Segments Level of Service Results**

Roadway	Segment	Existing	No-Project	RM	BYO	MMUP	Jurisdiction
El Camino Real	Between 331-339 El Camino Real and Via Montoro	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Via Montoro and Mountain Vista	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Mountain Vista and Via Molena	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Via Molena and Encinitas Boulevard	C or better	D	D	D	D	City of Encinitas
	Between Encinitas Boulevard and 213 S El Camino Real	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between 213 S El Camino Real and Crest Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Crest Drive and Willowspring Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Willowspring Drive and Santa Fe Drive	C or better	D	D	D	D	City of Encinitas
	Between Santa Fe Drive and Sage Canyon Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Sage Canyon Drive and Manchester Avenue	C or better	C or better	C or better	D	D	City of Encinitas
Village Park Way	Between Mountain Vista Drive and Parkdale Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Parkdale Drive and Encinitas Boulevard	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Rancho Santa Fe Road	Between Olivenhain Road and Calle Acervo	B	B	B	B	B	City of Carlsbad
	Between Calle Acervo/Avenida La Posta and Olive Crest Drive	C or better	C or better	D	D	D	City of Encinitas
	Between Olive Crest Drive and 13th Street	C or better	C or better	D	D	D	City of Encinitas
	Between 13th Street and 11th Street	C or better	C or better	D	D	D	City of Encinitas
	Between 11th Street and El Camino Del Norte	C or better	C or better	D	D	D	City of Encinitas



**Table 6.1  
Summary of Roadway Segments Level of Service Results**

<b>Roadway</b>	<b>Segment</b>	<b>Existing</b>	<b>No-Project</b>	<b>RM</b>	<b>BYO</b>	<b>MMUP</b>	<b>Jurisdiction</b>
Rancho Santa Fe Road	Between El Camino Del Norte and 9th Street	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between 9th Street and 8th Street	<b>E</b>	<b>E</b>	<b>E</b>	<b>E</b>	<b>E</b>	City of Encinitas
	Between 8th Street and 7th Street	<b>E</b>	<b>E</b>	<b>F</b>	<b>F</b>	<b>F</b>	City of Encinitas
	Between 7th Street and Encinitas Boulevard	C or better	C or better	<b>E</b>	<b>E</b>	<b>E</b>	City of Encinitas
Manchester Avenue	Between Manchester Avenue and Mira Costa College	C or better	C or better	C or better	<b>D</b>	<b>D</b>	City of Encinitas
	Between Mira Costa College and I-5 NB On-Ramp	C or better	C or better	C or better	<b>D</b>	<b>D</b>	City of Encinitas
	Between I-5 NB Ramps and I-5 SB Ramps	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	City of Encinitas
	Between I-5 SB Ramps and Ocean Cove Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Ocean Cove Drive and Seaside Cardiff-by-the-sea residential area driveway	C or better	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	City of Encinitas
	Between Seaside Cardiff-by-the-sea residential area driveway and San Elijo Water Reclamation Facility Driveway	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between San Elijo Water Reclamation Facility Driveway and Manchester Avenue	C or better	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	City of Encinitas
	Between Encinitas Boulevard and El Camino Real	C or better	C or better	C or better	C or better	C or better	City of Encinitas
La Costa Avenue	Between North Coast Highway 101 and Vulcan Avenue	<b>D</b>	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	City of Encinitas
	Between Vulcan Avenue and Sheridan Road	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	City of Encinitas



