

**City of Carlsbad General Plan
Housing Element Implementation and
Public Safety Element Update
Transportation Impact Analysis Report**

September 2023

Final



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1 INTRODUCTION

This report summarizes the findings of the transportation impact analysis for the proposed Housing Element Implementation and Public Safety Element Update project (herein referred to as “project”) in the City of Carlsbad, California. The purpose of the analysis is to evaluate the roadway conditions and the effects of the project on the study roadways in the year 2035. The analysis was conducted in accordance with the City of Carlsbad’s Transportation Impact Analysis (TIA) Guidelines (April 2018) and in consultation with the City of Carlsbad staff during the scoping agreement process. The approved scoping agreement letter is included in **Appendix A**.

This study presents a high-level analysis evaluating the combined effects of all the project sites on the study roadway segments. The study roadways were evaluated for auto travel mode only. Since the project is at a planning stage, the level of analysis required and the exact extent of the study area to evaluate other modes of travel (pedestrian, bicycle and transit) for each individual project site cannot be determined. Hence, the pedestrian, bicycle and transit mode of travel were not evaluated in this study. During the permit process for an individual project site, a project specific transportation impact analysis (TIA) should be prepared to assess project impacts on the surrounding roadways. The roadways should be evaluated for respective travel mode (auto, pedestrian, bicycle and transit) based on their typology.

1.1 Project Background and Description

The state of California, through its housing laws, has mandated all cities and counties to develop policies to meet the current and future housing demand for all income levels. As such the City of Carlsbad has been updating the housing element every eight years. This housing element update is for the sixth housing element cycle covering from April 15, 2021, to April 15, 2029, which has been approved by the state and adopted by the Carlsbad City Council.

The project consists of amendments to the General Plan, including the Land Use and Community Design Element and Public Safety Element, and revisions to the Carlsbad Municipal Code (CMC) Title 21, the Zoning Ordinance. The amendment will implement the programs of the city’s 2021-2029 Housing Element Update. A major component of the project is the change of land use and zoning designations on several sites throughout Carlsbad to facilitate residential development. These sites, identified in the Housing Element and as further directed by the City Council, consist of single or multiple properties currently designated for low-density residential, commercial, industrial, or public land uses. As proposed, the sites would be partially or entirely redesignated to medium or high-density residential land use designations. This would require changes to the General Plan and Local Coastal Program land use maps, Zoning Ordinance and Zoning Map, and to various master and specific plans. Implementation of the rezone program under the proposed project would facilitate the development of 18 sites, which would add approximately 3,295 new housing units to the city’s housing stock and 8,260 new residents. To provide the City Council and the community more options for determining the best sites based on environmental impacts, the city has developed two project alternatives which are as follows:

Proposed Project - Includes 18 sites with the proposed land use and zoning changes from the currently adopted general plan.

Project Alternative 2 - This alternative has the following changes from the proposed project:

- Site 3, Site 8 and Site 15 are removed in this alternative.
- Site 14 and Site 17: The sites located on the Coaster Station properties (Carlsbad Village Station at State Street / Grand Avenue and, Poinsettia Station at Avenida Encinas) will increase housing density and the number of housing units.

Proposed project site description including location, existing and proposed land use designation and the number of existing and proposed housing units are provided in **Table 1-1**. Land use designation is provided in **Table 1-2**. The project site locations are shown in **Figure 1-1**. The Project Alternative 2 (3158 units) proposes to develop more housing units than the Proposed Project (3115 units).

Table 1-1: Project Site Description

Site #	Location	Current Land Use Designation ¹	Proposed Land Use Designation ¹	Housing Units						Net new Housing Units (Proposed Project & Alt 2)
				Existing on Site	Alt 1 (No Project - Adopted General Plan)	Proposed Project		Project Alt 2		
						Units	Net New Housing Units	Units	Net New Housing Units	
1	North County Plaza	R/OS	R/R-40/OS	0	0	240	240	No Change	240	240
2	The Shoppes at Carlsbad parking lot	R/OS	R/R-40/R-23/OS	0	0	993	993	No Change	993	993
		R	R/R-40/R-23							
		R	R/R-40							
		R	R/R-40							
3	South-west of Chestnut Ave / El Camino Real	R-4	R-15	0	8	28 units (at 11.5 du/ac)	20	Removed	0	20
4	North-east of El Camino Real / College Blvd (Zone 15 Cluster)	R-4/OS	R-30/OS	1	1	1	0	No Change	0	0
		R-15/L	R-15/R-30	0	115	327 (115 units at 12 du/ac and 212 units at 26.5 du/ac)	212	No Change	212	212
5	South-west of Avenida Encinas / Cannon Rd (Avenida Encinas Car Storage Lot)	PI	R-30	0	0	53 units (at 26.5 du/ac)	53	No Change	53	53
6	North-west of College Blvd / Palomar Point Wy (Crossings Golf Course Lot 5)	PI/O	R-30	0	0	181 units (at 26.5 du/ac)	181	No Change	181	181
7	Salk Ave	O	R-30	0	0	259 units (at 26.5 du/ac)	259	No Change	259	259
8	Cottage Row Apartments	R-4	R-23/OS	24	33	150 additional units (at 19 du/ac)	117	Removed	0	117

Table 1-1: Project Site Description (Continued)

Site #	Location	Current Land Use Designation ¹	Proposed Land Use Designation ¹	Housing Units						Net new Housing Units (Proposed Project & Alt 2)
				Existing on Site	Alt 1 (No Project - Adopted General Plan)	Proposed Project		Project Alt 2		
						Units	Net New Housing Units	Units	Net New Housing Units	
9	West Oaks Industrial	PI and OS	R-30/OS	0	192	192	0	No Change	0	0
10	Bressi Ranch Colt Place	PI	R-23	0	0	49 units (at 19 du/ac)	49	No Change	49	49
11	Bressi Ranch Gateway Rd	PI	R-40	0	0	199 units (at 37.5 du/ac)	199	No Change	199	199
12	Industrial Sites East of Melrose Dr	PI	R-35	0	0	456 units (at 32.5 du/ac)	456	No Change	456	456
14	Carlsbad Village COASTER Station	V-B	V-B (no change)	0	93	93 units (at 28 du/ac)	0	200 units (at under 30 du/ac)	107	107
15	City's Oak Ave Yard	V-B	V-B (no change)	0	24	24 units (at 18 du/ac)	0	Removed	0	0
16	Caltrans Maintenance Station/ Pacific Sales on Paseo Del Norte	GC, P	R-30	0	0	183 units (at 26.5 du/ac)	183	No Change	183	183
17	Poinsettia COASTER Station	P, TC	R-23/P	0	0	27 units	27	100 units	100	100
18	North Ponto Parcels	R-15, VC/R15, GC	R-23	0	40	90 units (at 19 du/ac)	50	No Change	50	50
19	La Costa Glen/Forum	R/OS	R-23/OS	0	0	76 units (at 19 du/ac)	76	No Change	76	76
Total Net New Housing Units							3115		3158	3295

¹ – Refer to Table 1-2 for land use designation.

Site 13 removed from housing site inventory and is not included within this SEIR.

Note: Units are estimates only

du/ac = dwelling units per acre

Table 1-2: Land Use Designation

Land Use Designation Abbreviation	Description
R-4	Residential 0-4 du/ac
R-15	Residential 11.5-15 du/ac
R-23	Residential 19-23 du/ac
R-30	Residential 26.5-30 du/ac
R-35	Residential 32.5-35 du/ac
R-40	Residential 37.5-40 du/ac
L	Local Shopping Center
VC	Visitor Commercial
O	Office
V-B	Village-Barrio
GC	General Commercial
OS	Open Space
R	Regional Commercial
PI	Planned Industrial
P	Public

Source: City of Carlsbad Land Use and Community Design Element with project amendments.

1.2 Study Roadway Segments

Roadway segments that could be affected by the project and based on discussion with the city, a total of 37 roadway segments were included in this study. The study roadway segments with street typology are listed in **Table 1-3** and graphically shown in **Figure 1-1**. The street typology (type of street) is based on the City of Carlsbad's General Plan Mobility Element. Based on the street typology, only certain travel modes are subject to the multi-modal level of service (MMLOS) standard. This report studies only roadways that are subject to auto MMLOS standard and that could potentially be affected by the trips from the project sites. Due to the proximity of sites 8, 17 and 18 to Poinsettia Lane (between Carlsbad Boulevard and Aviara Parkway), it is anticipated that a substantial amount of trips generated from these sites would use Poinsettia Lane. Hence, Poinsettia Lane (between Carlsbad Boulevard and Aviara Parkway) which is designated as an Employment/Transit Connector Street and is not subject to auto MMLOS standard, is included to evaluate auto level of service (LOS). The Interstate 5 (I-5) and the State Route 78 (SR-78) freeways which are outside of the city's jurisdiction are not included in this study.

Table 1-3: Study Roadway Segments

ID	Roadway	Segment Limits	Street Typology
1	El Camino Real	North City Limit to Marron Rd	Arterial Street
2		Marron Rd to Carlsbad Village Dr	
3		Carlsbad Village Dr to Tamarack Ave	
4		Tamarack Ave to Cannon Rd	
5		Cannon Rd to College Blvd	
6		College Blvd to Palomar Airport Rd	
7		Palomar Airport Rd to Camino Vida Roble	
8		Camino Vida Roble to Poinsettia Ln	
9		Poinsettia Ln to Aviara Pkwy-Alga Rd	
10		Aviara Pkwy-Alga Rd to La Costa Ave	
11		La Costa Ave to South City Limit	
12	College Blvd	North City Limit to Carlsbad Village Dr	Arterial Street
13		Carlsbad Village Dr to Cannon Rd	
14		Cannon Rd to El Camino Real *	
15		El Camino Real to Aston Ave	
16		Aston Ave to Palomar Airport Rd	
17	Aviara Pkwy	Palomar Airport Rd to Poinsettia Ln	Arterial Street
18	Melrose Dr	North City Limit to Palomar Airport Rd	Arterial Street
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas	Arterial Street
20		Avenida Encinas to Paseo del Norte	
21		Paseo del Norte to Car Country Dr	
22		Car Country Dr to Legoland Dr	
23		Legoland Dr to Faraday Ave	
24		Faraday Ave to El Camino Real	
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte	Arterial Street
26		Paseo del Norte to Armada Dr	
27		Armada Dr to Aviara Pkwy	
28		Aviara Pkwy to Camino Vida Roble	
29		Camino Vida Roble to El Camino Real	
30		El Camino Real to El Fuerte St	
31		El Fuerte St to Melrose Dr	
32		Melrose Dr to East City Limit	
33	Poinsettia Ln	Carlsbad Blvd to Avenida Encinas	Employment/Transit Connector Street
34		Avenida Encinas to Paseo del Norte	
35		Paseo del Norte to Aviara Pkwy	
36	La Costa Ave	Piraeus St to El Camino Real	Arterial Street
37	Salk Ave	College Blvd to El Camino Real	Industrial Street

* Future Roadway

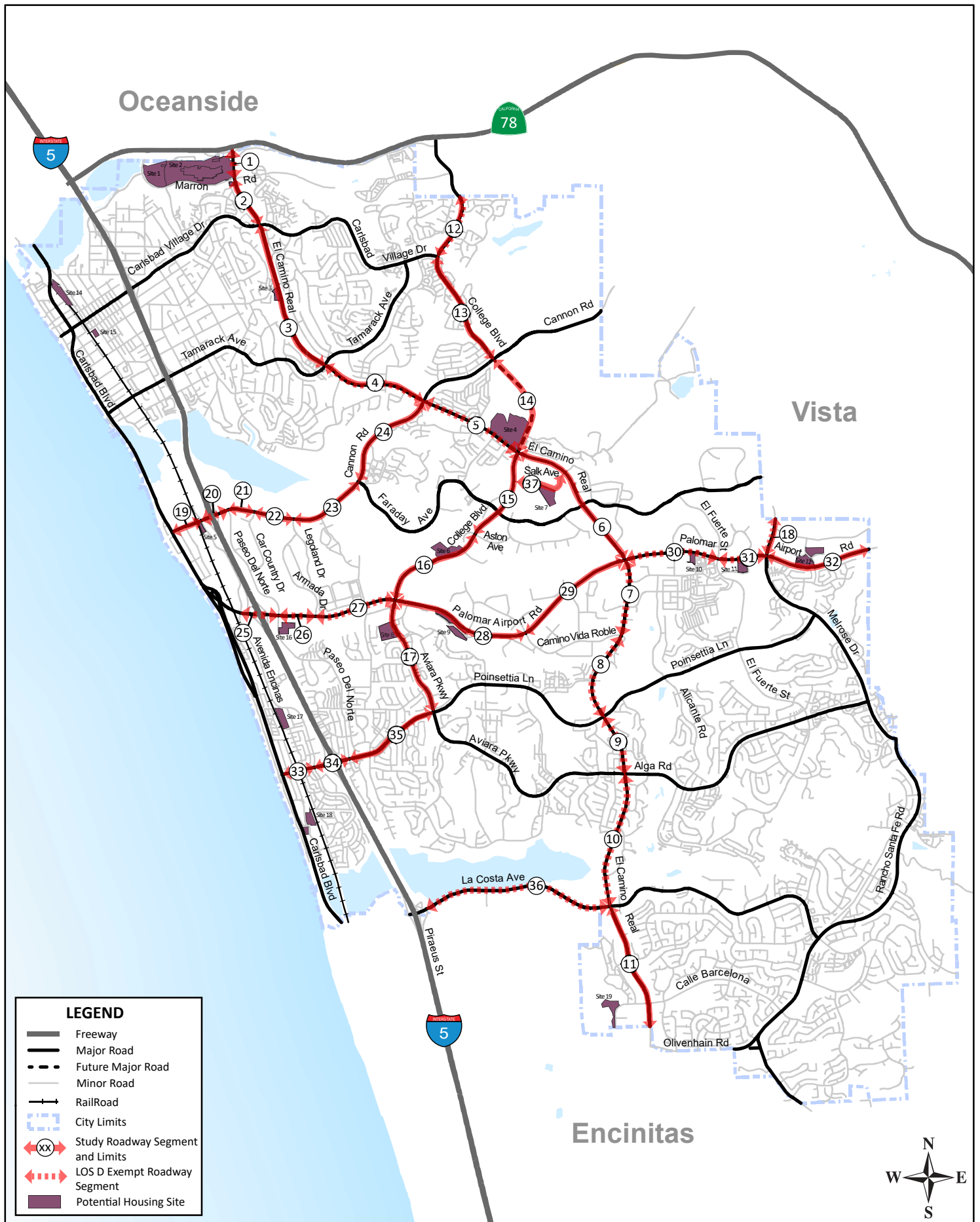


Figure 1-1
Project Site Locations and Study Roadway Segments



1.3 Analysis Scenarios

The study roadway segments are evaluated for the following scenarios:

- **Existing Conditions:** This scenario reflects the roadway conditions at the time traffic volume data was collected (September/October/November 2021 and April 2022) and with existing roadway geometry.
- **Year 2035 Alternative 1 (No Project) Conditions:** This scenario forecasts the roadway conditions in the year 2035 with adopted general plan traffic volumes and roadway geometry.
- **Year 2035 Proposed Project Conditions:** This scenario forecasts the roadway conditions in the year 2035 with changes to the traffic volumes due to the proposed project land use changes.
- **Year 2035 with Project Alternative 2 Conditions:** This scenario forecasts the roadway conditions in the year 2035 with changes to the traffic volumes due to the project Alternative 2 land use changes.

2 EXISTING TRANSPORTATION SYSTEM

This section summarizes the existing conditions of the study area transportation system. Roadway segment geometries are shown in **Figure 2-1**.

2.1 Existing Roadway Condition

El Camino Real is oriented in the north-south direction and runs parallel to Interstate 5 (I-5) freeway within the project limits. The roadway provides access to the State Route 78 (SR-78) and I-5 (via Manchester Avenue) freeways. The roadway connects Carlsbad with the City of Oceanside to the north and the City of Encinitas to the south. The roadway is classified as an Arterial Street in the City's General Plan Mobility Element. The roadway typically has three lanes in each direction with two lanes in one direction at few locations. Raised median exists along most parts of the roadway with striped median at intermittent locations. The posted speed limit varies between 35 – 55 MPH.

The roadway has Class II bike lanes in both directions. Buffer for the bike lanes exist at intermittent locations. Sidewalk exists along most part of the roadway with gaps at intermittent locations.

College Boulevard is generally oriented in the north-south direction and provides access to the SR-78 freeway. The roadway connects Carlsbad with the City of Oceanside to the north. The roadway is classified as an Arterial Street in the City's General Plan Mobility Element. The roadway has two lanes in each direction with raised median and the posted speed limit varies between 40 – 50 MPH. The roadway currently has a gap between Cannon Road and Sunny Creek Road (east of El Camino Real) which is anticipated to be built in the future.

The roadway has Class II bike lanes in both directions. Buffer for the bike lanes exist north of Cannon Road. Sidewalk exists along the entire stretch of the roadway.

Aviara Parkway between Palomar Airport Road and Poinsettia Lane (project limits) is oriented in the north-south direction and is classified as an Arterial Street in the City's General Plan Mobility Element. The roadway has two lanes in each direction with raised median and has a posted speed limit of 45 MPH.

The roadway has Class II bike lanes in both directions. Sidewalk exists along the entire stretch of the roadway within the project limits.

Melrose Drive between the north city limit and Palomar Airport Road (project limits) is oriented in the north-south direction and is classified as an Arterial Street in the City's General Plan Mobility Element. The roadway has three lanes in each direction with raised median and has a posted speed limit of 55 MPH.

The roadway has Class II bike lanes in both directions. Sidewalk exists along the entire stretch of the roadway within the project limits.

Cannon Road is oriented in the east-west direction and is classified as an Arterial Street in the City's General Plan Mobility Element. The roadway provides access to the I-5 freeway. The roadway typically has two lanes in each direction. The roadway, east of the I-5 freeway, has raised median with a posted speed limit of 50 MPH. The roadway, west of the I-5 freeway, has striped median with posted speed limit of 35 MPH.

The roadway has Class II bike lanes in both directions. Buffer for the bike lanes exist at intermittent locations. Sidewalk exists along most parts of the roadway with a gap on the north side between the I-5 northbound ramps and east of Car Country Drive.

Palomar Airport Road is oriented in the east-west direction and provides access to the I-5 and SR-78 (via San Marcos Boulevard) freeways. The roadway connects Carlsbad with the City of San Marcos to the east. The roadway is classified as an Arterial Street in the City's General Plan Mobility Element. The roadway has three lanes in each direction with raised median and the posted speed limit varies between 35 – 55 MPH.

The roadway has Class II bike lanes in both directions. Sidewalk exists along the entire stretch of the roadway.

