



## 4.5 TRAFFIC AND PARKING

Information in this section is based on the *Dana Point Harbor Revitalization Traffic and Parking Analysis* (September 16, 2005), prepared by RBF Consulting; refer to Appendix J (Traffic and Parking Study). The purpose of the following discussion is to identify the existing circulation and parking system in the Project vicinity, analyze the Project's short- and long-term impacts upon the system, and recommend mitigation to reduce the significance of potential impacts.

### 4.5.1 EXISTING CONDITIONS

#### 4.5.1.1 EXISTING TRAFFIC

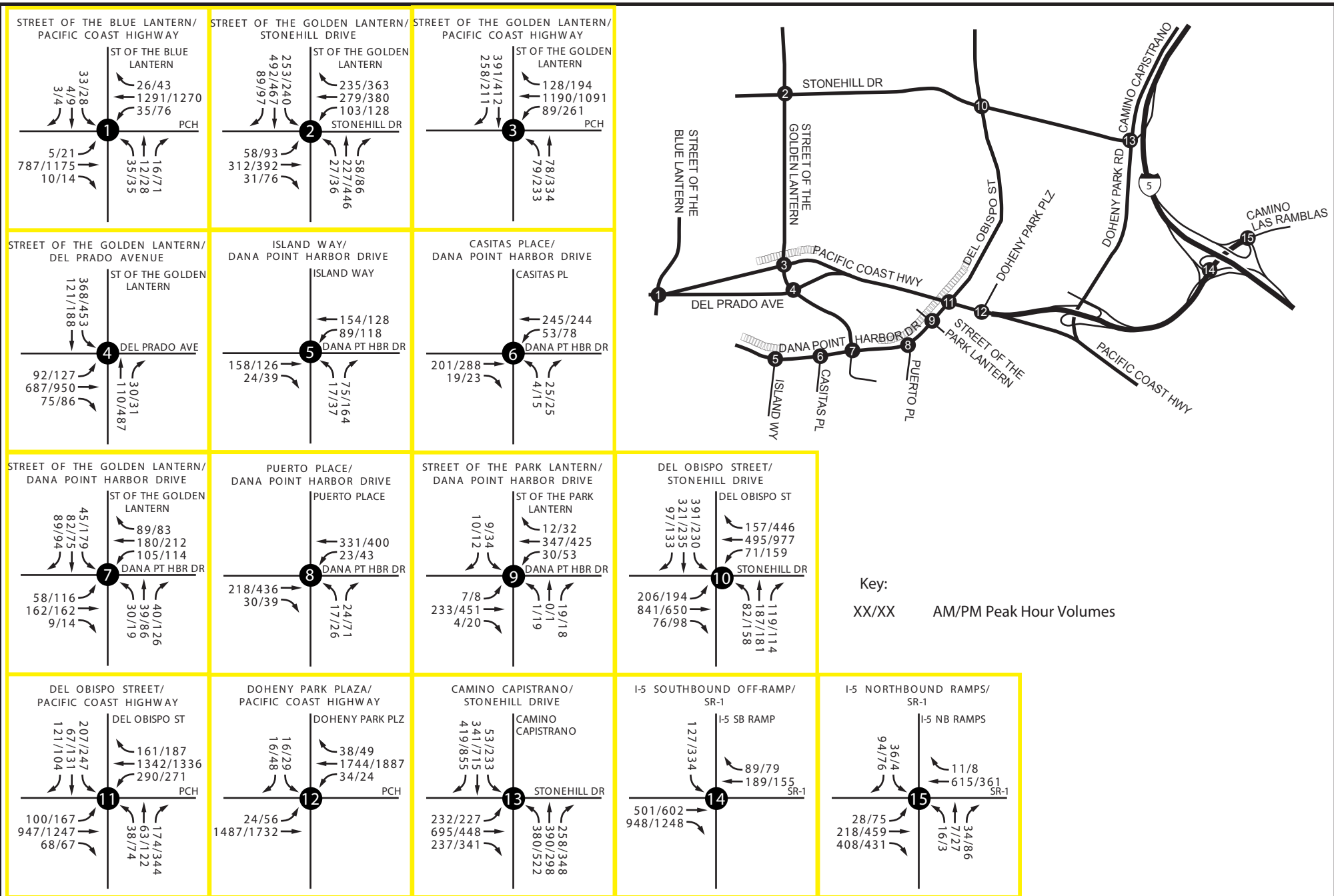
This analysis conservatively analyzes the Project area during peak event times as a worst-case scenario. To determine the existing operation of the Project area intersections, existing weekday morning (a.m.) and afternoon (p.m.) peak-hour traffic volumes were counted in 2005 immediately after Memorial Day weekend, while existing weekend mid-day and p.m. peak hour traffic volumes were counted during the Memorial Day weekend. Weekend a.m. counts were not taken during Memorial Day weekend, since mid-day counts are moderate, and this analysis focuses on peak event times. Exhibit 4.5-1 (Existing Weekday AM/PM Peak-Hour Intersection Volumes), and Exhibit 4.5-2 (Existing Weekend Noon/PM Peak-Hour Intersection Volumes) show existing weekday and weekend peak-hour volumes at the study intersections.

#### EXISTING TRIP GENERATION

To calculate trips generated by a project site, transportation planners and engineers utilize published trip generation rate sources such as the *Institute of Transportation Engineers (ITE) Trip Generation*. Table 4.5-1 (Dana Point Harbor ITE Trip Rates) summarizes ITE trip generation rates applicable to the Harbor.