**Table 6.1  
Summary of Roadway Segments Level of Service Results**

<b>Roadway</b>	<b>Segment</b>	<b>Existing</b>	<b>No-Project</b>	<b>RM</b>	<b>BYO</b>	<b>MMUP</b>	<b>Jurisdiction</b>
La Costa Avenue	Between Sheridan Road and I-5 SB Ramps	C or better	F	F	F	F	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	C	C	C	C	C or better	City of Carlsbad
	Between I-5 NB Ramps and Piraeus Street	D	E	E	E	E	City of Carlsbad
	Between Piraeus Street and Saxony Road	E	E	E	E	E	City of Carlsbad
	Between Saxony Road and El Camino Real	E	F	F	F	F	City of Carlsbad
	Between El Camino Real and La Costa Towne Center traffic signal	B	B	B	B	B	City of Carlsbad
	Between La Costa Towne Center traffic signal and Fairway Lane	B	B	B	B	C	City of Carlsbad
	Between Fairway Lane and Calle Madero	D	E	E	E	E	City of Carlsbad
Leucadia Blvd	Between North Coast Highway 101 and Vulcan Avenue	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Vulcan Avenue and Hermes Avenue	C or better	D	D	D	D	City of Encinitas
	Between Hermes Avenue and Hygeia Avenue	C or better	C or better	D	D	D	City of Encinitas
	Between Hygeia Avenue and Hymettus Avenue	C or better	D	C	C or better	C or better	City of Encinitas
	Between Hymettus Avenue and Orpheus Avenue	C or better	E	F	E	F	City of Encinitas
	Between Orpheus Avenue and I-5 SB Ramps	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	C or better	D	D	D	D	City of Encinitas
	Between Piraeus Street and Urania Avenue	D	E	E	E	E	City of Encinitas



**Table 6.1  
Summary of Roadway Segments Level of Service Results**

<b>Roadway</b>	<b>Segment</b>	<b>Existing</b>	<b>No-Project</b>	<b>RM</b>	<b>BYO</b>	<b>MMUP</b>	<b>Jurisdiction</b>
Leucadia Blvd	Between Urania Avenue and Saxony Road	D	E	E	E	E	City of Encinitas
	Between Saxony Road and Sidonia Street	D	E	E	E	E	City of Encinitas
	Between Sidonia Street and Quail Gardens Drive	D	E	E	E	E	City of Encinitas
	Between Quail Gardens Drive and Garden View Road	E	F	F	F	F	City of Encinitas
	Between Garden View Road and Town Center Place	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Town Center Place and El Camino Real	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Mountain Vista Drive	Between El Camino Real and Wandering Road	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Wandering Road and Village Park Way	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Lone Jack Drive	Between Rancho Santa Fe Road and northern terminus	C or better	C or better	C or better	C or better	C or better	City of Encinitas
El Camino Del Norte	Between Rancho Santa Fe Road and San Dieguito CPA boundary	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between San Dieguito CPA boundary to Via De Fortuna	C	D	C or better	C or better	C	County of San Diego
Encinitas Blvd	Between North Coast Highway 101 and Vulcan Avenue	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Vulcan Avenue and I-5 SB Ramps	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	E	F	F	F	F	City of Encinitas





**Table 6.1  
Summary of Roadway Segments Level of Service Results**

<b>Roadway</b>	<b>Segment</b>	<b>Existing</b>	<b>No-Project</b>	<b>RM</b>	<b>BYO</b>	<b>MMUP</b>	<b>Jurisdiction</b>
Encinitas Blvd	Between I-5 NB Ramps and Saxony Road	F	F	F	F	F	City of Encinitas
	Between Saxony Road and Calle Magdalena	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Calle Magdalena and Encinitas Town Country traffic signal	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Encinitas Town Country traffic signal and Quail Gardens Drive	C or better	C or better	D	D	D	City of Encinitas
	Between Quails Garden Drive and Delphinium Street	C or better	F	F	F	F	City of Encinitas
	Between Delphinium Street and Balour Drive	C or better	F	F	F	F	City of Encinitas
	Between Balour Drive and Via Cantebria	F	F	F	F	F	City of Encinitas
	Between Via Cantebria and El Camino Real	C or better	D	D	D	D	City of Encinitas
	Between El Camino Real and Village Square Drive	D	D	D	D	D	City of Encinitas
	Between Village Square Drive and Turner Avenue	D	D	D	D	D	City of Encinitas
	Between Turner Avenue and Cerro Street	D	D	D	D	D	City of Encinitas
	Between Cerro Street and Village Park Way	D	D	D	D	D	City of Encinitas
	Between Village Park Way to Willowspring Drive	C or better	C or better	D	D	D	City of Encinitas
	Between Willowspring Drive to Rancho Santa Fe Road	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	South Rancho Santa Fe Road	Between Manchester Avenue and City of Encinitas Limits	E	E	E	E	E