Poinsettia Lane is oriented in the east-west direction and provides access to the I-5 freeway. The roadway, within the project limits, is classified as Employment/Transit Connector Street in the City's General Plan Mobility Element. The roadway has two lanes in each direction with raised median and the posted speed limit varies between 35 – 50 MPH.

The roadway has Class II bike lanes in both directions. Sidewalk exists along the entire stretch of the roadway within the project limits.

La Costa Avenue is oriented in the east-west direction and provides access to the I-5 freeway. The roadway, within the project limits, is classified as an Arterial Street in the City's General Plan Mobility Element. The roadway has two lanes in each direction with raised median and the posted speed limit is 55 MPH.

The roadway has Class II bike lanes in both directions. Sidewalk exists on the north side along the entire stretch of the roadway.

Salk Avenue is generally oriented in the east-west direction and intersects with College Boulevard on the west and El Camino Real on the east. The roadway is classified as an Industrial Street in the City's General Plan Mobility Element. The roadway has one lane in each direction with a two-way-left-turn-lane. The roadway has no posted speed limit.

The roadway has Class II bike lanes in both directions. Sidewalk exists along the entire stretch of the roadway.

2.2 Transit Service

In the City of Carlsbad, public transit service is provided by North County Transit District (NCTD) with multiple bus routes serving most parts of the project area. In addition, the city is served with the COASTER commuter rail service with stations at Carlsbad Village Drive and Poinsettia Lane. A map of the transit services is shown in **Figure 2-2**.

2.3 Existing Traffic Volumes

Twenty-four hour mid-block roadway segment counts were collected for three days when schools were in session. Count data at 26 locations, which were provided by the City, were collected between September and November of 2021. Count data at 10 locations were collected in April of 2022.

The peak hour volumes were derived from the 24-hour roadway segment count data and the highest from the three-day counts were used for the analysis. As per the standard industry practice, the AM peak hour volume was derived between 7:00 AM – 9:00 AM and the PM peak hour volume was derived between 4:00 PM – 6:00 PM.

The roadway segment daily traffic volume (highest of three days) is summarized in **Table 2-1** and graphically shown in **Figure 2-3**. The AM and PM peak hour directional roadway segment volumes are graphically shown in **Figure 2-4** and **Figure 2-5** respectively. The count sheets are included in **Appendix B**.

Table 2-1: Existing Roadway Segment Daily Traffic Volumes (Year 2021/2022)

ID	Roadway	Segment Limits	Daily Traffic
1	El Camino Real	North City Limit to Marron Rd ²	29,878
2		Marron Rd to Carlsbad Village Dr ²	26,875
3		Carlsbad Village Dr to Tamarack Ave ²	19,320
4		Tamarack Ave to Cannon Rd ²	24,131
5		Cannon Rd to College Blvd ¹	31,727
6		College Blvd to Palomar Airport Rd ¹	29,318
7		Palomar Airport Rd to Camino Vida Roble ³	28,675
8		Camino Vida Roble to Poinsettia Ln ²	27,881
9		Poinsettia Ln to Aviara Pkwy-Alga Rd ²	34,634
10		Aviara Pkwy-Alga Rd to La Costa Ave ²	46,444
11		La Costa Ave to South City Limit ²	36,261
12	College Blvd	North City Limit to Carlsbad Village Dr ²	25,764
13		Carlsbad Village Dr to Cannon Rd ²	17,586
14		Cannon Rd to El Camino Real	Future Roadway
15		El Camino Real to Aston Ave ¹	6,466
16		Aston Ave to Palomar Airport Rd ¹	11,893
17	Aviara Pkwy	Palomar Airport Rd to Poinsettia Ln ²	13,015
18	Melrose Dr	North City Limit to Palomar Airport Rd ¹	31,455
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas ⁴	7,741
20		Avenida Encinas to Paseo del Norte ⁴	26,937
21		Paseo del Norte to Car Country Dr ⁴	20,736
22		Car Country Dr to Legoland Dr ⁴	20,408
23		Legoland Dr to Faraday Ave ⁴	19,402
24		Faraday Ave to El Camino Real ⁴	14,874
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte ²	17,055
26		Paseo del Norte to Armada Dr ²	42,750
27		Armada Dr to Aviara Pkwy ²	40,556
28		Aviara Pkwy to Camino Vida Roble ²	32,656
29		Camino Vida Roble to El Camino Real ³	28,647
30		El Camino Real to El Fuerte St ³	39,619
31		El Fuerte St to Melrose Dr ¹	46,785
32		Melrose Dr to East City Limit ¹	30,674
33	Poinsettia Ln	Carlsbad Blvd to Avenida Encinas ²	7,272
34		Avenida Encinas to Paseo del Norte ⁴	23,429
35		Paseo del Norte to Aviara Pkwy ⁴	20,443
36	La Costa Ave	Piraeus St to El Camino Real ⁴	35,864
37	Salk Ave	College Blvd to El Camino Real ⁴	1,210

Count Date: ¹ – September 2021, ² – October 2021, ³ – November 2021, ⁴ – April 2022

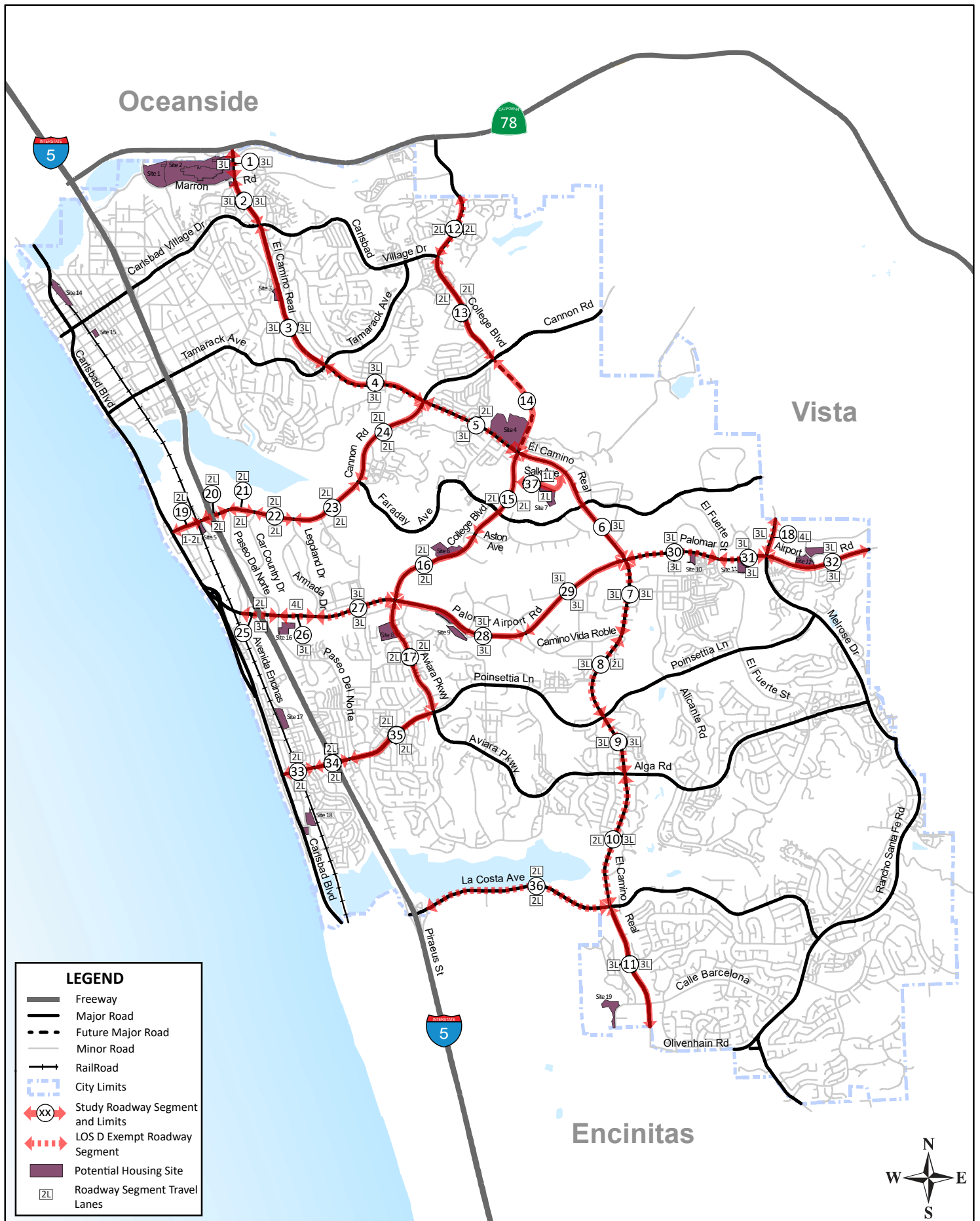


Figure 2-1
Existing Roadway Segment Geometry



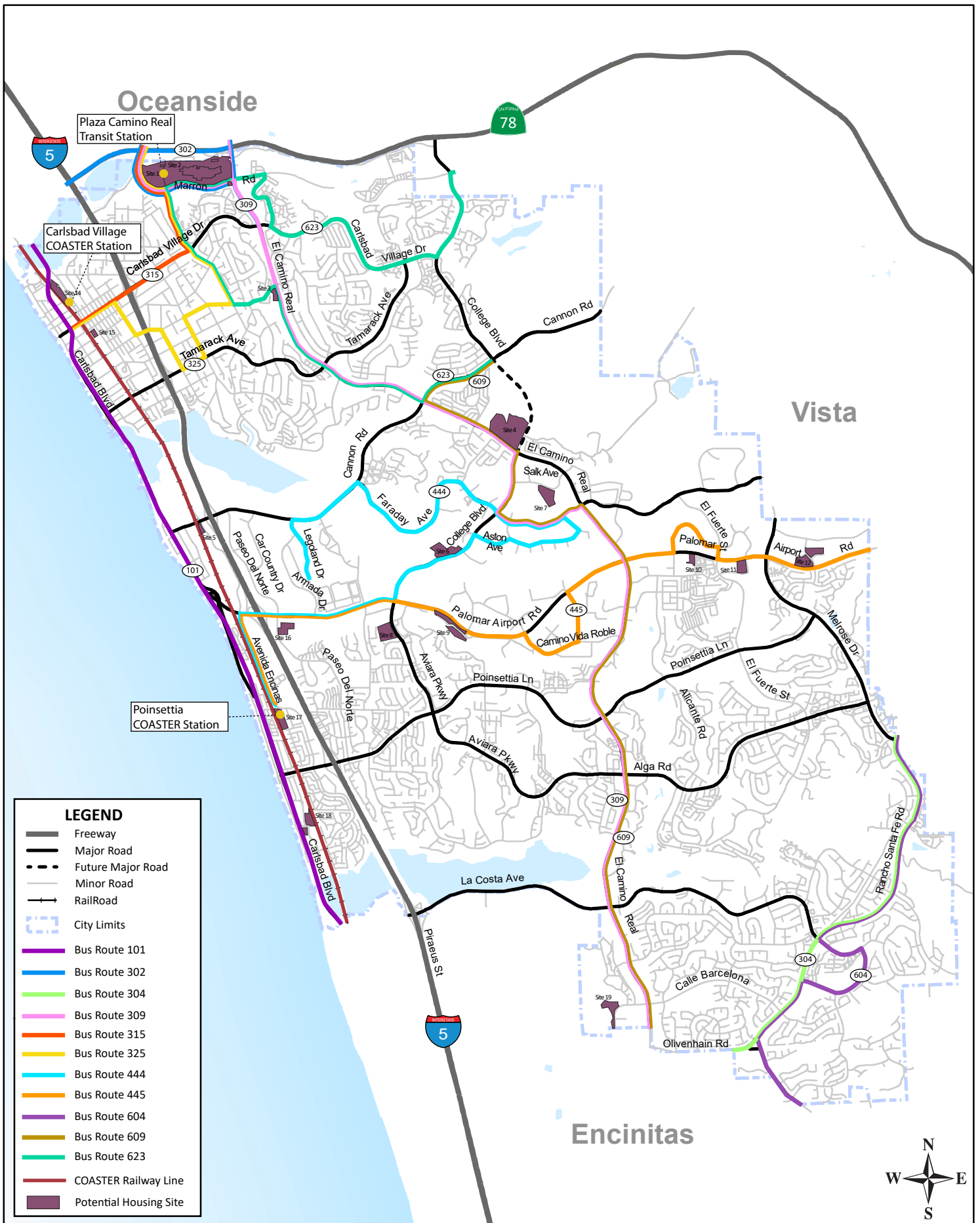


Figure 2-2
Transit Service Map



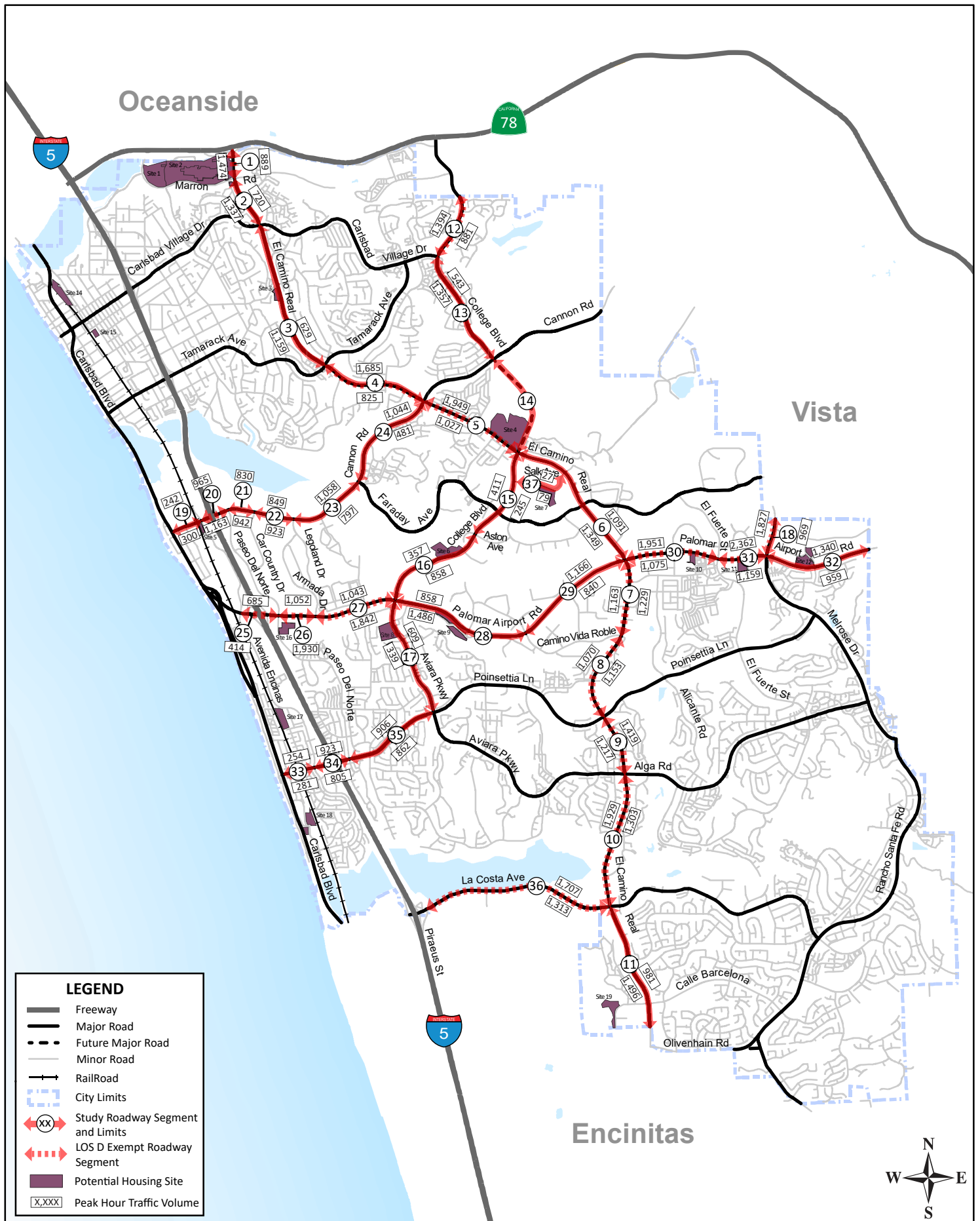


Figure 2-4
Existing AM Peak Hour Directional Traffic Volumes



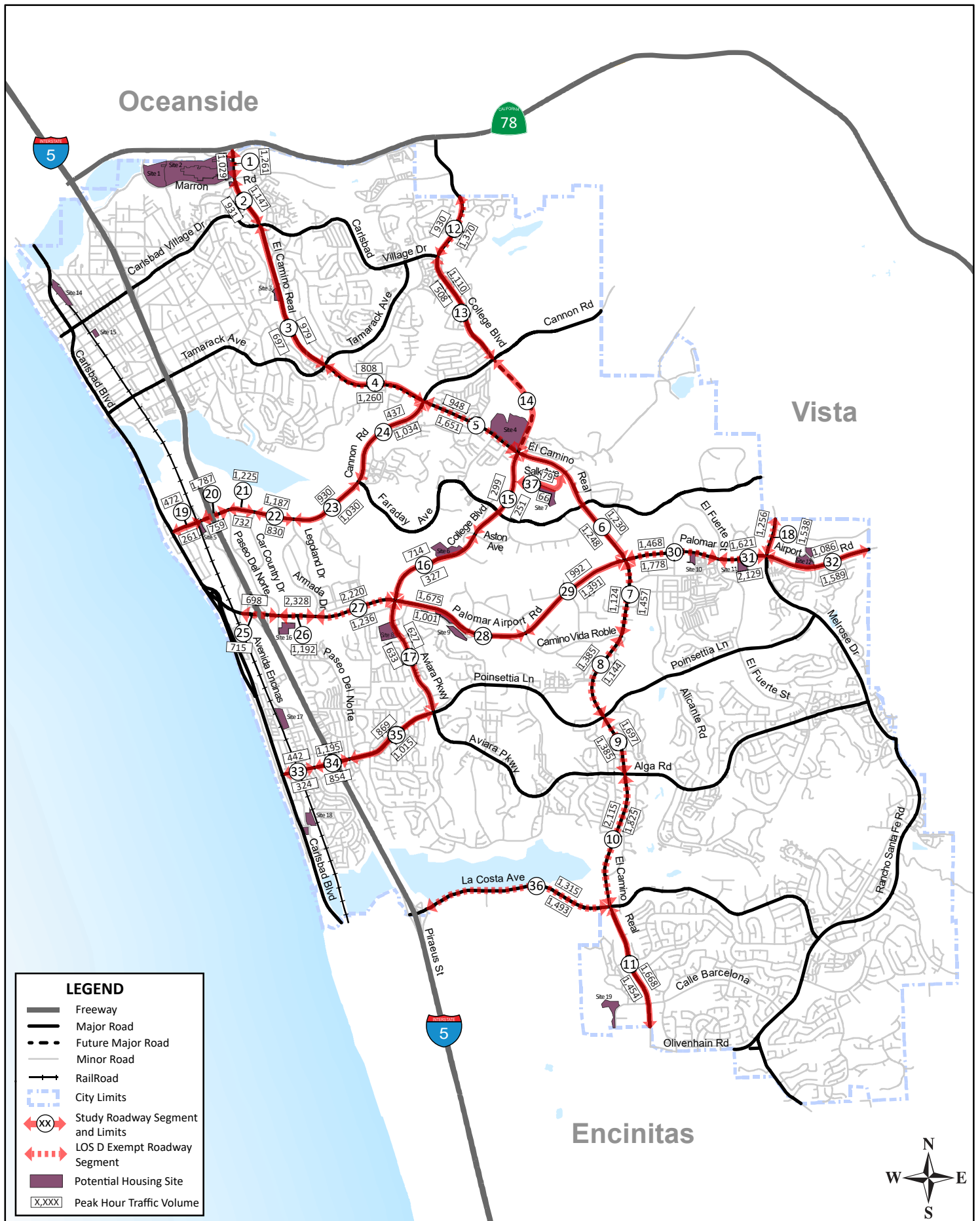


Figure 2-5
Existing PM Peak Hour Directional Traffic Volumes



3 FUTURE YEAR 2035

Within the project study area, following changes to the roadways are anticipated in the future year 2035:

- College Boulevard between Cannon Road and Sunny Creek Road will be constructed. The roadway segment is classified as an Arterial Street in the City's General Plan Mobility Element and is anticipated to be built as a four-lane roadway with raised median.
- Roadway segments along El Camino Real, where two lanes in one direction exist will be widened or restriped to three lanes. The following locations are where the roadway is currently two lanes:
 - Jackspar Drive-Rancho Carlsbad Drive to College Boulevard (Northbound)
 - Camino Vida Roble to Poinsettia Lane (Northbound)
 - Arenal Road to La Costa Avenue (Southbound)
- Following roadway segments will be restriped from two lanes to one lane in both directions:
 - Cannon Road from Carlsbad Boulevard to Avenida Encinas
 - Poinsettia Lane from Carlsbad Boulevard to Avenida Encinas

3.1 Future Year 2035 Traffic Volume Forecast

The SANDAG's Activity Based Model (ABM) ABM2+ was used to forecast the future year 2035 traffic volumes. Separate model runs were conducted for the three future year 2035 scenarios with respective land use assumptions. The model generates trips and assigns to the roadway network based on the land uses, roadway network, socioeconomic and demographic data. The model assigns trips to all travel modes (auto, pedestrian, bicycle and transit) based on the roadway network, facilities and policies. Off-the-shelf base year 2016 model was used for the volume forecast.

To forecast the year 2035 Alternative 1 (No Project) traffic volumes, base year 2016 and year 2035 Alternative 1 (No Project) models were used to derive the annual growth rate on each study roadway segments, which was applied to the existing traffic volumes to forecast the future year 2035 Alternative 1 (No Project) traffic volumes.

To forecast the year 2035 Proposed Project and Project Alternative 2 traffic volumes, the difference in model volume (between the Alternative 1 (No Project) and the two respective project alternatives) was calculated. The volume difference was then added to the year 2035 Alternative 1 (No Project) traffic volumes to derive the two year 2035 project alternative traffic volumes. The roadway segment average daily traffic (ADT) volumes for all the year 2035 scenarios are summarized in **Table 3-1**. The ADT and the AM and PM peak hour directional volumes for all the year 2035 scenarios are graphically shown in **Figure 3-1** through **Figure 3-9**. Model plots and the volume forecast calculations are included in **Appendix C**.

Table 3-1: Existing and Year 2035 Roadway Segment Average Daily Traffic Volumes Summary

ID	Roadway	Segment Limits	Existing	2035 Alt 1 (No Project)	2035 Proposed Project	2035 Project Alt 2
1	El Camino Real	North City Limit to Marron Rd	29,878	31,100	31,428	31,122
2		Marron Rd to Carlsbad Village Dr	26,875	27,950	29,299	28,872
3		Carlsbad Village Dr to Tamarack Ave	19,320	20,100	21,316	21,039
4		Tamarack Ave to Cannon Rd	24,131	25,100	26,506	26,349
5		Cannon Rd to College Blvd	31,727	33,000	33,769	33,577
6		College Blvd to Palomar Airport Rd	29,318	32,000	33,279	33,168
7		Palomar Airport Rd to Camino Vida Roble	28,675	31,300	31,953	31,941
8		Camino Vida Roble to Poinsettia Ln	27,881	30,400	30,807	30,714
9		Poinsettia Ln to Aviara Pkwy-Alga Rd	34,634	39,150	39,852	39,753
10		Aviara Pkwy-Alga Rd to La Costa Ave	46,444	49,700	50,365	50,377
11		La Costa Ave to South City Limit	36,261	37,750	38,076	38,111
12	College Blvd	North City Limit to Carlsbad Village Dr	25,764	29,650	30,535	29,994
13		Carlsbad Village Dr to Cannon Rd	17,586	21,850	22,766	22,410
14		Cannon Rd to El Camino Real *	-	16,400	17,269	17,106
15		El Camino Real to Aston Ave	6,466	11,650	12,455	12,477
16		Aston Ave to Palomar Airport Rd	11,893	13,700	13,927	14,196
17	Aviara Pkwy	Palomar Airport Rd to Poinsettia Ln	13,015	14,350	14,749	14,776
18	Melrose Dr	North City Limit to Palomar Airport Rd	31,455	32,750	33,387	33,335
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas	7,741	8,250	8,541	8,602
20		Avenida Encinas to Paseo del Norte	26,937	28,600	29,201	29,177
21		Paseo del Norte to Car Country Dr	20,736	22,000	22,443	22,261
22		Car Country Dr to Legoland Dr	20,408	21,650	22,285	22,090
23		Legoland Dr to Faraday Ave	19,402	20,600	21,197	21,081
24		Faraday Ave to El Camino Real	14,874	15,800	16,482	16,290
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte	17,055	17,750	18,242	18,292
26		Paseo del Norte to Armada Dr	42,750	46,200	47,150	47,143
27		Armada Dr to Aviara Pkwy	40,556	43,850	44,574	44,436
28		Aviara Pkwy to Camino Vida Roble	32,656	34,000	34,827	34,457
29		Camino Vida Roble to El Camino Real	28,647	29,800	30,982	30,451
30		El Camino Real to El Fuerte St	39,619	41,250	42,014	41,709
31		El Fuerte St to Melrose Dr	46,785	48,700	50,265	50,078
32		Melrose Dr to East City Limit	30,674	31,950	33,670	33,364
33	Poinsettia Ln	Carlsbad Blvd to Avenida Encinas	7,272	7,600	7,884	7,950
34		Avenida Encinas to Paseo del Norte	23,429	24,400	24,722	24,952
35		Paseo del Norte to Aviara Pkwy	20,443	21,300	21,691	21,752
36	La Costa Ave	Piraeus St to El Camino Real	35,864	37,300	37,789	37,538
37	Salk Ave	College Blvd to El Camino Real	1,210	1,300	1,941	2,044

* Future Roadway

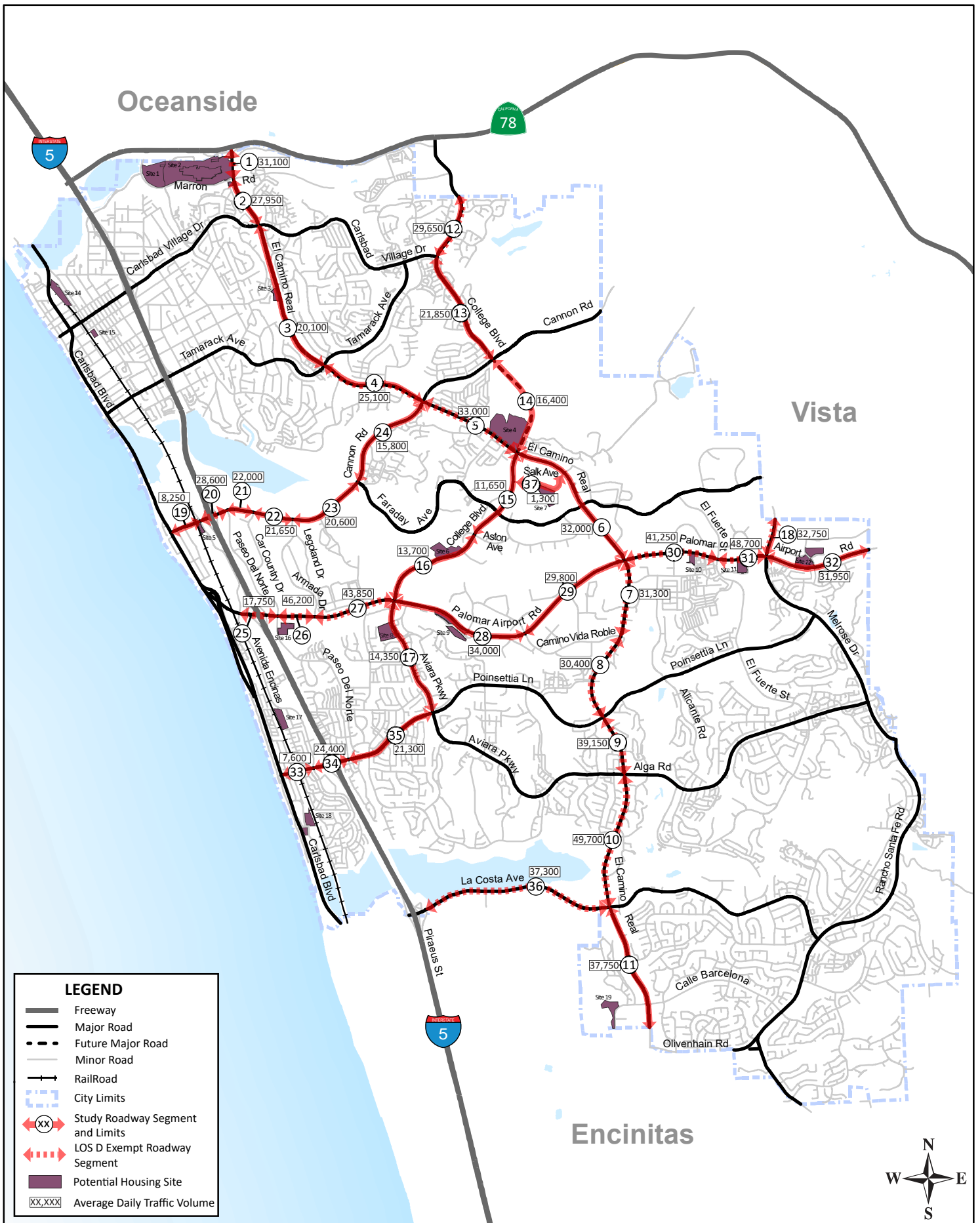


Figure 3-1
Year 2035 Alternative 1 (No Project) Average Daily Traffic Volumes



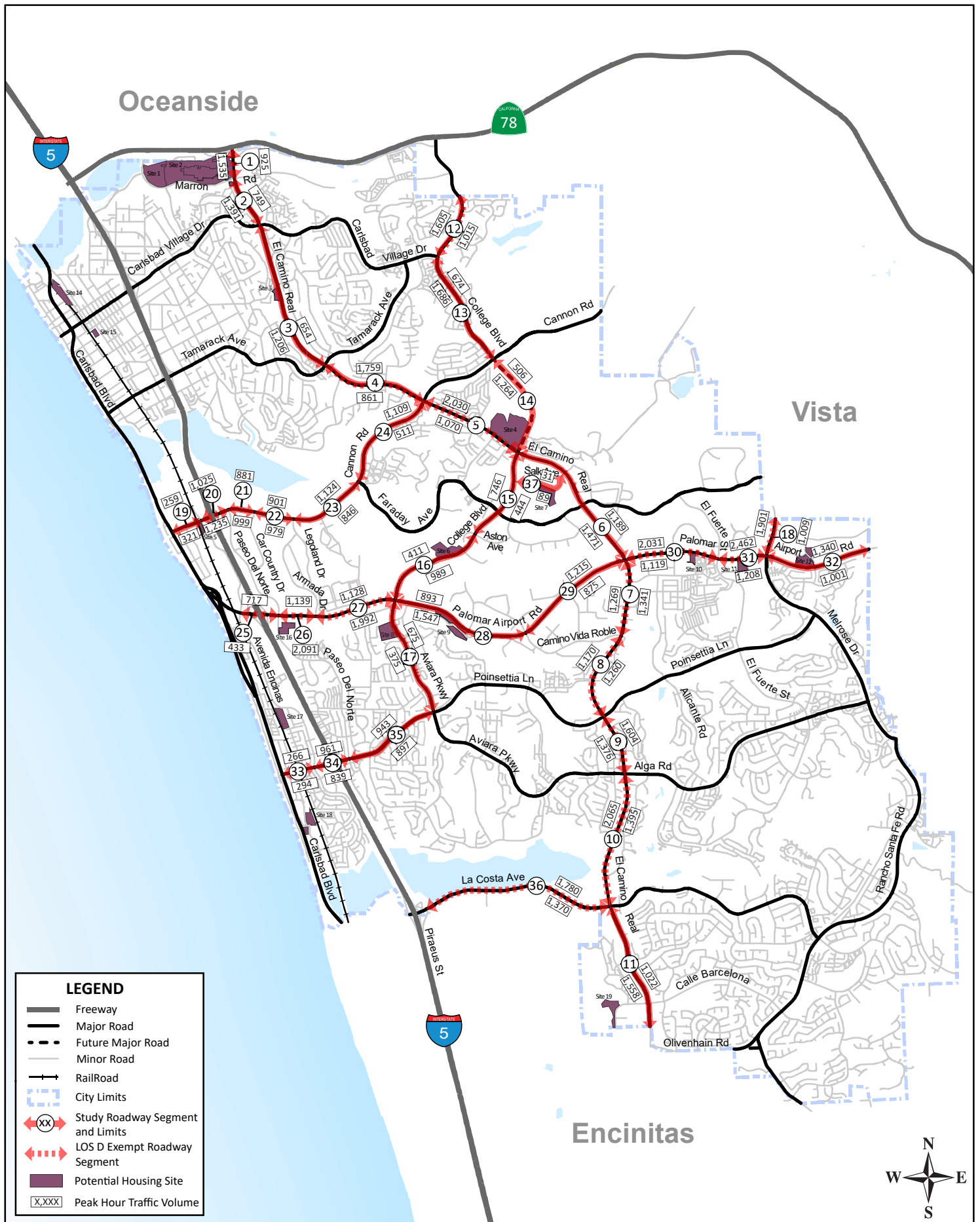


Figure 3-2
Year 2035 Alternative 1 (No Project) AM Peak Hour Directional Traffic Volumes



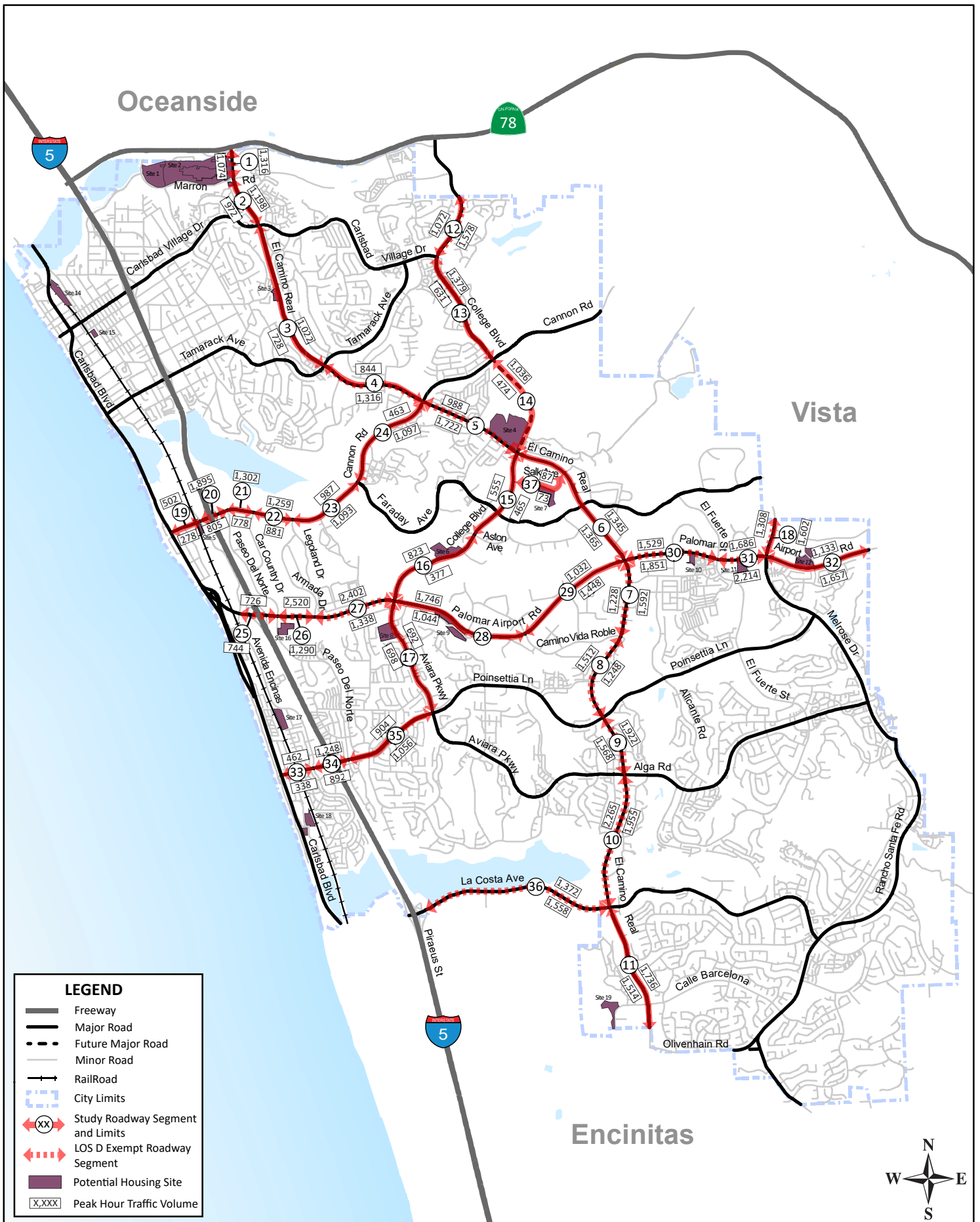


Figure 3-3
Year 2035 Alternative 1 (No Project) PM Peak Hour Directional Traffic Volumes