**Table 6.1  
Summary of Roadway Segments Level of Service Results**

<b>Roadway</b>	<b>Segment</b>	<b>Existing</b>	<b>No-Project</b>	<b>RM</b>	<b>BYO</b>	<b>MMUP</b>	<b>Jurisdiction</b>
South Rancho Santa Fe Road	Between City of Encinitas Limits and El Mirlo	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	County of San Diego
F Street	Between Vulcan Avenue and Cornish Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Requeza Street	Between Cornish Drive and San Dieguito Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between San Dieguito Drive and Stratford Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Requeza Street	Between Stratford Drive and Regal Road	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Regal Road and West Lake Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between West Lake Drive and Nardo Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
Santa Fe Drive	Between Vulcan Avenue and Cornish Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Cornish Drive and Summit Avenue	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Summit Avenue and Devonshire	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Devonshire Drive and Scripps Memorial Hospital Encinitas traffic signal	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Scripps Memorial Hospital Encinitas traffic signal and I-5 SB Ramps	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	C or better	D	D	D	D	City of Encinitas
	Between I-5 NB Ramps and Regal Road	C or better	D	D	D	D	City of Encinitas
	Between Regal Road and Gardena Road	C or better	D	D	D	D	City of Encinitas
Between Gardena Road and Nardo Road	C or better	D	D	D	D	City of Encinitas	



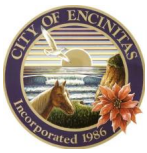
**Table 6.1  
Summary of Roadway Segments Level of Service Results**

Roadway	Segment	Existing	No-Project	RM	BYO	MMUP	Jurisdiction
Santa Fe Drive	Between Nardo Road and Windsor Road/Bonita Drive	C or better	D	E	E	E	City of Encinitas
	Between Windsor Road/Bonita Drive and Balour Drive	C or better	D	E	E	E	City of Encinitas
	Between Balour Drive and Lake Drive	C or better	E	E	E	E	City of Encinitas
	Between Lake Drive and Crest Drive	C or better	D	E	E	E	City of Encinitas
	Between Crest Drive and El Camino Real	C or better	D	E	E	E	City of Encinitas
Birmingham Drive	Between San Elijo Avenue and MacKinnon Avenue	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between MacKinnon Avenue and Carol View Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Carol View Drive and I-5 SB Ramps	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between I-5 SB Ramps and I-5 NB Ramps	F	F	F	F	F	City of Encinitas
	Between I-5 NB Ramps and Villa Cardiff Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Villa Cardiff Drive and Playa Riviera	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Playa Riviera and Freda Lane	C or better	C or better	C or better	C or better	C or better	City of Encinitas
	Between Freda Lane and Lake Drive	C or better	C or better	C or better	C or better	C or better	City of Encinitas

Source: Chen Ryan Associates; January 2016

## 6.2 Summary of Intersection Analysis Results

**Table 6.2** displays the intersection level of services results within the project study area for Existing conditions, No-Project, and the Modified Mixed Use Plan strategy. It is important to note that out of the three housing strategies, intersection analysis was only performed under the



Modified Mixed Use Plan strategy, as it was the housing strategy that generated the greatest amount of vehicular trips.