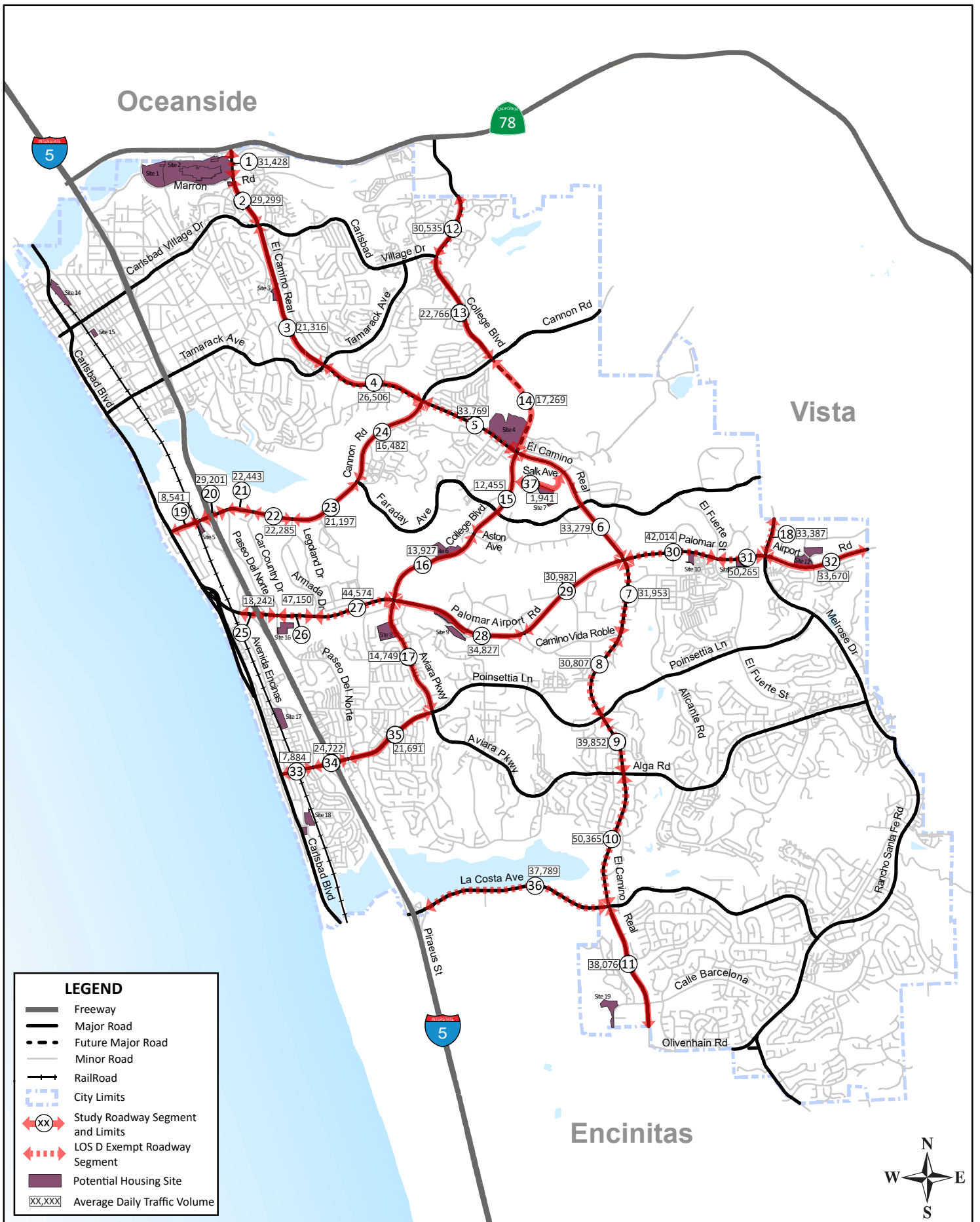


Figure 3-4
Year 2035 Proposed Project Average Daily Traffic Volumes



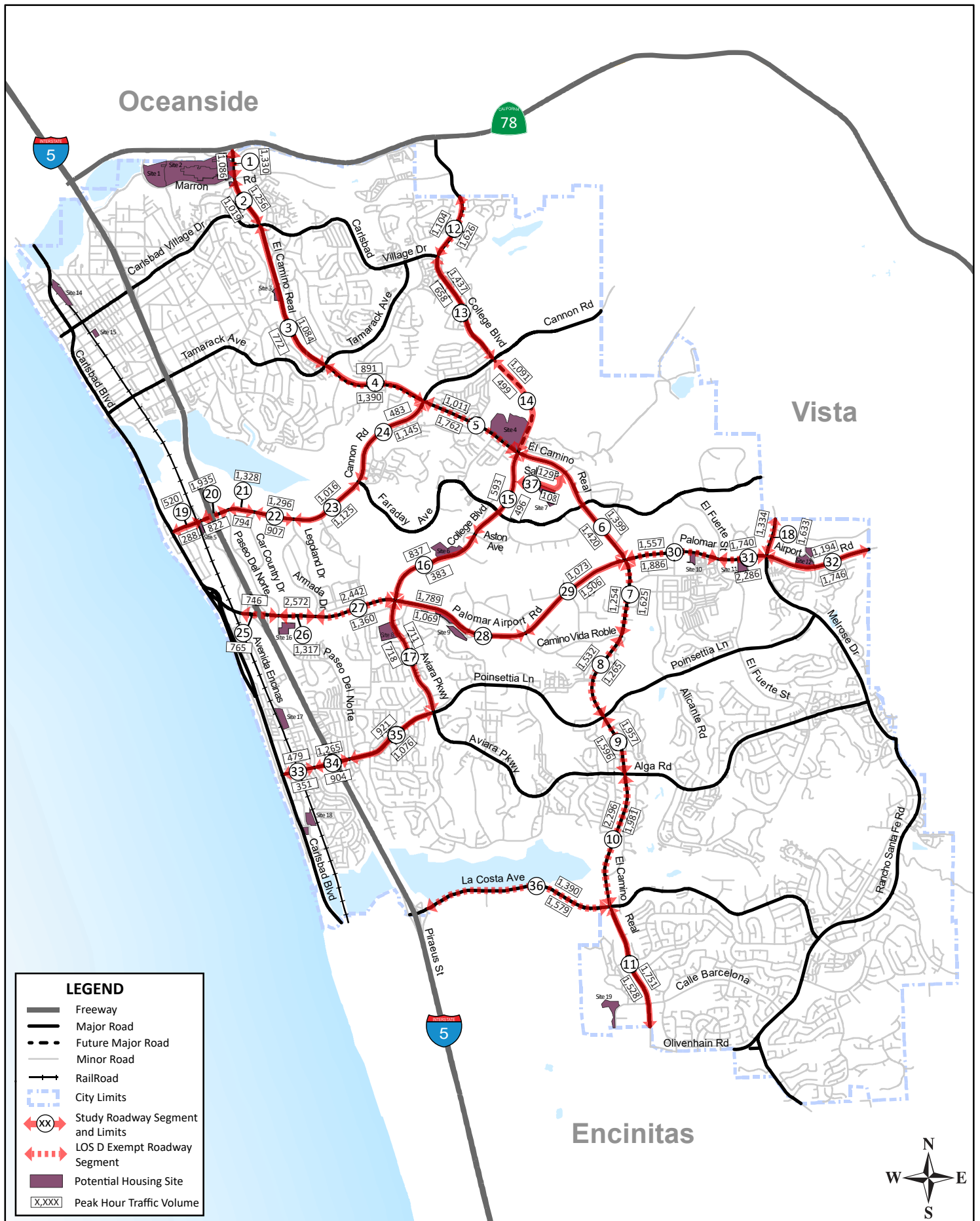


Figure 3-6
Year 2035 Proposed Project PM Peak Hour Directional Traffic Volumes



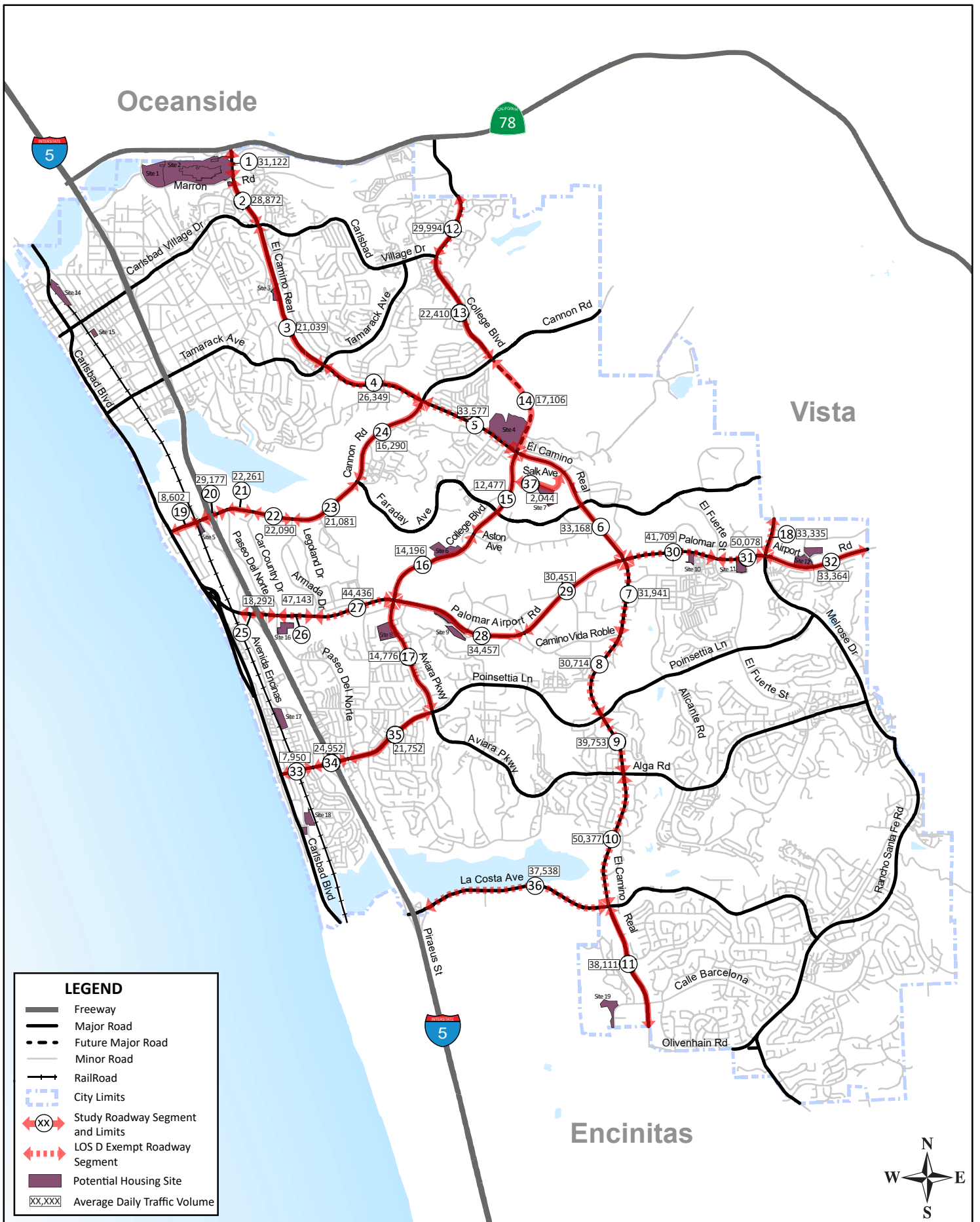


Figure 3-7
Year 2035 with Project Alternative 2 Average Daily Traffic Traffic Volumes



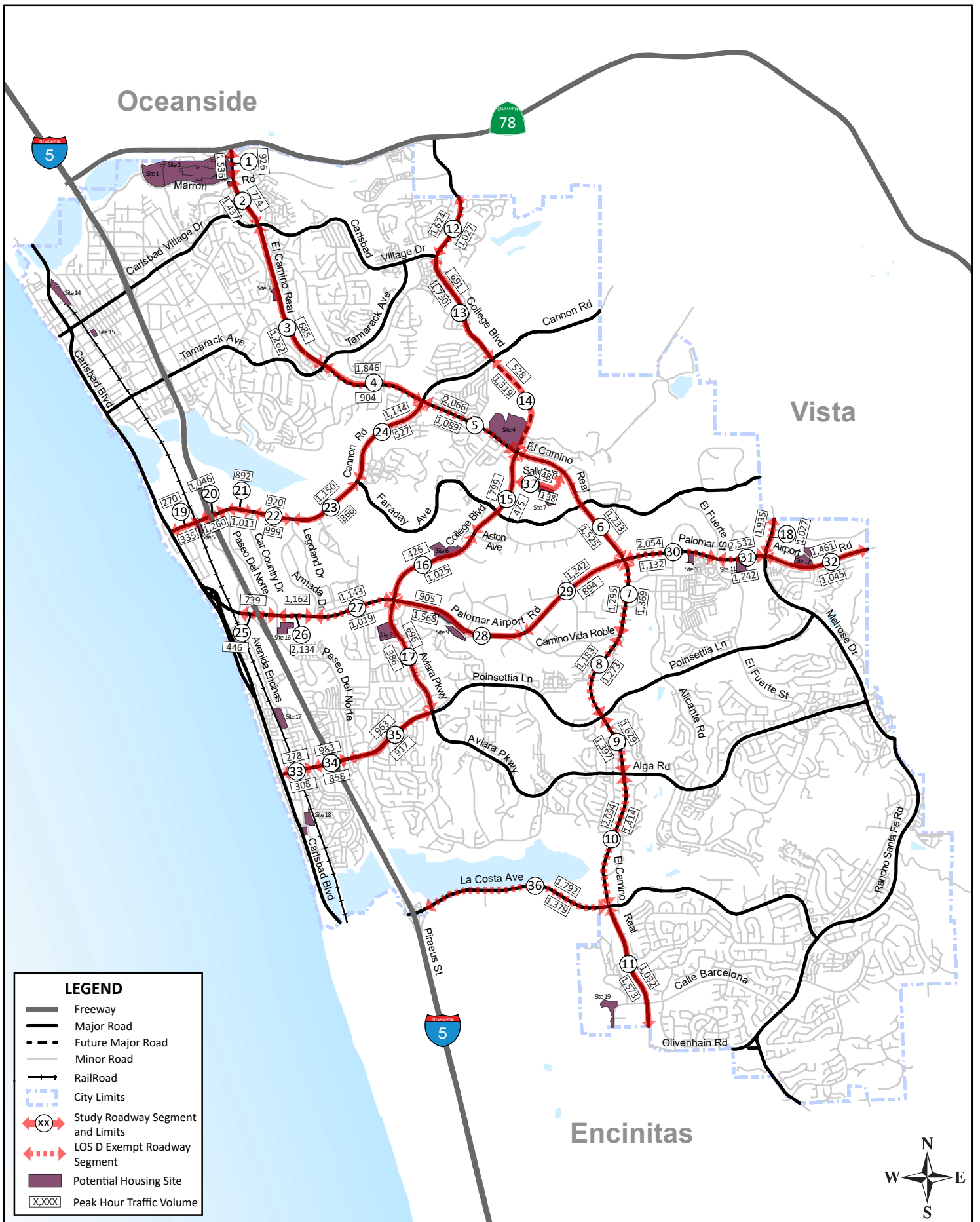


Figure 3-8
Year 2035 with Project Alternative 2 AM Peak Hour Directional Traffic Volumes



4 ROADWAY SEGMENT ANALYSIS METHODOLOGY

The City of Carlsbad has developed roadway service volumes based on the Highway Capacity Manual (HCM) 2010 methodology, for specific corridor subject to Auto Multi Modal Level of Service (MMLOS) standard which includes all the Arterial and Arterial Connector streets. In addition, service volumes were also developed for parts of Poinsettia Lane and Faraday Avenue, which are classified as Employment/Transit Connector Streets and which are not subject to Auto MMLOS standard. A generalized service volume for Arterial and Industrial streets was also developed which can be applied to roadways that do not have service volumes developed specifically for them. The service volume accounts for factors such as intersection and roadway segment geometry, posted speed, signal timing, signal spacing and traffic characteristics. The “Roadway Service Volume Table – Specific Corridor” and the “Roadway Service Volume Table – Generalized Data” are included in **Appendix D**. Both service volume tables provide peak hour roadway service volumes in the peak direction of travel.

Service volume for (#14) College Boulevard from Cannon Road to El Camino Real was derived using ARTPLAN software in accordance with the City’s TIA guideline, and the calculation sheets are provided in Appendix D. Service volumes for the following roadway segments were provided by the City:

- 12. College Boulevard from North City Limit to Carlsbad Village Drive
- 19. Cannon Road from Carlsbad Boulevard to Avenida Encinas
- 33. Poinsettia Lane from Carlsbad Boulevard to Avenida Encinas

For the rest of the study roadway segments that do not have service volume, the service volume for roadways with similar characteristics was used from the Specific Corridor and the Generalized Data roadway service volume. The service volumes for the eight roadway segments are summarized in **Table 4-1**.

Table 4-1: Service Volume

ID	Roadway	Segment Limits	Analysis Condition	Roadway Classification ¹	Peak Direction LOS Thresholds				
					A	B	C	D	E
5	El Camino Real ²	Cannon Rd to College Blvd	Future	NB: 3/55/D	**	2,150	2,900	##	##
8		Camino Vida Roble to Poinsettia Ln	Future	NB: 3/55/D	**	1,470	2,820	2,900	##
10		Aviara Pkwy-Alga Rd to La Costa Ave	Future	SB: 3/55/D	**	1,390	2,580	##	##
12	College Blvd	North City Limit to Carlsbad Village Dr	Existing & Future	2/45/D	**	**	1,150	1,730	1,800
14	College Blvd	Cannon Rd to El Camino Real	Future	2/45/D	**	**	880	1,670	1,770
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas	Existing	EB: 1-2/35/D	**	**	510	630	700
				WB: 2/35/D	**	460	1,960	2,160	##
			Future	EB: 1/35/D	**	**	510	630	700
				WB: 1/35/D	**	220	890	1,060	##
33	Poinsettia Ln	Carlsbad Blvd to Avenida Encinas	Existing	2/35/D	**	**	810	2,200	2,460
			Future	1/35/D	**	**	510	1,360	1,610
37	Salk Ave ³	College Blvd to El Camino Real	Existing & Future	1/35/D	**	**	190	630	780

NB – Northbound, SB – Southbound, EB – Eastbound, WB – Westbound

¹ Roadway Classification = Lanes/Speed/Median

² Service volume assumed to be similar to the opposite direction.

³ Used Generalized Service Volume for 1/35/D Industrial Street.

4.1 Performance Standards

The City of Carlsbad Growth Management Program “Citywide Facilities and Improvements Plan” states that the performance standard for the circulation system is as follows:

“Implement a comprehensive livable streets network that serves all users of the system-vehicles, pedestrians, bicycles and public transit. Maintain LOS D or better for all modes that are subject to this multi-modal level of service (MMLOS) standards, as identified in Table 3-1 of the General Plan Mobility Element, excluding LOS exempt intersections and streets approved by the City Council.”

To comply with the Growth Management Program, all roadway facilities identified as not meeting the performance standard (LOS D) in the existing conditions scenario must be fully mitigated regardless of the project effects to that facility, or an exemption from the LOS D standard must be requested according to the Mobility Element Implementing Policy 3-P.9. To exempt the vehicle mode of travel from the LOS standard, the intersection or street segment must be identified as built-out by the City Council because:

- a. *Acquiring the right of way is not feasible; or*
- b. *The proposed improvements would significantly impact the environment in an unacceptable way and mitigation would not contribute to the nine core values of the Carlsbad Community Vision; or*
- c. *The proposed improvements would result in unacceptable impacts to other community values or General Plan policies; or*
- d. *The proposed improvements would require more than three through travel lanes in each direction.*

The project is determined to cause a deteriorated condition to the transportation facility if one or more of the following criteria is met:

- The addition of project results in a change in LOS from acceptable (LOS D or better) to deficient (LOS E or F).
- Addition of project trips to a roadway facility that is forecast to operate at deficient LOS (LOS E or F).

Roadway facilities that are identified to be deteriorated by the project must either:

- Mitigate the traffic condition to pre-project conditions, or
- Request exemption from the LOS D standard from the City Council and identify a feasible Transportation Demand Management (TDM) and Transportation System Management (TSM) mitigation measure.

4.2 Exempt Roadway Facility

As part of the Growth Management Program (GMP), the City monitors roadway conditions each year on critical roadway segments throughout the City to comply with the City’s Growth Management Ordinance and Local Facilities Management Plan (LFMP). Roadway segments that are exempt from LOS D standard are summarized in **Table 4-2**. Vehicle LOS exempt locations from the Fiscal Year 2021-2022 Growth Management Plan Monitoring Report is included in **Appendix E**.

Table 4-2: Exempt Study Roadway Segments

ID	Roadway	Segment Limits	Direction
1	El Camino Real	North City Limit to Marron Rd	SB & NB
4		Tamarack Ave to Cannon Rd	SB
5		Cannon Rd to College Boulevard	SB & NB
7		Palomar Airport Rd to Camino Vida Roble	SB & NB
8		Camino Vida Roble to Poinsettia Ln	SB & NB
9		Poinsettia Ln to Aviara Pkwy-Alga Rd	SB & NB
10		Aviara Pkwy-Alga Rd to La Costa Ave	SB & NB
12	College Blvd	North City Limit to Carlsbad Village Dr	NB
18	Melrose Dr	North City Limit to Palomar Airport Rd	SB
20	Cannon Rd	Avenida Encinas to Paseo del Norte	EB & WB
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte	EB & WB
26		Paseo del Norte to Armada Dr	EB & WB
27		Armada Dr to College Boulevard-Aviara Pkwy	EB & WB
30		El Camino Real to El Fuerte St	EB & WB
31		El Fuerte St to Melrose Dr	EB & WB
36	La Costa Ave	Piraeus St to El Camino Real	EB & WB
	Aviara Pkwy/Alga Rd	Manzanita St to El Camino Real	EB & WB

5 ROADWAY CONDITIONS ANALYSIS

This section presents the roadway segment analysis results for the existing and future year scenarios for the study roadway segments. Roadway conditions were assessed by comparing the AM and PM peak hour volumes in both direction of travel with the service volumes and the corresponding level of service (LOS) was reported. The analysis results are summarized in **Table 5-1** through **Table 5-4** as follows:

Table 5-1: Existing Roadway Conditions

Table 5-2: Year 2035 Alternative 1 (No Project) Roadway Conditions

Table 5-3: Year 2035 Proposed Project Roadway Conditions

Table 5-4: Year 2035 with Project Alternative 2 Roadway Conditions

The analysis results are graphically shown in **Figure 5-1** through **Figure 5-8** as follows:

Figure 5-1: Existing AM Peak Hour Roadway Conditions

Figure 5-2: Existing PM Peak Hour Roadway Conditions

Figure 5-3: Year 2035 Alternative 1 (No Project) AM Peak Hour Roadway Conditions

Figure 5-4: Year 2035 Alternative 1 (No Project) PM Peak Hour Roadway Conditions

Figure 5-5: Year 2035 Proposed Project AM Peak Hour Roadway Conditions

Figure 5-6: Year 2035 Proposed Project PM Peak Hour Roadway Conditions

Figure 5-7: Year 2035 Project Alternative 2 AM Peak Hour Roadway Conditions

Figure 5-8: Year 2035 Project Alternative 2 PM Peak Hour Roadway Conditions

Table 5-1: Existing Roadway Conditions

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?
					A	B	C	D	E	Volume	LOS	Volume	LOS	
1		North City Limit to Marron Rd	North	3/35/D	**	**	**	**	1,400	889	E	1,261	E	Yes
			South	3/35/D	**	**	**	**	1,400	1,474	F	1,029	E	Yes
2		Marron Rd to Carlsbad Village Dr	North	3/35/D	**	140	2,070	2,520	##	720	C	1,147	C	No
			South	3/35/D	**	140	2,070	2,520	##	1,337	C	931	C	No
3		Carlsbad Village Dr to Tamarack Ave	North	3/55/D	1,930	2,850	2,900	##	##	629	A	979	A	No
			South	3/55/D	1,930	2,850	2,900	##	##	1,159	A	697	A	No
4		Tamarack Ave to Cannon Rd	North	3/55/D	**	**	2,400	2,800	##	1,685	C	808	C	No
			South	3/55/D	**	**	2,400	2,800	##	825	C	1,260	C	Yes
5		Cannon Rd to College Blvd	North	2/55/D	**	1,060	1,860	##	##	1,949	F	948	B	Yes
			South	3/55/D	**	2,150	2,900	##	##	1,027	B	1,651	B	Yes
6	El Camino Real	College Blvd to Palomar Airport Rd	North	3/55/D	270	2,750	2,940	##	##	1,091	B	1,230	B	No
			South	3/55/D	270	2,750	2,940	##	##	1,349	B	1,248	B	No
7		Palomar Airport Rd to Camino Vida Roble	North	3/55/D	**	**	1,330	2,510	2,580	1,229	C	1,457	D	Yes
			South	3/55/D	**	**	1,330	2,510	2,580	1,163	C	1,124	C	Yes
8		Camino Vida Roble to Poinsettia Ln	North	2/55/D	**	970	2,020	2,100	##	1,153	C	1,144	C	Yes
			South	3/55/D	**	1,470	2,820	2,900	##	1,070	B	1,385	B	Yes
9		Poinsettia Ln to Aviara Pkwy-Alga Rd	North	3/55/D	**	**	2,100	2,820	2,900	1,419	C	1,697	C	Yes
			South	3/55/D	**	**	2,100	2,820	2,900	1,217	C	1,385	C	Yes
10		Aviara Pkwy-Alga Rd to La Costa Ave	North	3/55/D	**	1,390	2,580	##	##	1,303	B	1,825	C	Yes
			South	2/55/D	**	800	1,920	##	##	1,929	F	2,115	F	Yes
11		La Costa Ave to South City Limit	North	3/55/D	**	**	1,880	2,820	2,880	981	C	1,668	C	No
			South	3/55/D	**	**	1,880	2,820	2,880	1,496	C	1,454	C	No

Table 5-1: Existing Roadway Conditions (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?
					A	B	C	D	E	Volume	LOS	Volume	LOS	
12	College Blvd	North City Limit to Carlsbad Village Dr	North	2/45/D	**	**	1,150	1,730	1,800	881	C	1,370	D	Yes
			South	2/45/D	**	**	1,150	1,730	1,800	1,394	D	930	C	No
Carlsbad Village Dr to Cannon Rd		North	2/45/D	**	**	1,040	1,760	1,800	543	C	1,110	D	No	
		South	2/45/D	**	**	1,040	1,760	1,800	1,357	D	508	C	No	
14		Cannon Rd to El Camino Real	Future Roadway											
15		El Camino Real to Aston Ave	North	2/50/D	**	**	390	1,440	1,810	245	C	251	C	No
			South	2/50/D	**	**	390	1,440	1,810	411	D	299	C	No
16		Aston Ave to Palomar Airport Rd	North	2/50/D	880	1,680	##	##	##	858	A	327	A	No
	South		2/50/D	80	970	1,040	##	##	357	B	714	B	No	
17	Aviara Parkway	Palomar Airport Rd to Poinsettia Ln	North	2/45/D	**	**	**	1,130	1,630	609	D	627	D	No
			South	2/45/D	**	**	**	1,130	1,630	339	D	633	D	No
18	Melrose Dr	North City Limit to Palomar Airport Rd	North	4/55/D	**	**	1,710	2,740	2,830	969	C	1,538	C	No
			South	3/55/D	**	**	**	930	1,630	1,827	F	1,256	E	Yes
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas	East	1-2/35/D	**	**	510	630	700	300	C	261	C	No
			West	2/35/D	**	460	1,960	2,160	##	242	B	472	C	No
Avenida Encinas to Paseo del Norte		East	2/35/D	**	**	**	730	1,320	1,163	E	759	E	Yes	
		West	2/35/D	**	**	**	730	1,320	965	E	1,787	F	Yes	
21		Paseo del Norte to Car Country Dr	East	2/50/D	**	390	1,630	1,770	1,800	942	C	732	C	No
			West	2/50/D	**	390	1,630	1,770	1,800	830	C	1,225	C	No
22		Car Country Dr to Legoland Dr	East	2/50/D	**	1,170	1,660	1,700	##	923	B	830	B	No
			West	2/50/D	**	1,170	1,660	1,700	##	849	B	1,187	C	No
23	Legoland Dr to Faraday Ave	East	2/50/D	**	290	1,470	1,600	##	797	C	1,030	C	No	
		West	2/50/D	**	290	1,470	1,600	##	1,058	C	930	C	No	
24	Faraday Ave to El Camino Real	East	2/50/D	**	**	1,280	1,620	##	481	C	1,034	C	No	
		West	2/50/D	**	**	1,280	1,620	##	1,044	C	437	C	No	

Table 5-1: Existing Roadway Conditions (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?	
					A	B	C	D	E	Volume	LOS	Volume	LOS		
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte	East	3/35/D	**	**	**	**	250	414	F	715	F	Yes	
			West	2/35/D	**	**	**	**	650	685	F	698	F	Yes	
26		Paseo del Norte to Armada Dr	East	3/45/D	**	**	1,640	2,660	2,740	1,930	D	1,192	C	Yes	
			West	4/45/D	**	**	2,250	3,570	3,680	1,052	C	2,328	D	Yes	
27		Armada Dr to Aviara Pkwy	East	3/55/D	**	650	2,760	2,940	##	1,842	C	1,236	C	Yes	
			West	3/55/D	**	650	2,760	2,940	##	1,043	C	2,220	C	Yes	
28		Aviara Pkwy to Camino Vida Roble	East	3/55/D	440	2,720	2,900	##	##	1,486	B	1,001	B	No	
			West	3/55/D	440	2,720	2,900	##	##	858	B	1,675	B	No	
29		Camino Vida Roble to El Camino Real	East	3/55/D	**	890	2,780	2,900	##	840	B	1,391	C	No	
			West	3/55/D	**	890	2,780	2,900	##	1,166	C	992	C	No	
30		El Camino Real to El Fuerte St	East	3/55/D	**	1,290	2,830	2,900	##	1,075	B	1,778	C	Yes	
			West	3/55/D	**	1,290	2,830	2,900	##	1,951	C	1,468	C	Yes	
31		El Fuerte St to Melrose Dr	East	3/55/D	**	1,230	2,860	2,940	##	1,159	B	2,129	C	Yes	
			West	3/55/D	**	1,230	2,860	2,940	##	2,362	C	1,621	C	Yes	
32	Melrose Dr to East City Limits	East	3/55/D	**	340	2,590	2,900	##	959	C	1,589	C	No		
		West	3/55/D	**	340	2,590	2,900	##	1,340	C	1,086	C	No		
33	Poinsettia Ln *	Carlsbad Blvd to Avenida Encinas	East	2/35/D	**	**	810	2,200	2,460	281	C	324	C	n/a	
			West	2/35/D	**	**	810	2,200	2,460	254	C	442	C	n/a	
34		Avenida Encinas to Paseo del Norte	East	2/35/D	**	**	**	180	1,190	805	E	854	E	n/a	
			West	2/35/D	**	**	**	180	1,190	923	E	1,195	F	n/a	
35		Paseo del Norte to Aviara Pkwy	East	2/50/D	**	**	1,330	1,770	1,840	862	C	1,015	C	n/a	
			West	2/50/D	**	**	1,330	1,770	1,840	906	C	869	C	n/a	
36		La Costa Ave	Piraeus St to El Camino Real	East	2/55/D	**	1,450	1,700	##	##	1,313	B	1,493	C	Yes
				West	2/55/D	**	1,450	1,700	##	##	1,707	F	1,315	B	Yes
37	Salk Ave	College Blvd to El Camino Real	East	1/35/D	**	**	190	630	780	79	C	66	C	No	
			West	1/35/D	**	**	190	630	780	27	C	79	C	No	

* - Employment/Transit Connector Street not subject to Auto MMLOS Standard.