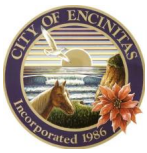
**Table 6.2**  
**Summary of Intersection Analysis Results**

ID	Intersection	Control	Existing Conditions		No-Project		MMUP		Jurisdiction
			AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS	
1	Carlsbad Boulevard & Poinsettia Lane	Signalized	A	C	B	B	B	B	City of Carlsbad
2	I-5 SB Ramps & Poinsettia Lane	Signalized	B	B	B	C	B	C	Caltrans
3	I-5 NB Ramps & Poinsettia Lane	Signalized	C	C	C	C	C	C	Caltrans
4	Aviara Parkway & Poinsettia Lane	Signalized	C	C	C	C	C	C	City of Carlsbad
5	North Coast Highway 101 & La Costa Avenue	Signalized	B	B	B	B	B	B	City of Encinitas
6	Vulcan Avenue & La Costa Avenue	SSSC	C	D	E	F	F	F	City of Encinitas
7	I-5 SB Ramps & La Costa Avenue	Signalized	E	D	D	C	D	C	Caltrans
8	I-5 NB Ramps & La Costa Avenue	Signalized	C	D	C	C	C	C	Caltrans
9	Piraeus Street & La Costa Avenue	Signalized	B	A	C	C	C	C	Caltrans
10	Saxony Road & La Costa Avenue	Signalized	B	C	B	C	B	C	City of Carlsbad
11	El Camino Real & La Costa Avenue	Signalized	E	E	D	E	D	E	City of Carlsbad
12	North Coast Highway 101 & Leucadia Boulevard	Signalized	C	C	C	D	D	D	City of Encinitas
13	Vulcan Avenue & Leucadia Boulevard	Signalized	B	A	B	B	B	B	City of Encinitas
14	Orpheus Avenue & Leucadia Boulevard	Signalized	B	B	B	B	B	B	Caltrans
15	I-5 SB Ramps & Leucadia Boulevard	Signalized	B	B	B	B	B	B	Caltrans
16	I-5 NB Ramps & Leucadia Boulevard	Signalized	B	C	B	D	B	C	Caltrans



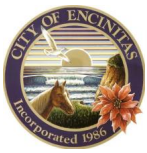
**Table 6.2  
Summary of Intersection Analysis Results**

ID	Intersection	Control	Existing Conditions		No-Project		MMUP		Jurisdiction
			AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS	
17	Saxony Road & Leucadia Boulevard	Signalized	C	D	E	E	E	E	City of Encinitas
18	Quail Gardens Drive & Leucadia Boulevard	Signalized	C	C	C	D	C	D	City of Encinitas
19	Garden View Road & Leucadia Boulevard	Signalized	D	F	D	D	D	D	City of Encinitas
20	Town Center Place & Leucadia Boulevard	Signalized	C	E	C	D	C	D	City of Encinitas
21	El Camino Real & Leucadia Boulevard	Signalized	E	D	D	E	D	E	City of Encinitas
22	El Camino Real & Town Center Drive	Signalized	B	C	B	C	B	C	City of Encinitas
23	El Camino Real & Garden View Road	Signalized	C	D	C	D	C	D	City of Encinitas
24	El Camino Real & Mountain Vista Drive	Signalized	C	C	D	C	D	C	City of Encinitas
25	Rancho Santa Fe Road & Lone Jack Road	AWSC	E	E	E	E	E	E	City of Encinitas
26	El Camino Real & Via Molena	Signalized	B	C	C	D	C	D	City of Encinitas
27	Rancho Santa Fe Road & El Camino Del Norte	AWSC	D	D	D	E	D	E	City of Encinitas
28	North Coast Highway 101 & Encinitas Boulevard	Signalized	C	C	D	C	D	C	City of Encinitas
29	S Vulcan Avenue & Encinitas Boulevard	Signalized	C	C	D	C	D	C	City of Encinitas
30	I-5 SB Ramps & Encinitas Boulevard	Signalized	C	C	C	D	C	D	Caltrans
31	I-5 NB Ramps & Encinitas Boulevard	Signalized	B	D	C	C	C	C	Caltrans