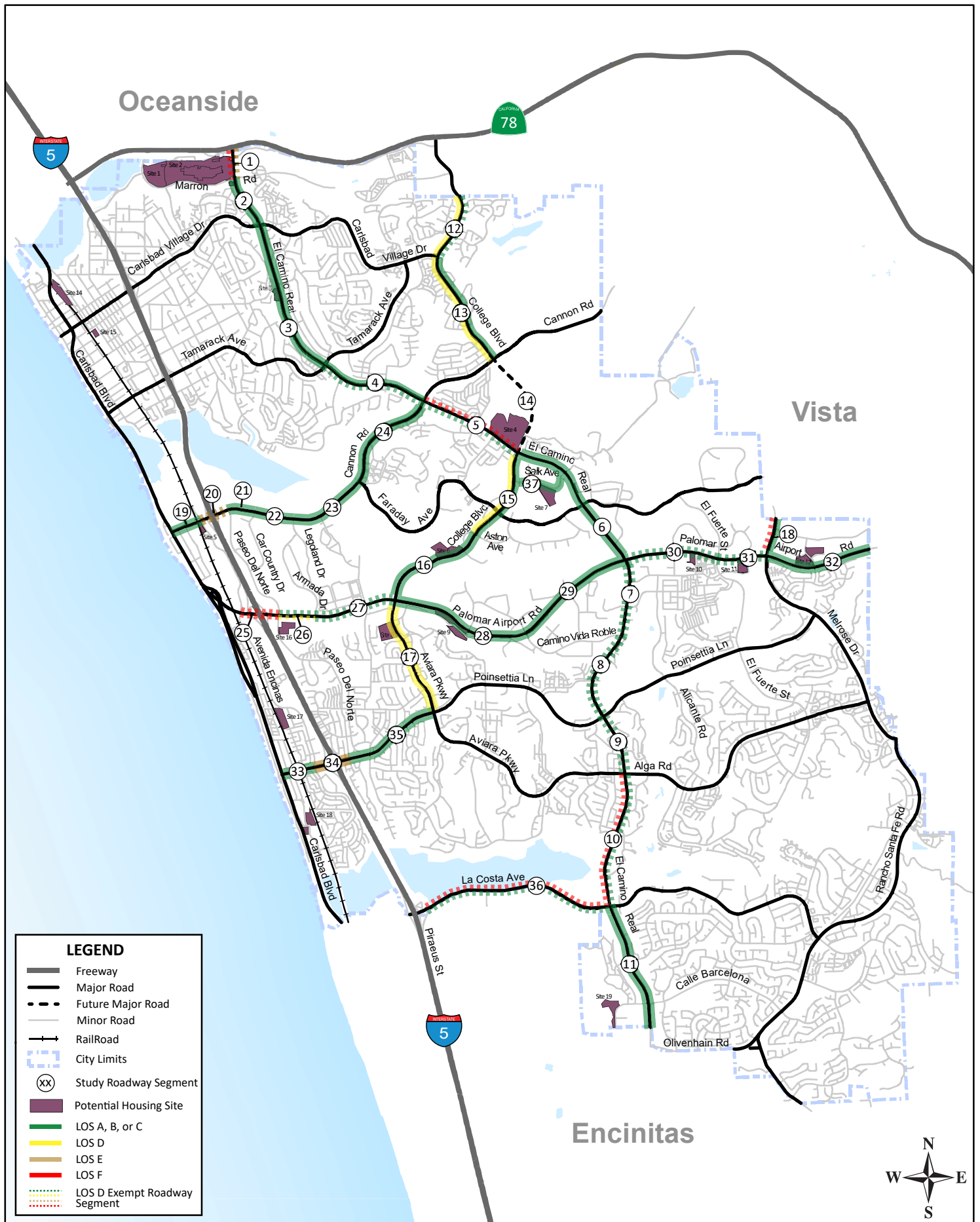


Figure 5-1
Existing AM Peak Hour Roadway Conditions

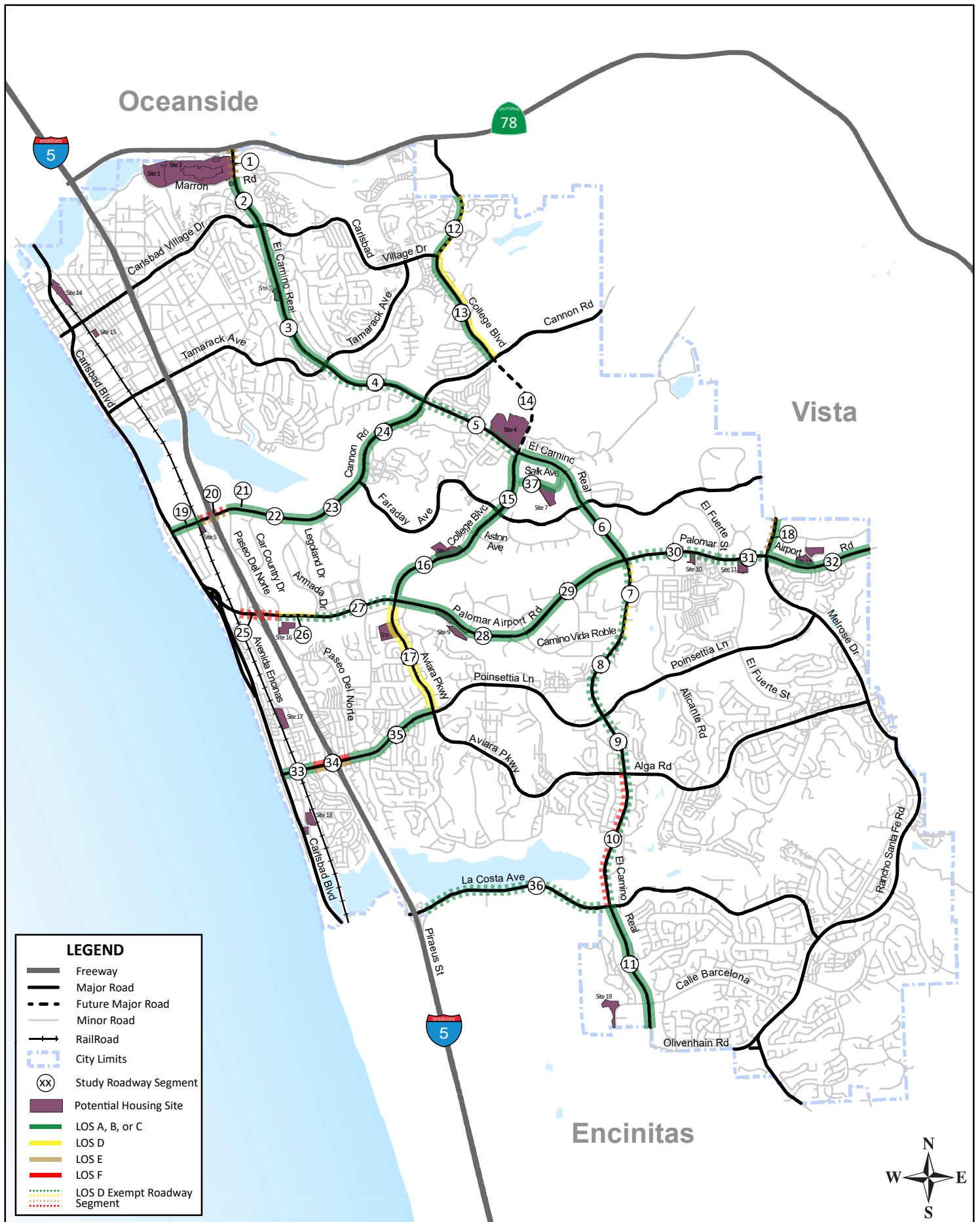


Figure 5-2
Existing PM Peak Hour Roadway Conditions

Table 5-2: Year 2035 Alternative 1 (No Project) Roadway Conditions

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?
					A	B	C	D	E	Volume	LOS	Volume	LOS	
1	El Camino Real	North City Limit to Marron Rd	North	3/35/D	**	**	**	**	1,400	925	E	1,316	E	Yes
			South	3/35/D	**	**	**	**	1,400	1,535	F	1,074	E	Yes
2		Marron Rd to Carlsbad Village Dr	North	3/35/D	**	140	2,070	2,520	##	749	C	1,198	C	No
			South	3/35/D	**	140	2,070	2,520	##	1,391	C	972	C	No
3		Carlsbad Village Dr to Tamarack Ave	North	3/55/D	1,930	2,850	2,900	##	##	654	A	1,022	A	No
			South	3/55/D	1,930	2,850	2,900	##	##	1,206	A	728	A	No
4		Tamarack Ave to Cannon Rd	North	3/55/D	**	**	2,400	2,800	##	1,759	C	844	C	No
			South	3/55/D	**	**	2,400	2,800	##	861	C	1,316	C	Yes
5		Cannon Rd to College Blvd	North	3/55/D	**	2,150	2,900	##	##	2,030	B	988	B	Yes
			South	3/55/D	**	2,150	2,900	##	##	1,070	B	1,722	B	Yes
6		College Blvd to Palomar Airport Rd	North	3/55/D	270	2,750	2,940	##	##	1,189	B	1,345	B	No
	South		3/55/D	270	2,750	2,940	##	##	1,471	B	1,365	B	No	
7	Palomar Airport Rd to Camino Vida Roble	North	3/55/D	**	**	1,330	2,510	2,580	1,341	D	1,592	D	Yes	
		South	3/55/D	**	**	1,330	2,510	2,580	1,269	C	1,228	C	Yes	
8	Camino Vida Roble to Poinsettia Ln	North	3/55/D	**	1,470	2,820	2,900	##	1,260	B	1,248	B	Yes	
		South	3/55/D	**	1,470	2,820	2,900	##	1,170	B	1,512	C	Yes	
9	Poinsettia Ln to Aviara Pkwy-Alga Rd	North	3/55/D	**	**	2,100	2,820	2,900	1,604	C	1,922	C	Yes	
		South	3/55/D	**	**	2,100	2,820	2,900	1,376	C	1,568	C	Yes	
10	Aviara Pkwy-Alga Rd to La Costa Ave	North	3/55/D	**	1,390	2,580	##	##	1,395	C	1,955	C	Yes	
		South	3/55/D	**	1,390	2,580	##	##	2,065	C	2,265	C	Yes	
11	La Costa Ave to South City Limit	North	3/55/D	**	**	1,880	2,820	2,880	1,022	C	1,736	C	No	
		South	3/55/D	**	**	1,880	2,820	2,880	1,558	C	1,514	C	No	

Table 5-2: Year 2035 Alternative 1 (No Project) Roadway Conditions (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?	
					A	B	C	D	E	Volume	LOS	Volume	LOS		
12	College Blvd	North City Limit to Carlsbad Village Dr	North	2/45/D	**	**	1,150	1,730	1,800	1,015	C	1,578	D	Yes	
			South	2/45/D	**	**	1,150	1,730	1,800	1,605	D	1,072	C	No	
13		Carlsbad Village Dr to Cannon Rd	North	2/45/D	**	**	1,040	1,760	1,800	674	C	1,379	D	No	
			South	2/45/D	**	**	1,040	1,760	1,800	1,686	D	631	C	No	
14		Cannon Rd to El Camino Real	North	2/45/D	**	**	880	1,670	1,770	506	C	1,036	D	No	
			South	2/45/D	**	**	880	1,670	1,770	1,264	D	474	C	No	
15		El Camino Real to Aston Ave	North	2/50/D	**	**	390	1,440	1,810	444	D	465	D	No	
			South	2/50/D	**	**	390	1,440	1,810	746	D	555	D	No	
16		Aston Ave to Palomar Airport Rd	North	2/50/D	880	1,680	##	##	##	989	B	377	A	No	
			South	2/50/D	80	970	1,040	##	##	411	B	823	B	No	
17		Aviara Parkway	Palomar Airport Rd to Poinsettia Ln	North	2/45/D	**	**	**	1,130	1,630	675	D	692	D	No
				South	2/45/D	**	**	**	1,130	1,630	375	D	698	D	No
18		Melrose Dr	North City Limit to Palomar Airport Rd	North	4/55/D	**	**	1,710	2,740	2,830	1,009	C	1,602	C	No
				South	3/55/D	**	**	**	930	1,630	1,901	F	1,308	E	Yes
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas	East	1/35/D	**	**	510	630	700	321	C	278	C	No	
			West	1/35/D	**	220	890	1,060	##	259	C	502	C	No	
20		Avenida Encinas to Paseo del Norte	East	2/35/D	**	**	**	730	1,320	1,235	E	805	E	Yes	
			West	2/35/D	**	**	**	730	1,320	1,025	E	1,895	F	Yes	
21		Paseo del Norte to Car Country Dr	East	2/50/D	**	390	1,630	1,770	1,800	999	C	778	C	No	
			West	2/50/D	**	390	1,630	1,770	1,800	881	C	1,302	C	No	
22		Car Country Dr to Legoland Dr	East	2/50/D	**	1,170	1,660	1,700	##	979	B	881	B	No	
			West	2/50/D	**	1,170	1,660	1,700	##	901	B	1,259	C	No	
23		Legoland Dr to Faraday Ave	East	2/50/D	**	290	1,470	1,600	##	846	C	1,093	C	No	
			West	2/50/D	**	290	1,470	1,600	##	1,124	C	987	C	No	
24		Faraday Ave to El Camino Real	East	2/50/D	**	**	1,280	1,620	##	511	C	1,097	C	No	
			West	2/50/D	**	**	1,280	1,620	##	1,109	C	463	C	No	

Table 5-2: Year 2035 Alternative 1 (No Project) Roadway Conditions (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?
					A	B	C	D	E	Volume	LOS	Volume	LOS	
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte	East	3/35/D	**	**	**	**	250	433	F	744	F	Yes
			West	2/35/D	**	**	**	**	650	717	F	726	F	Yes
26		Paseo del Norte to Armada Dr	East	3/45/D	**	**	1,640	2,660	2,740	2,091	D	1,290	C	Yes
			West	4/45/D	**	**	2,250	3,570	3,680	1,139	C	2,520	D	Yes
27		Armada Dr to Aviara Pkwy	East	3/55/D	**	650	2,760	2,940	##	1,992	C	1,338	C	Yes
			West	3/55/D	**	650	2,760	2,940	##	1,128	C	2,402	C	Yes
28		Aviara Pkwy to Camino Vida Roble	East	3/55/D	440	2,720	2,900	##	##	1,547	B	1,044	B	No
			West	3/55/D	440	2,720	2,900	##	##	893	B	1,746	B	No
29		Camino Vida Roble to El Camino Real	East	3/55/D	**	890	2,780	2,900	##	875	B	1,448	C	No
			West	3/55/D	**	890	2,780	2,900	##	1,215	C	1,032	C	No
30		El Camino Real to El Fuerte St	East	3/55/D	**	1,290	2,830	2,900	##	1,119	B	1,851	C	Yes
			West	3/55/D	**	1,290	2,830	2,900	##	2,031	C	1,529	C	Yes
31		El Fuerte St to Melrose Dr	East	3/55/D	**	1,230	2,860	2,940	##	1,208	B	2,214	C	Yes
			West	3/55/D	**	1,230	2,860	2,940	##	2,462	C	1,686	C	Yes
32	Melrose Dr to East City Limits	East	3/55/D	**	340	2,590	2,900	##	1,001	C	1,657	C	No	
		West	3/55/D	**	340	2,590	2,900	##	1,399	C	1,133	C	No	
33	Poinsettia Ln *	Carlsbad Blvd to Avenida Encinas	East	1/35/D	**	**	510	1,360	1,610	294	C	338	C	n/a
			West	1/35/D	**	**	510	1,360	1,610	266	C	462	C	n/a
34		Avenida Encinas to Paseo del Norte	East	2/35/D	**	**	**	180	1,190	839	E	892	E	n/a
			West	2/35/D	**	**	**	180	1,190	961	E	1,248	F	n/a
35		Paseo del Norte to Aviara Pkwy	East	2/50/D	**	**	1,330	1,770	1,840	897	C	1,056	C	n/a
			West	2/50/D	**	**	1,330	1,770	1,840	943	C	904	C	n/a
36	La Costa Ave	Piraeus St to El Camino Real	East	2/55/D	**	1,450	1,700	##	##	1,370	B	1,558	C	Yes
			West	2/55/D	**	1,450	1,700	##	##	1,780	F	1,372	B	Yes
37	Salk Ave	College Blvd to El Camino Real	East	1/35/D	**	**	190	630	780	89	C	73	C	No
			West	1/35/D	**	**	190	630	780	31	C	87	C	No

* - Employment/Transit Connector Street not subject to Auto MMLOS Standard.

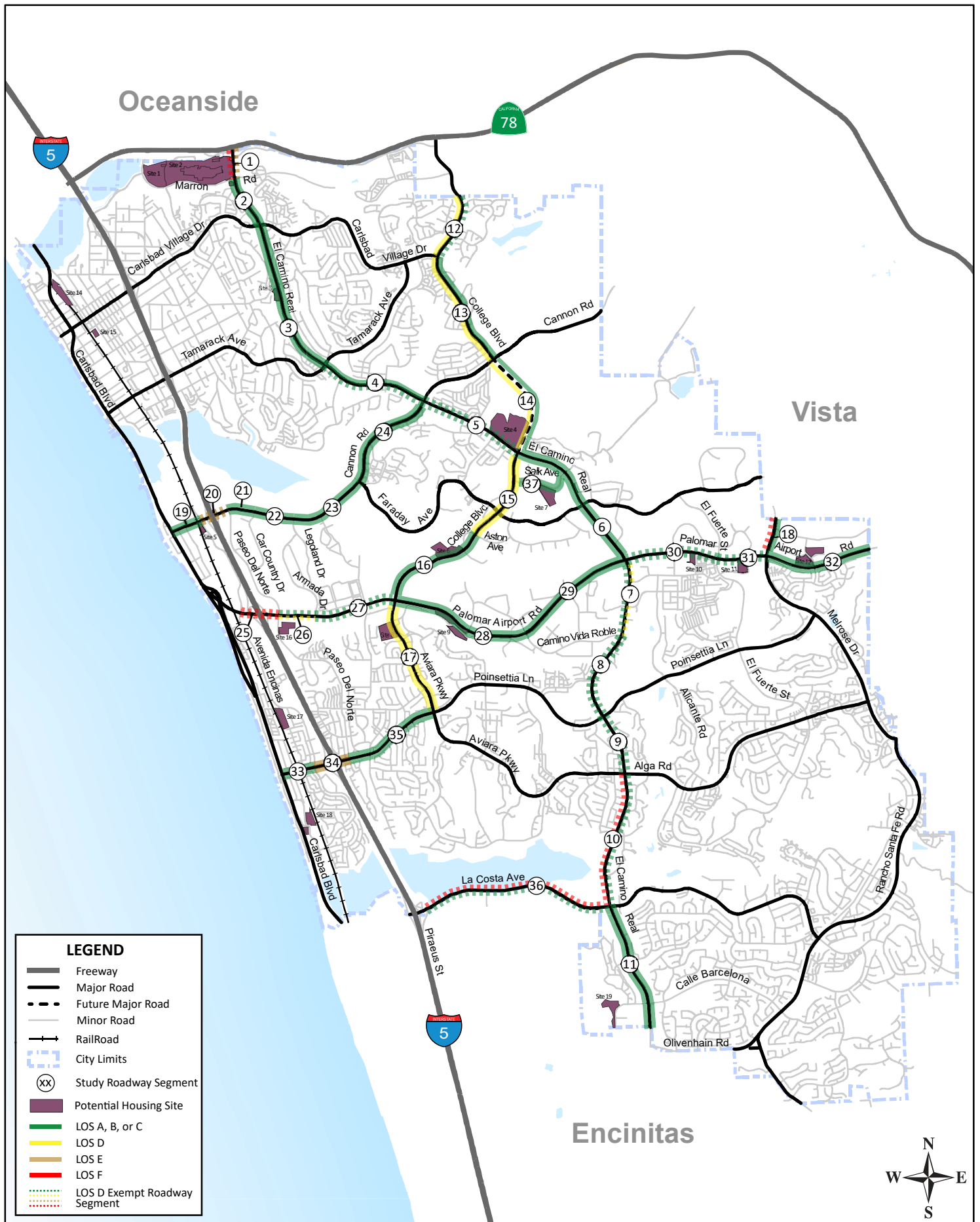


Figure 5-3
Year 2035 Alternative 1 (No Project) AM Peak Hour Roadway Conditions



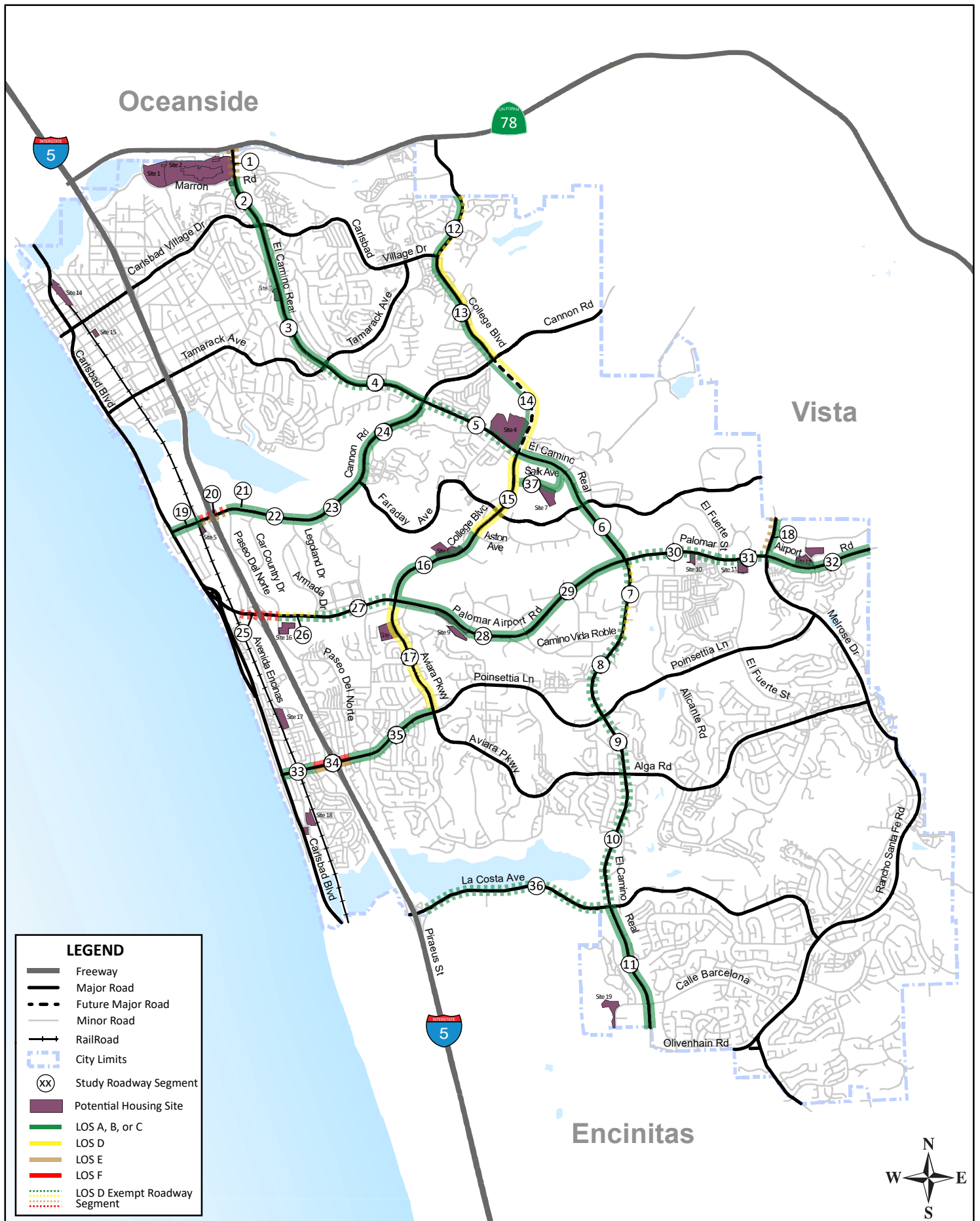


Figure 5-4
Year 2035 Alternative 1 (No Project) PM Peak Hour Roadway Conditions



Table 5-3: Year 2035 Proposed Project Roadway Conditions

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?
					A	B	C	D	E	Volume	LOS	Volume	LOS	
1	El Camino Real	North City Limit to Marron Rd	North	3/35/D	**	**	**	**	1,400	935	E	1,330	E	Yes
			South	3/35/D	**	**	**	**	1,400	1,551	F	1,086	E	Yes
2		Marron Rd to Carlsbad Village Dr	North	3/35/D	**	140	2,070	2,520	##	785	C	1,256	C	No
			South	3/35/D	**	140	2,070	2,520	##	1,459	C	1,019	C	No
3		Carlsbad Village Dr to Tamarack Ave	North	3/55/D	1,930	2,850	2,900	##	##	694	A	1,084	A	No
			South	3/55/D	1,930	2,850	2,900	##	##	1,279	A	772	A	No
4		Tamarack Ave to Cannon Rd	North	3/55/D	**	**	2,400	2,800	##	1,858	C	891	C	No
			South	3/55/D	**	**	2,400	2,800	##	909	C	1,390	C	Yes
5		Cannon Rd to College Blvd	North	3/55/D	**	2,150	2,900	##	##	2,078	B	1,011	B	Yes
			South	3/55/D	**	2,150	2,900	##	##	1,095	B	1,762	B	Yes
6		College Blvd to Palomar Airport Rd	North	3/55/D	270	2,750	2,940	##	##	1,237	B	1,399	B	No
	South		3/55/D	270	2,750	2,940	##	##	1,530	B	1,420	B	No	
7	Palomar Airport Rd to Camino Vida Roble	North	3/55/D	**	**	1,330	2,510	2,580	1,369	D	1,625	D	Yes	
		South	3/55/D	**	**	1,330	2,510	2,580	1,296	C	1,254	C	Yes	
8	Camino Vida Roble to Poinsettia Ln	North	3/55/D	**	1,470	2,820	2,900	##	1,277	B	1,265	B	Yes	
		South	3/55/D	**	1,470	2,820	2,900	##	1,186	B	1,532	C	Yes	
9	Poinsettia Ln to Aviara Pkwy-Alga Rd	North	3/55/D	**	**	2,100	2,820	2,900	1,633	C	1,957	C	Yes	
		South	3/55/D	**	**	2,100	2,820	2,900	1,401	C	1,596	C	Yes	
10	Aviara Pkwy-Alga Rd to La Costa Ave	North	3/55/D	**	1,390	2,580	##	##	1,414	C	1,981	C	Yes	
		South	3/55/D	**	1,390	2,580	##	##	2,093	C	2,296	C	Yes	
11	La Costa Ave to South City Limit	North	3/55/D	**	**	1,880	2,820	2,880	1,031	C	1,751	C	No	
		South	3/55/D	**	**	1,880	2,820	2,880	1,572	C	1,528	C	No	