**Table 6.2  
Summary of Intersection Analysis Results**

ID	Intersection	Control	Existing Conditions		No-Project		MMUP		Jurisdiction
			AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS	
32	Saxony Road & Encinitas Boulevard	Signalized	B	C	C	B	C	B	Caltrans
33	Quail Gardens Drive & Encinitas Boulevard	Signalized	D	D	C	D	C	D	City of Encinitas
34	Balour Drive & Encinitas Boulevard	Signalized	A	B	B	B	B	C	City of Encinitas
35	Via Cantabria & Encinitas Boulevard	Signalized	A	C	C	C	B	C	City of Encinitas
36	El Camino Real & Encinitas Boulevard	Signalized	D	E	D	E	D	E	City of Encinitas
37	Village Square Drive & Encinitas Boulevard	Signalized	B	D	B	D	B	D	City of Encinitas
38	Village Park Way & Encinitas Boulevard	Signalized	B	C	C	D	C	D	City of Encinitas
39	Rancho Santa Fe Road & Encinitas Boulevard	Signalized	D	D	E	D	E	D	City of Encinitas
40	San Elijo Avenue & Santa Fe Drive	AWSC	E	B	E	C	E	C	City of Encinitas
41	I-5 SB Ramps & Santa Fe Drive	Signalized	B	C	C	C	C	C	Caltrans
42	I-5 NB On-Ramp & Santa Fe Drive	Signalized	A	B	A	A	A	A	Caltrans
43	I-5 NB Off-Ramp/Regal Road & Santa Fe Drive	Signalized	C	D	D	D	D	D	Caltrans
44	MacKinnon Avenue & Santa Fe Drive	Signalized	B	B	C	C	C	C	City of Encinitas
45	Balour Drive & Santa Fe Drive	SSSC	D	C	F	F	F	F	City of Encinitas
46	Lake Drive & Santa Fe Drive	Signalized	A	A	A	A	A	A	City of Encinitas
47	El Camino Real & Santa Fe Drive	Signalized	B	B	B	C	C	C	City of Encinitas



**Table 6.2  
Summary of Intersection Analysis Results**

ID	Intersection	Control	Existing Conditions		No-Project		MMUP		Jurisdiction
			AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS	
48	San Elijo Avenue & Birmingham Drive	Signalized	B	B	B	C	B	C	City of Encinitas
49	I-5 SB Ramps & Birmingham Drive	SSSC	F	D	F	E	F	E	Caltrans
50	I-5 NB Ramps & Birmingham Drive	AWSC	E	E	E	E	E	E	Caltrans
51	I-5 SB Ramps & Manchester Avenue	AWSC	E	C	F	E	F	E	Caltrans
52	I-5 NB Ramps & Manchester Avenue	Signalized	C	C	E	D	E	D	Caltrans
53	El Camino Real & Manchester Avenue	Signalized	C	B	D	D	D	D	City of Encinitas

Source: Chen Ryan Associates; January 2016



### 6.3 Summary of Freeway Segment Analysis

**Table 6.3** displays the freeway level of services results within the project study area under Existing conditions, No-Project, Ready-Made, Build Your Own, and Modified Mixed Use Plan.

**Table 6.3  
Summary of Freeway Segment Analysis Results**

Freeway	Segment	Direction	Existing Conditions	No-Project	Ready Made	Build Your Own	Modified Mixed Use Plan
I-5	Palomar Airport Road and Poinsettia Lane	NB	D	C	C	C	C
		SB	D	C	C	C	C
	Poinsettia Lane and La Costa Avenue	NB	D	D	D	D	D
		SB	D	D	D	D	D
	La Costa Avenue and Leucadia Boulevard	NB	D	D	D	D	D
		SB	D	C	C	C	C
	Leucadia Boulevard and Encinitas Boulevard	NB	E	C	C	C	C
		SB	D	B	B	B	B
	Encinitas Boulevard and Santa Fe Drive	NB	D	D	D	D	D
		SB	D	C	C	C	C
	Santa Fe Drive and Birmingham Drive	NB	D	C	C	C	C
		SB	D	C	C	C	C
	Birmingham Drive and Manchester Avenue	NB	D	C	C	C	C
		SB	D	C	C	C	C
	Manchester Avenue and Lomas Santa Fe Drive	NB	E	D	D	D	D
		SB	D	D	D	D	D
	Lomas Santa Fe Drive and Via De La Valle	NB	D	D	D	D	D
		SB	D	D	D	D	D

Source: Chen Ryan Associates; January 2016

As shown in the table above, all of the study area freeway roadway segments are projected to operate at LOS D or better under the four analyzed scenarios.





## 6.4 Summary of Ramp Intersection Capacity Analysis

**Table 6.4** displays the ramp intersection capacity analysis results within the project study area under Existing conditions, No-Project, and the Modified Mixed Use Plan strategy. It is important to note that out of the three housing strategies, intersection analysis was only performed under the Modified Mixed Use Plan strategy as it was the housing strategy that generated the greatest amount of vehicular trips.

**Table 6.4  
Summary of Ramp Intersection Capacity Analysis Results**

#	Ramp Intersection	Peak Hour	Existing Conditions	No-Project	MMUP
			Description	Description	Description
2	I-5 SB Ramps / Poinsettia Lane	AM	Under Capacity	Under Capacity	Under Capacity
		PM	Under Capacity	Under Capacity	Under Capacity
3	I-5 NB Ramps / Poinsettia Lane	AM	Under Capacity	Under Capacity	Under Capacity
		PM	Under Capacity	Under Capacity	Under Capacity
7	I-5 SB Ramps / La Costa Avenue	AM	Under Capacity	At Capacity	At Capacity
		PM	Under Capacity	At Capacity	At Capacity
8	I-5 NB Ramps / La Costa Avenue	AM	Under Capacity	At Capacity	At Capacity
		PM	Under Capacity	Under Capacity	Under Capacity
15	I-5 SB Ramps / Leucadia Boulevard	AM	Under Capacity	Under Capacity	Under Capacity
		PM	Under Capacity	Under Capacity	Under Capacity
16	I-5 NB Ramps / Leucadia Boulevard	AM	Under Capacity	At Capacity	At Capacity
		PM	At Capacity	<b>Over Capacity</b>	At Capacity
30	I-5 SB Ramps / Encinitas Boulevard	AM	At Capacity	<b>Over Capacity</b>	<b>Over Capacity</b>
		PM	At Capacity	<b>Over Capacity</b>	<b>Over Capacity</b>
31	I-5 NB Ramps / Encinitas Boulevard	AM	Under Capacity	At Capacity	At Capacity
		PM	Under Capacity	At Capacity	At Capacity
41	I-5 SB Ramps / Santa Fe Drive	AM	Under Capacity	Under Capacity	Under Capacity
		PM	Under Capacity	Under Capacity	Under Capacity



**Table 6.4**  
**Summary of Ramp Intersection Capacity Analysis Results**

#	Ramp Intersection	Peak Hour	Existing Conditions	No-Project	MMUP
			Description	Description	Description
42	I-5 NB On-Ramp / Santa Fe Drive	AM	Under Capacity	Under Capacity	Under Capacity
		PM	Under Capacity	Under Capacity	Under Capacity
43	I-5 NB Off-Ramp / Regal Road	AM	Under Capacity	Under Capacity	Under Capacity
		PM	Under Capacity	Under Capacity	Under Capacity
52	I-5 NB Ramps / Manchester Avenue	AM	Under Capacity	At Capacity	At Capacity
		PM	Under Capacity	At Capacity	At Capacity

Source: Chen Ryan Associates; January 2016

## 6.5 Summary of Ramp Metering Analysis

**Table 6.5** displays the ramp metering analysis results within the project study area under Existing conditions, No Project and the Modified Mixed Use Plan scenarios. It is important to note that out of the three housing strategies, ramp metering analysis was only performed under the Modified Mixed Use Plan strategy as it was the housing strategy that generated the greatest amount of vehicular trips.