Table 5-3: Year 2035 Proposed Project Roadway Conditions (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?	
					A	B	C	D	E	Volume	LOS	Volume	LOS		
12	College Blvd	North City Limit to Carlsbad Village Dr	North	2/45/D	**	**	1,150	1,730	1,800	1,046	C	1,626	D	Yes	
			South	2/45/D	**	**	1,150	1,730	1,800	1,653	D	1,104	C	No	
13		Carlsbad Village Dr to Cannon Rd	North	2/45/D	**	**	1,040	1,760	1,800	702	C	1,437	D	No	
			South	2/45/D	**	**	1,040	1,760	1,800	1,757	D	658	C	No	
14		Cannon Rd to El Camino Real	North	2/45/D	**	**	880	1,670	1,770	533	C	1,091	D	No	
			South	2/45/D	**	**	880	1,670	1,770	1,331	D	499	C	No	
15		El Camino Real to Aston Ave	North	2/50/D	**	**	390	1,440	1,810	475	D	496	D	No	
			South	2/50/D	**	**	390	1,440	1,810	797	D	593	D	No	
16		Aston Ave to Palomar Airport Rd	North	2/50/D	880	1,680	##	##	##	1,006	B	383	A	No	
			South	2/50/D	80	970	1,040	##	##	418	B	837	B	No	
17		Aviara Parkway	Palomar Airport Rd to Poinsettia Ln	North	2/45/D	**	**	**	1,130	1,630	694	D	711	D	No
				South	2/45/D	**	**	**	1,130	1,630	386	D	718	D	No
18		Melrose Dr	North City Limit to Palomar Airport Rd	North	4/55/D	**	**	1,710	2,740	2,830	1,029	C	1,633	C	No
				South	3/55/D	**	**	**	930	1,630	1,938	F	1,334	E	Yes
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas	East	1/35/D	**	**	510	630	700	333	C	288	C	No	
			West	1/35/D	**	220	890	1,060	##	268	C	520	C	No	
20		Avenida Encinas to Paseo del Norte	East	2/35/D	**	**	**	730	1,320	1,261	E	822	E	Yes	
			West	2/35/D	**	**	**	730	1,320	1,047	E	1,935	F	Yes	
21		Paseo del Norte to Car Country Dr	East	2/50/D	**	390	1,630	1,770	1,800	1,019	C	794	C	No	
			West	2/50/D	**	390	1,630	1,770	1,800	899	C	1,328	C	No	
22		Car Country Dr to Legoland Dr	East	2/50/D	**	1,170	1,660	1,700	##	1,008	B	907	B	No	
			West	2/50/D	**	1,170	1,660	1,700	##	928	B	1,296	C	No	
23		Legoland Dr to Faraday Ave	East	2/50/D	**	290	1,470	1,600	##	871	C	1,125	C	No	
			West	2/50/D	**	290	1,470	1,600	##	1,157	C	1,016	C	No	
24		Faraday Ave to El Camino Real	East	2/50/D	**	**	1,280	1,620	##	533	C	1,145	C	No	
			West	2/50/D	**	**	1,280	1,620	##	1,157	C	483	C	No	

Table 5-3: Year 2035 Proposed Project Roadway Conditions (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?
					A	B	C	D	E	Volume	LOS	Volume	LOS	
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte	East	3/35/D	**	**	**	**	250	445	F	765	F	Yes
			West	2/35/D	**	**	**	**	650	737	F	746	F	Yes
26		Paseo del Norte to Armada Dr	East	3/45/D	**	**	1,640	2,660	2,740	2,134	D	1,317	C	Yes
			West	4/45/D	**	**	2,250	3,570	3,680	1,163	C	2,572	D	Yes
27		Armada Dr to Aviara Pkwy	East	3/55/D	**	650	2,760	2,940	##	2,025	C	1,360	C	Yes
			West	3/55/D	**	650	2,760	2,940	##	1,147	C	2,442	C	Yes
28		Aviara Pkwy to Camino Vida Roble	East	3/55/D	440	2,720	2,900	##	##	1,585	B	1,069	B	No
			West	3/55/D	440	2,720	2,900	##	##	915	B	1,789	B	No
29		Camino Vida Roble to El Camino Real	East	3/55/D	**	890	2,780	2,900	##	910	C	1,506	C	No
			West	3/55/D	**	890	2,780	2,900	##	1,263	C	1,073	C	No
30		El Camino Real to El Fuerte St	East	3/55/D	**	1,290	2,830	2,900	##	1,140	B	1,886	C	Yes
			West	3/55/D	**	1,290	2,830	2,900	##	2,069	C	1,557	C	Yes
31		El Fuerte St to Melrose Dr	East	3/55/D	**	1,230	2,860	2,940	##	1,247	C	2,286	C	Yes
			West	3/55/D	**	1,230	2,860	2,940	##	2,541	C	1,740	C	Yes
32	Melrose Dr to East City Limits	East	3/55/D	**	340	2,590	2,900	##	1,055	C	1,746	C	No	
		West	3/55/D	**	340	2,590	2,900	##	1,474	C	1,194	C	No	
33	Poinsettia Ln *	Carlsbad Blvd to Avenida Encinas	East	1/35/D	**	**	510	1,360	1,610	305	C	351	C	n/a
			West	1/35/D	**	**	510	1,360	1,610	276	C	479	C	n/a
34		Avenida Encinas to Paseo del Norte	East	2/35/D	**	**	**	180	1,190	850	E	904	E	n/a
			West	2/35/D	**	**	**	180	1,190	974	E	1,265	F	n/a
35		Paseo del Norte to Aviara Pkwy	East	2/50/D	**	**	1,330	1,770	1,840	914	C	1,076	C	n/a
			West	2/50/D	**	**	1,330	1,770	1,840	960	C	921	C	n/a
36	La Costa Ave	Piraeus St to El Camino Real	East	2/55/D	**	1,450	1,700	##	##	1,388	B	1,579	C	Yes
			West	2/55/D	**	1,450	1,700	##	##	1,804	F	1,390	B	Yes
37	Salk Ave	College Blvd to El Camino Real	East	1/35/D	**	**	190	630	780	131	C	108	C	No
			West	1/35/D	**	**	190	630	780	46	C	129	C	No

* - Employment/Transit Connector Street not subject to Auto MMLoS Standard.

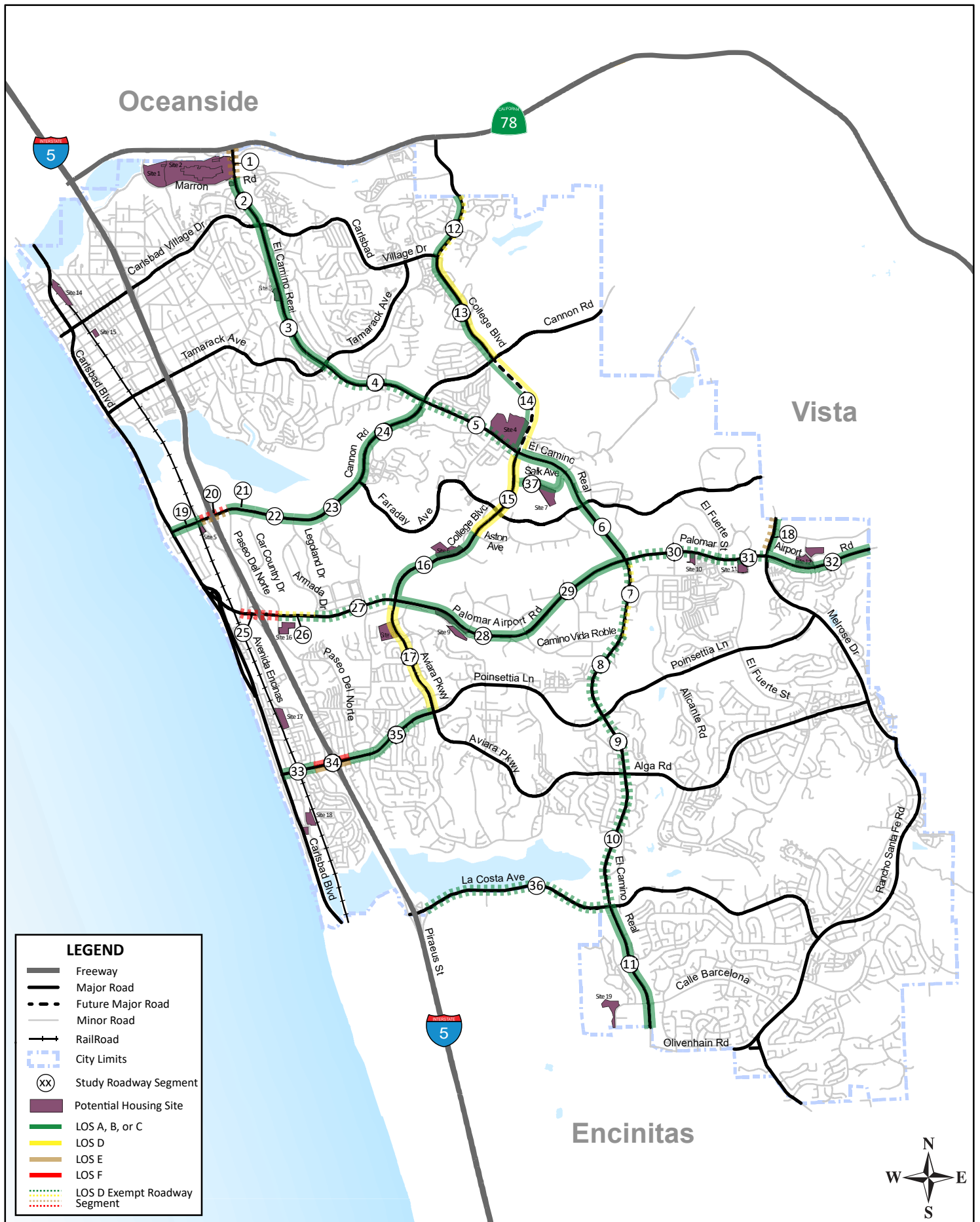


Figure 5-6
Year 2035 Proposed Project PM Peak Hour Roadway Conditions



Table 5-4: Year 2035 with Project Alternative 2 Roadway Conditions

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?
					A	B	C	D	E	Volume	LOS	Volume	LOS	
1	El Camino Real	North City Limit to Marron Rd	North	3/35/D	**	**	**	**	1,400	926	E	1,317	E	Yes
			South	3/35/D	**	**	**	**	1,400	1,536	F	1,075	E	Yes
2		Marron Rd to Carlsbad Village Dr	North	3/35/D	**	140	2,070	2,520	##	774	C	1,238	C	No
			South	3/35/D	**	140	2,070	2,520	##	1,437	C	1,004	C	No
3		Carlsbad Village Dr to Tamarack Ave	North	3/55/D	1,930	2,850	2,900	##	##	685	A	1,070	A	No
			South	3/55/D	1,930	2,850	2,900	##	##	1,262	A	762	A	No
4		Tamarack Ave to Cannon Rd	North	3/55/D	**	**	2,400	2,800	##	1,846	C	886	C	No
			South	3/55/D	**	**	2,400	2,800	##	904	C	1,382	C	Yes
5		Cannon Rd to College Blvd	North	3/55/D	**	2,150	2,900	##	##	2,066	B	1,006	B	Yes
			South	3/55/D	**	2,150	2,900	##	##	1,089	B	1,752	B	Yes
6		College Blvd to Palomar Airport Rd	North	3/55/D	270	2,750	2,940	##	##	1,233	B	1,394	B	No
	South		3/55/D	270	2,750	2,940	##	##	1,525	B	1,415	B	No	
7	Palomar Airport Rd to Camino Vida Roble	North	3/55/D	**	**	1,330	2,510	2,580	1,369	D	1,625	D	Yes	
		South	3/55/D	**	**	1,330	2,510	2,580	1,295	C	1,253	C	Yes	
8	Camino Vida Roble to Poinsettia Ln	North	3/55/D	**	1,470	2,820	2,900	##	1,273	B	1,261	B	Yes	
		South	3/55/D	**	1,470	2,820	2,900	##	1,183	B	1,528	C	Yes	
9	Poinsettia Ln to Aviara Pkwy-Alga Rd	North	3/55/D	**	**	2,100	2,820	2,900	1,629	C	1,952	C	Yes	
		South	3/55/D	**	**	2,100	2,820	2,900	1,397	C	1,592	C	Yes	
10	Aviara Pkwy-Alga Rd to La Costa Ave	North	3/55/D	**	1,390	2,580	##	##	1,414	C	1,982	C	Yes	
		South	3/55/D	**	1,390	2,580	##	##	2,094	C	2,296	C	Yes	
11	La Costa Ave to South City Limit	North	3/55/D	**	**	1,880	2,820	2,880	1,032	C	1,753	C	No	
		South	3/55/D	**	**	1,880	2,820	2,880	1,573	C	1,529	C	No	

Table 5-4: Year 2035 with Project Alternative 2 Roadway Conditions (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?	
					A	B	C	D	E	Volume	LOS	Volume	LOS		
12	College Blvd	North City Limit to Carlsbad Village Dr	North	2/45/D	**	**	1,150	1,730	1,800	1,027	C	1,596	D	Yes	
			South	2/45/D	**	**	1,150	1,730	1,800	1,624	D	1,085	C	No	
13		Carlsbad Village Dr to Cannon Rd	North	2/45/D	**	**	1,040	1,760	1,800	691	C	1,415	D	No	
			South	2/45/D	**	**	1,040	1,760	1,800	1,730	D	647	C	No	
14		Cannon Rd to El Camino Real	North	2/45/D	**	**	880	1,670	1,770	528	C	1,081	D	No	
			South	2/45/D	**	**	880	1,670	1,770	1,319	D	494	C	No	
15		El Camino Real to Aston Ave	North	2/50/D	**	**	390	1,440	1,810	475	D	497	D	No	
			South	2/50/D	**	**	390	1,440	1,810	799	D	594	D	No	
16		Aston Ave to Palomar Airport Rd	North	2/50/D	880	1,680	##	##	##	1,025	B	391	A	No	
			South	2/50/D	80	970	1,040	##	##	426	B	853	B	No	
17		Aviara Parkway	Palomar Airport Rd to Poinsettia Ln	North	2/45/D	**	**	**	1,130	1,630	696	D	713	D	No
				South	2/45/D	**	**	**	1,130	1,630	386	D	719	D	No
18		Melrose Dr	North City Limit to Palomar Airport Rd	North	4/55/D	**	**	1,710	2,740	2,830	1,027	C	1,631	C	No
				South	3/55/D	**	**	**	930	1,630	1,935	F	1,331	E	Yes
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas	East	1/35/D	**	**	510	630	700	335	C	290	C	No	
			West	1/35/D	**	220	890	1,060	##	270	C	524	C	No	
20		Avenida Encinas to Paseo del Norte	East	2/35/D	**	**	**	730	1,320	1,260	E	821	E	Yes	
			West	2/35/D	**	**	**	730	1,320	1,046	E	1,934	F	Yes	
21		Paseo del Norte to Car Country Dr	East	2/50/D	**	390	1,630	1,770	1,800	1,011	C	787	C	No	
			West	2/50/D	**	390	1,630	1,770	1,800	892	C	1,318	C	No	
22		Car Country Dr to Legoland Dr	East	2/50/D	**	1,170	1,660	1,700	##	999	B	899	B	No	
			West	2/50/D	**	1,170	1,660	1,700	##	920	B	1,285	C	No	
23		Legoland Dr to Faraday Ave	East	2/50/D	**	290	1,470	1,600	##	866	C	1,119	C	No	
			West	2/50/D	**	290	1,470	1,600	##	1,150	C	1,010	C	No	
24		Faraday Ave to El Camino Real	East	2/50/D	**	**	1,280	1,620	##	527	C	1,131	C	No	
			West	2/50/D	**	**	1,280	1,620	##	1,144	C	478	C	No	