**Table 6.5**  
**Ramp Metering Analysis Results**

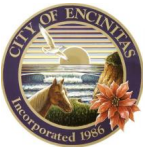
Location	Peak Hour	Existing Delay (min)	No-Project Delay (min)	MMUP Delay (min)
I-5 NB On-Ramp @ Poinsettia Lane	AM	0	0	0
	PM	0	0	0
I-5 SB On-Ramp @ Poinsettia Lane	AM	0	0	0
	PM	0	0	0
I-5 NB On-Ramp @ La Costa Avenue	AM	0	0	0
	PM	0	0	0



**Table 6.5  
Ramp Metering Analysis Results**

Location	Peak Hour	Existing Delay (min)	No-Project Delay (min)	MMUP Delay (min)
I-5 SB On-Ramp @ La Costa Avenue	AM	0	0	0
	PM	0	0	0
I-5 NB On-Ramp @ Leucadia Boulevard	AM	0	0	0
	PM	17.5	19.0	19.0
I-5 SB On-Ramp @ Leucadia Boulevard	AM	0	4.5	0.50
	PM	0	0	0
I-5 NB On-Ramp @ Encinitas Boulevard	AM	0	0	0
	PM	1.33	16.0	20.0
I-5 SB On-Ramp @ Encinitas Boulevard	AM	0	14.0	17.0
	PM	0	9.0	12.0
I-5 NB On-Ramp @ Santa Fe Drive	AM	0	0	0
	PM	0	0	0
I-5 SB On-Ramp @ Santa Fe Drive	AM	19.67	30.0	34.0
	PM	0	0	0
I-5 NB On-Ramp @ Birmingham Drive	AM	0	0	0
	PM	0	0	0
I-5 SB On-Ramp @ Birmingham Drive	AM	0	0	0
	PM	0	0	0
I-5 NB On-Ramp @ Manchester Avenue	AM	0	0	0
	PM	0	0	0
I-5 SB On-Ramp @ Manchester Avenue	AM	6.92	25.0	25.0
	PM	0	0	0

Source: Chen Ryan Associates; January 2016



## 6.6 Summary of Significant Impacts

### Ready-Made Strategy

#### Roadway segment significant impacts

##### City of Encinitas (14)

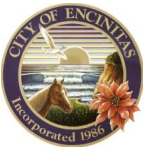
- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Boulevard;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive;
- Santa Fe Drive, between Windsor Road and Balour Drive;
- Santa Fe Drive, between Balour Drive and Lake Drive;
- Santa Fe Drive, between Lake Drive and Crest Drive; and
- Santa Fe Drive, between Crest Drive and El Camino Real.

##### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo.

#### Freeway segment significant Impacts

None.



## **Build Your Own Strategy**

### **Roadway segment significant impacts**

#### **City of Encinitas (19)**

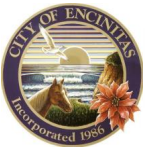
- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Boulevard;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road;
- Encinitas Boulevard, between Quails Garden Drive and Delphinium Street;
- Encinitas Boulevard, between Delphinium Street and Balour Drive;
- Encinitas Boulevard, between Balour Drive and Via Cantebria;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive;
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive;
- Santa Fe Drive, between Lake Drive and Crest Drive;
- Santa Fe Drive, between Crest Drive and El Camino Real; and
- Birmingham Drive, between I-5 SB Ramps and I-5 NB Ramps.

#### **County of San Diego (1)**

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo – LOS F.

### **Freeway segment significant impacts**

None.



## Modified Mixed Use Plan Strategy

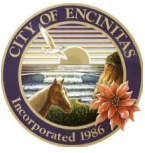
### Roadway segment significant impacts

#### City of Encinitas (19)

- Rancho Santa Fe Road, between 9<sup>th</sup> Street and 8<sup>th</sup> Street;
- Rancho Santa Fe Road, between 8<sup>th</sup> Street and 7<sup>th</sup> Street;
- Rancho Santa Fe Road, between 7<sup>th</sup> Street and Encinitas Boulevard;
- Manchester Avenue, between I-5 NB Ramps and I-5 SB Ramps;
- La Costa Avenue, between North Coast Highway 101 and Vulcan Avenue;
- La Costa Avenue, between Vulcan Avenue and Sheridan Road;
- La Costa Avenue, between Sheridan Road and I-5 SB Ramps;
- Leucadia Boulevard, between Hymettus Avenue and Orpheus Avenue;
- Encinitas Boulevard, between I-5 SB Ramps and I-5 NB Ramps;
- Encinitas Boulevard, between I-5 NB Ramps and Saxony Road;
- Encinitas Boulevard, between Quail Gardens Drive and Delphinium Street;
- Encinitas Boulevard, between Delphinium Street and Balour Drive;
- Encinitas Boulevard, between Balour Drive and Via Cantabria;
- South Rancho Santa Fe Road, between Manchester Avenue and City of Encinitas Limits;
- Santa Fe Drive, between Nardo Road and Windsor Road/Bonita Drive;
- Santa Fe Drive, between Windsor Road/Bonita Drive and Balour Drive;
- Santa Fe Drive, between Balour Drive and Lake Drive;
- Santa Fe Drive, between Lake Drive and Crest Drive; and
- Santa Fe Drive, between Crest Drive and El Camino Real.

#### County of San Diego (1)

- South Rancho Santa Fe Road, between City of Encinitas Limits and El Mirlo.



### **Intersection significant impacts**

6. Vulcan Avenue & La Costa Avenue;
45. Balour Drive & Santa Fe Drive.

### **Freeway segment significant impacts**

None.

### **Ramp metering significant impacts**

- I-5 NB On-Ramp @ Encinitas Boulevard;
- I-5 SB On-Ramp @ Encinitas Boulevard;
- I-5 SB On-Ramp @ Santa Fe Drive.



# Appendix A

## Roadway Traffic Counts, Intersection Turning Movement Counts, and Signal Timing Plans





Appendix B  
AM/PM Peak Hour Intersection LOS Worksheets  
– Existing Conditions



## Appendix C Caltrans Freeway Volumes – Existing Conditions



## Appendix D Freeway Segment Mainline Volumes vs. HOV Lane Volumes



## Appendix E Ramp Intersection Capacity Analysis – Existing Conditions



## Appendix F Model Manual Adjustments



# Appendix G AM/PM Peak Hour Intersection LOS Worksheets – No-Project Conditions



# Appendix H

## Future Year 2035 – No-Project Freeway Segment Mainline Volumes vs. HOV Volumes



# Appendix I

## Ramp Intersection Capacity Analysis – No-Project Conditions





# Appendix J

## Future Year 2035 – Ready Made Freeway Segment Mainline Volumes vs. HOV Volumes



# Appendix K

## Future Year 2035 – Build Your Own Freeway Segment Mainline Volumes vs. HOV Volumes



# Appendix L AM / PM Peak Hour Intersection LOS Worksheets – Modified Mixed Use Plan Strategy



# Appendix M

## Future Year 2035 – Modified Mixed Use Plan Freeway Segment Mainline Volumes vs. HOV Volumes



# Appendix N

## Ramp Intersection Capacity Analysis – Modified Mixed Use Plan Strategy



## Appendix O Traffic Signal Warrants



# Appendix P

## AM / PM Peak Hour Intersection LOS Worksheets - Mitigation