Table 5-4: Year 2035 with Project Alternative 2 Roadway Conditions (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Lanes/Posted Speed/Median	Peak Direction Capacity					AM Peak Hour		PM Peak Hour		LOS D Exempt?
					A	B	C	D	E	Volume	LOS	Volume	LOS	
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte	East	3/35/D	**	**	**	**	250	446	F	767	F	Yes
			West	2/35/D	**	**	**	**	650	739	F	748	F	Yes
26		Paseo del Norte to Armada Dr	East	3/45/D	**	**	1,640	2,660	2,740	2,134	D	1,316	C	Yes
			West	4/45/D	**	**	2,250	3,570	3,680	1,162	C	2,572	D	Yes
27		Armada Dr to Aviara Pkwy	East	3/55/D	**	650	2,760	2,940	##	2,019	C	1,356	C	Yes
			West	3/55/D	**	650	2,760	2,940	##	1,143	C	2,434	C	Yes
28		Aviara Pkwy to Camino Vida Roble	East	3/55/D	440	2,720	2,900	##	##	1,568	B	1,058	B	No
			West	3/55/D	440	2,720	2,900	##	##	905	B	1,770	B	No
29		Camino Vida Roble to El Camino Real	East	3/55/D	**	890	2,780	2,900	##	894	C	1,480	C	No
			West	3/55/D	**	890	2,780	2,900	##	1,242	C	1,055	C	No
30		El Camino Real to El Fuerte St	East	3/55/D	**	1,290	2,830	2,900	##	1,132	B	1,872	C	Yes
			West	3/55/D	**	1,290	2,830	2,900	##	2,054	C	1,546	C	Yes
31		El Fuerte St to Melrose Dr	East	3/55/D	**	1,230	2,860	2,940	##	1,242	C	2,277	C	Yes
			West	3/55/D	**	1,230	2,860	2,940	##	2,532	C	1,734	C	Yes
32	Melrose Dr to East City Limits	East	3/55/D	**	340	2,590	2,900	##	1,045	C	1,731	C	No	
		West	3/55/D	**	340	2,590	2,900	##	1,461	C	1,183	C	No	
33	Poinsettia Ln *	Carlsbad Blvd to Avenida Encinas	East	1/35/D	**	**	510	1,360	1,610	308	C	354	C	n/a
			West	1/35/D	**	**	510	1,360	1,610	278	C	483	C	n/a
34		Avenida Encinas to Paseo del Norte	East	2/35/D	**	**	**	180	1,190	858	E	912	E	n/a
			West	2/35/D	**	**	**	180	1,190	983	E	1,277	F	n/a
35		Paseo del Norte to Aviara Pkwy	East	2/50/D	**	**	1,330	1,770	1,840	917	C	1,079	C	n/a
			West	2/50/D	**	**	1,330	1,770	1,840	963	C	923	C	n/a
36	La Costa Ave	Piraeus St to El Camino Real	East	2/55/D	**	1,450	1,700	##	##	1,379	B	1,568	C	Yes
			West	2/55/D	**	1,450	1,700	##	##	1,792	F	1,381	B	Yes
37	Salk Ave	College Blvd to El Camino Real	East	1/35/D	**	**	190	630	780	138	C	114	C	No
			West	1/35/D	**	**	190	630	780	48	C	136	C	No

* - Employment/Transit Connector Street not subject to Auto MMLOS Standard.

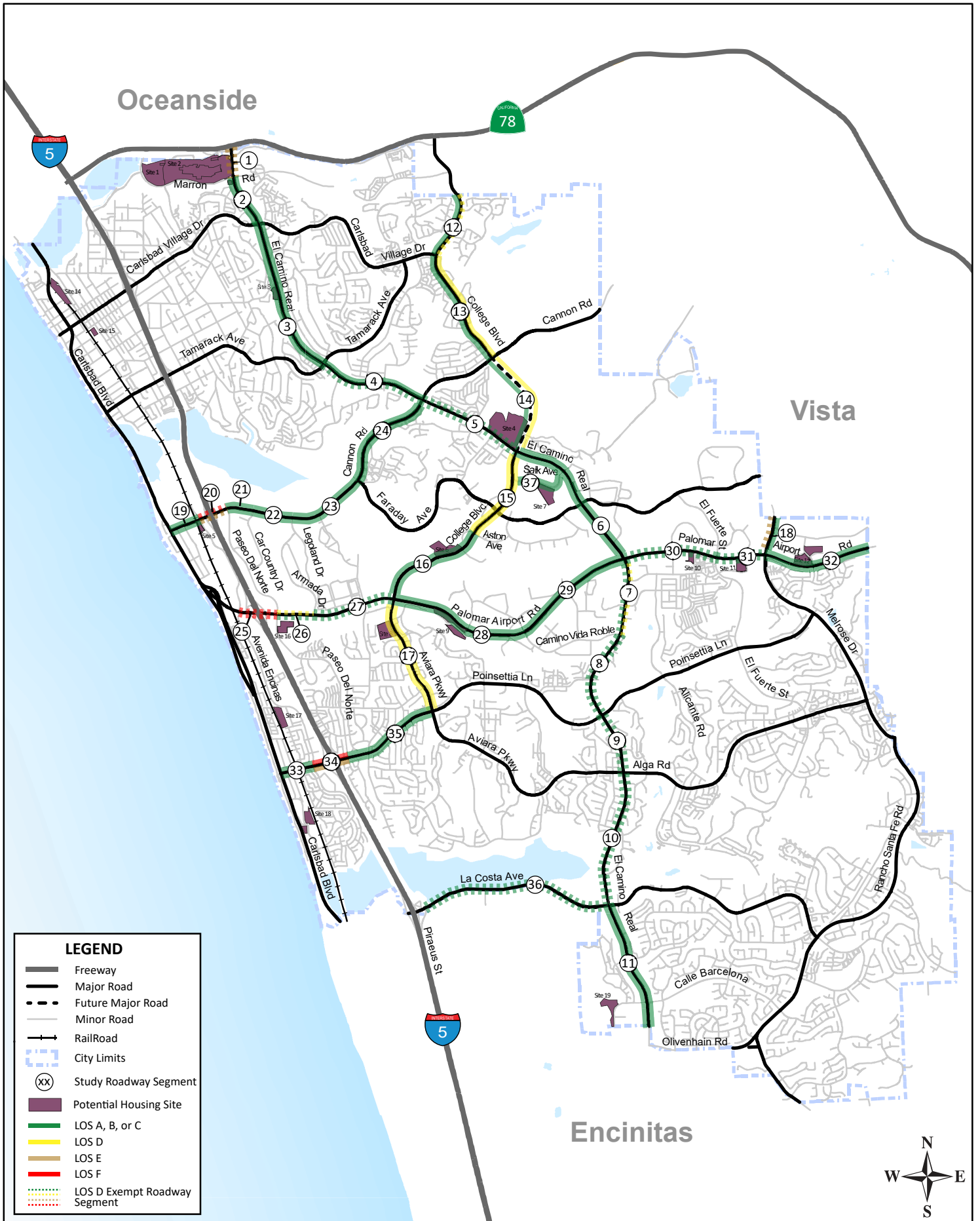


Figure 5-8
Year 2035 with Project Alternative 2 PM Peak Hour Roadway Conditions



6 SUMMARY OF FINDINGS

The study roadway segment conditions for all the study scenarios are summarized in **Table 6-1**.

Table 6-1: Roadway Segment Conditions Summary

ID	Roadway	Segment Limits	Direction of Travel	Existing		2035 Alt 1 (NP)		2035 Project		2035 Project Alt 2		LOS D Exempt?		
				AM	PM	AM	PM	AM	PM	AM	PM			
1	El Camino Real	North City Limit to Marron Rd	North	E	E	E	E	E	E	E	E	Yes		
			South	F	E	F	E	F	E	F	E	Yes		
Marron Rd to Carlsbad Village Dr		North	C	C	C	C	C	C	C	C	C	No		
		South	C	C	C	C	C	C	C	C	C	No		
3		Carlsbad Village Dr to Tamarack Ave	North	A	A	A	A	A	A	A	A	A	No	
			South	A	A	A	A	A	A	A	A	A	No	
4		Tamarack Ave to Cannon Rd	North	C	C	C	C	C	C	C	C	C	No	
			South	C	C	C	C	C	C	C	C	C	Yes	
5		Cannon Rd to College Blvd	North	F	B	B	B	B	B	B	B	B	Yes	
			South	B	B	B	B	B	B	B	B	B	Yes	
6		College Blvd to Palomar Airport Rd	North	B	B	B	B	B	B	B	B	B	No	
			South	B	B	B	B	B	B	B	B	B	No	
7	Palomar Airport Rd to Camino Vida Roble	North	C	D	D	D	D	D	D	D	D	Yes		
		South	C	C	C	C	C	C	C	C	C	Yes		
8	Camino Vida Roble to Poinsettia Ln	North	C	C	B	B	B	B	B	B	B	Yes		
		South	B	B	B	C	B	C	B	C	C	Yes		
9	Poinsettia Ln to Aviara Pkwy-Alga Rd	North	C	C	C	C	C	C	C	C	C	Yes		
		South	C	C	C	C	C	C	C	C	C	Yes		
10	Aviara Pkwy-Alga Rd to La Costa Ave	North	B	C	C	C	C	C	C	C	C	Yes		
		South	F	F	C	C	C	C	C	C	C	Yes		
11	La Costa Ave to South City Limit	North	C	C	C	C	C	C	C	C	C	No		
		South	C	C	C	C	C	C	C	C	C	No		
12	College Blvd	North City Limit to Carlsbad Village Dr	North	C	D	C	D	C	D	C	D	Yes		
			South	D	C	D	C	D	C	D	C	No		
Carlsbad Village Dr to Cannon Rd		North	C	D	C	D	C	D	C	D	No			
		South	D	C	D	C	D	C	D	C	No			
14		Cannon Rd to El Camino Real	North	Future Roadway		C	D	C	D	C	D	No		
			South	Future Roadway		D	C	D	C	D	C	No		
15		El Camino Real to Aston Ave	North	C	C	D	D	D	D	D	D	D	No	
			South	D	C	D	D	D	D	D	D	D	No	
16		Aston Ave to Palomar Airport Rd	North	A	A	B	A	B	A	B	A	B	No	
			South	B	B	B	B	B	B	B	B	B	No	
17		Aviara Parkway	Palomar Airport Rd to Poinsettia Ln	North	D	D	D	D	D	D	D	D	D	No
				South	D	D	D	D	D	D	D	D	D	No
18	Melrose Dr	North City Limit to Palomar Airport Rd	North	C	C	C	C	C	C	C	C	C	No	
			South	F	E	F	E	F	E	F	E	F	Yes	

Table 6-1: Roadway Segment Conditions Summary (Continued)

ID	Roadway	Segment Limits	Direction of Travel	Existing		2035 Alt 1 (NP)		2035 Project		2035 Project Alt 2		LOS D Exempt?		
				AM	PM	AM	PM	AM	PM	AM	PM			
19	Cannon Rd	Carlsbad Blvd to Avenida Encinas	East	C	C	C	C	C	C	C	C	No		
			West	B	C	C	C	C	C	C	C	C	No	
20		Avenida Encinas to Paseo del Norte	East	E	E	E	E	E	E	E	E	Yes		
			West	E	F	E	F	E	F	E	F	Yes		
21		Paseo del Norte to Car Country Dr	East	C	C	C	C	C	C	C	C	C	No	
			West	C	C	C	C	C	C	C	C	C	No	
22		Car Country Dr to Legoland Dr	East	B	B	B	B	B	B	B	B	B	No	
			West	B	C	B	C	B	C	B	C	B	No	
23		Legoland Dr to Faraday Ave	East	C	C	C	C	C	C	C	C	C	No	
			West	C	C	C	C	C	C	C	C	C	No	
24		Faraday Ave to El Camino Real	East	C	C	C	C	C	C	C	C	C	No	
			West	C	C	C	C	C	C	C	C	C	No	
25	Palomar Airport Rd	Avenida Encinas to Paseo del Norte	East	F	F	F	F	F	F	F	F	Yes		
			West	F	F	F	F	F	F	F	F	F	Yes	
26		Paseo del Norte to Armada Dr	East	D	C	D	C	D	C	D	C	Yes		
			West	C	D	C	D	C	D	C	D	Yes		
27		Armada Dr to Aviara Pkwy	East	C	C	C	C	C	C	C	C	C	Yes	
			West	C	C	C	C	C	C	C	C	C	Yes	
28		Aviara Pkwy to Camino Vida Roble	East	B	B	B	B	B	B	B	B	B	No	
			West	B	B	B	B	B	B	B	B	B	No	
29		Camino Vida Roble to El Camino Real	East	B	C	B	C	C	C	C	C	C	No	
			West	C	C	C	C	C	C	C	C	C	No	
30		El Camino Real to El Fuerte St	East	B	C	B	C	B	C	B	C	B	Yes	
			West	C	C	C	C	C	C	C	C	C	Yes	
31	El Fuerte St to Melrose Dr	East	B	C	B	C	C	C	C	C	C	Yes		
		West	C	C	C	C	C	C	C	C	C	Yes		
32	Melrose Dr to East City Limits	East	C	C	C	C	C	C	C	C	C	No		
		West	C	C	C	C	C	C	C	C	C	No		
33	Poinsettia Ln *	Carlsbad Blvd to Avenida Encinas	East	C	C	C	C	C	C	C	C	C	n/a	
			West	C	C	C	C	C	C	C	C	C	C	n/a
34		Avenida Encinas to Paseo del Norte	East	E	E	E	E	E	E	E	E	E	n/a	
			West	E	F	E	F	E	F	E	F	E	F	n/a
35		Paseo del Norte to Aviara Pkwy	East	C	C	C	C	C	C	C	C	C	C	n/a
			West	C	C	C	C	C	C	C	C	C	C	n/a
36	La Costa Ave	Piraeus St to El Camino Real	East	B	C	B	C	B	C	B	C	B	Yes	
			West	F	B	F	B	F	B	F	B	F	B	Yes
37	Salk Ave	College Blvd to El Camino Real	East	C	C	C	C	C	C	C	C	C	No	
			West	C	C	C	C	C	C	C	C	C	No	

* - Employment/Transit Connector Street not subject to Auto MMLOS Standard.

As shown in Table 6-1, all study roadway segments operate at LOS D or better except for the roadway segments summarized on **Table 6-2**, which operate at deficient LOS E or F.

Table 6-2: Roadway Segment Deficient LOS Summary

ID	Roadway	Segment Limits	Direction of Travel	Existing		2035 Alt 1 (NP)		2035 Project		2035 Project Alt 2		LOS D Exempt?
				AM	PM	AM	PM	AM	PM	AM	PM	
1	El Camino Real	North City Limit to Marron Rd	North	E	E	E	E	E	E	E	E	Yes
			South	F	E	F	E	F	E	F	E	Yes
Cannon Rd to College Blvd		North	F	B	B	B	B	B	B	B	Yes	
		South	B	B	B	B	B	B	B	B	Yes	
10		Aviara Pkwy-Alga Rd to La Costa Ave	North	B	C	C	C	C	C	C	C	Yes
			South	F	F	C	C	C	C	C	C	Yes
18	Melrose Dr	North City Limit to Palomar Airport Rd	North	C	C	C	C	C	C	C	C	No
			South	F	E	F	E	F	E	F	E	Yes
20	Cannon Rd	Avenida Encinas to Paseo Del Norte	East	E	E	E	E	E	E	E	E	Yes
			West	E	F	E	F	E	F	E	F	Yes
25	Palomar Airport Rd	Avenida Encinas to Paseo Del Norte	East	F	F	F	F	F	F	F	F	Yes
			West	F	F	F	F	F	F	F	F	Yes
34	Poinsettia Ln *	Avenida Encinas to Paseo Del Norte	East	E	E	E	E	E	E	E	E	n/a
			West	E	F	E	F	E	F	E	F	n/a
36	La Costa Ave	Piraeus St to El Camino Real	East	B	C	B	C	B	C	B	C	Yes
			West	F	B	F	B	F	B	F	B	Yes

* - Employment/Transit Connector Street not subject to Auto MMLoS Standard.

As shown in **Table 6-2**, following roadway segments operate at deficient LOS E or F in the existing scenario and are forecast to continue to operate at deficient LOS in all the future year 2035 scenarios:

1. El Camino Real from North City Limit to Marron Road
 - Northbound – LOS E (AM and PM)
 - Southbound – LOS F (AM), LOS E (PM)
18. Melrose Drive from North City Limit to Palomar Airport Road
 - Southbound – LOS F (AM), LOS E (PM)
20. Cannon Road from Avenida Encinas to Paseo Del Norte
 - Eastbound – LOS E (AM and PM)
 - Westbound – LOS E (AM), LOS F (PM)

- 25. Palomar Airport Road from Avenida Encinas to Paseo Del Norte
 - Eastbound – LOS F (AM and PM)
 - Westbound – LOS F (AM and PM)
- 34. Poinsettia Lane from Avenida Encinas to Paseo Del Norte (not subject to auto MMLOS standard)
 - Eastbound – LOS E (AM and PM)
 - Westbound – LOS E (AM), LOS F (PM)
- 36. La Costa Avenue from Piraeus Street to El Camino Real
 - Westbound – LOS F (AM)

The following roadway segments are forecast to improve to a LOS D or better in all the future year 2035 scenarios from a deficient LOS F in the existing scenario. The improvement in roadway condition is due to the planned widening of the roadway from two lanes to three lanes, which will result in an increase in the roadway capacity.

- 5. El Camino Real from Cannon Road to College Boulevard (northbound)
- 10. El Camino Real from Aviara Parkway-Alga Road to La Costa Avenue (southbound)

7 CONCLUSION AND RECOMMENDATIONS

Based on the roadway segment analysis both the project alternatives (Proposed Project and Project Alternative 2) do not cause any of the roadway segments to deteriorate from an acceptable LOS D or better to a deficient LOS E or F from the year 2035 Alternative 1 (No Project) scenario. All the deficient roadway segments (subject to auto MMLOS standard) on which the project adds trips are exempt from the LOS D standard.

Although (#34) Poinsettia Lane from Avenida Encinas to Paseo Del Norte (Employment/Transit Connector Street) currently operates, and which is forecast to operate at deficient LOS E or F, the roadway is not subject to auto MMLOS standard and hence is not required to maintain a LOS D or better for the vehicle mode of travel. The roadway has facilities for non-auto users, including sidewalk and class II bike lanes on both sides of the roadway. The bus stop at Carlsbad Boulevard / Poinsettia Lane is approximately 1,500 feet from Avenida Encinas / Poinsettia Lane intersection for transit users. Since the roadway is subject to pedestrian, bicycle and transit MMLOS standard, the level of service for these travel modes should be evaluated during the preparation of the transportation impact analysis (TIA) for a specific development project in the surrounding area. If LOS D is not met in the existing condition, or if the project is determined to deteriorate the condition of any of the non-auto travel mode, improvements should be recommended as defined in city's Mobility Element.