**Table 4.5-1**  
**DANA POINT HARBOR ITE TRIP RATES**

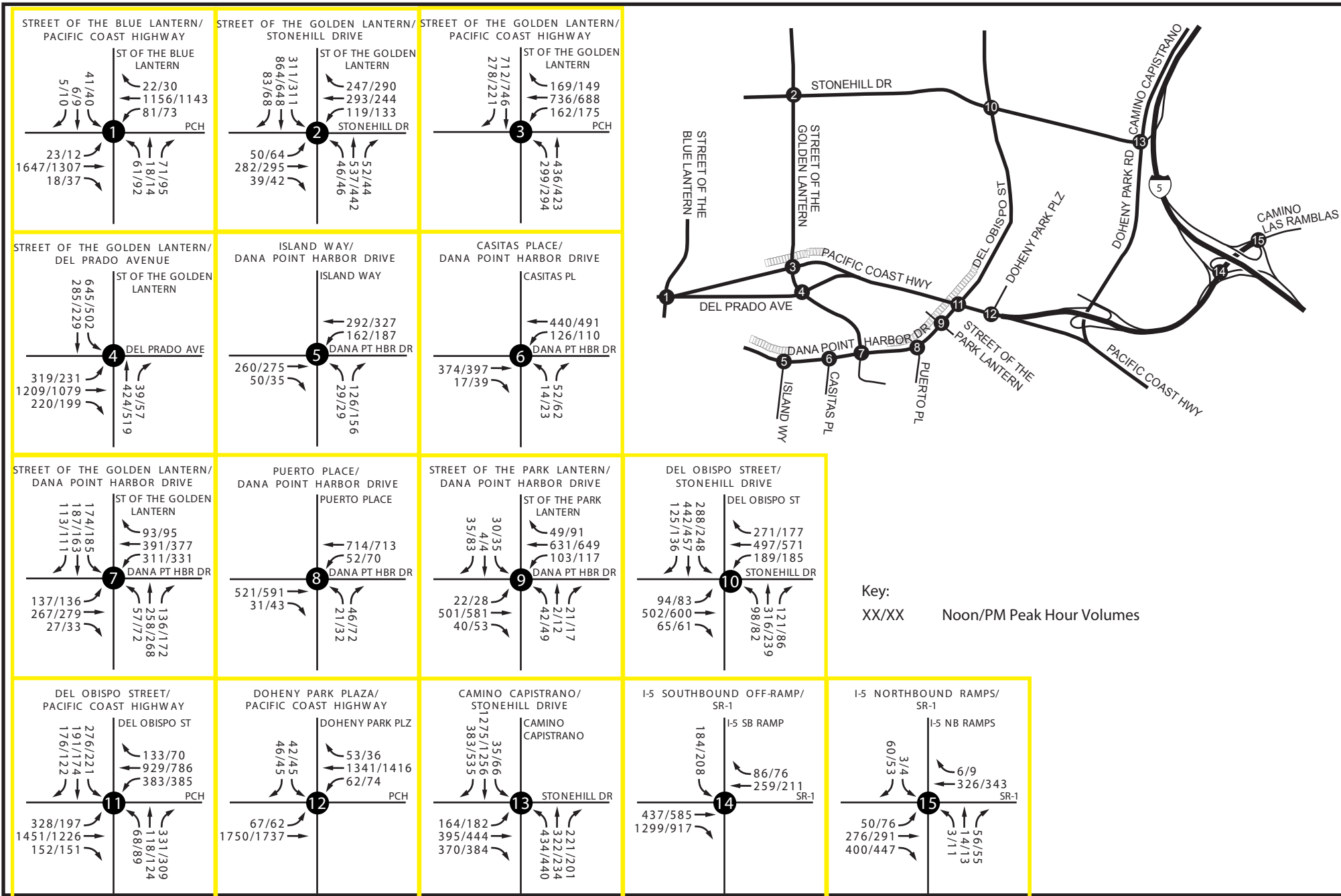
Land Use (ITE Code)	Units	AM Peak-Hour Rates			PM Peak-Hour Rates			Average Daily Trips (ADT)
		In	Out	Total	In	Out	Total	
420	Boat Berths	0.03	0.05	0.08	0.11	0.08	0.19	2.96
710	t.s.f.	1.36	0.19	1.55	0.25	1.24	1.49	11.01
814	t.s.f.	0.00	0.00	0.00	1.19	1.52	2.71	44.32
942	t.s.f.	1.91	1.03	2.94	1.69	1.69	3.38	15.86 <sup>1</sup>
590	t.s.f.	0.76	0.30	1.06	3.40	3.69	7.09	54.00
932	t.s.f.	5.99	5.53	11.52	6.66	4.26	10.92	127.15
310	Occupied Rooms	0.39	0.28	0.67	0.34	0.36	0.70	8.92
931	t.s.f.	0.66	0.15	0.81	5.02	2.47	7.49	89.95
495	t.s.f.	0.99	0.63	1.62	0.48	1.16	1.64	22.88
t.s.f. = thousand square feet.								
<sup>1</sup> Saturday Daily Rate.								
Source: Institute of Transportation Engineers, <i>ITE Trip Generation Manual</i> , 7 <sup>th</sup> Edition, 2003.								



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.



PLANNING ■ DESIGN ■ CONSTRUCTION



## EXISTING WEEKEND NOON/PM PEAK-HOUR INTERSECTION VOLUMES



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

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This analysis assumes a conservative worst-case trip generation scenario, since it does not assume any pass-by trip generation discount, nor does it assume any on-site trip generation discount.

Table 4.5-2 (Existing Trip Generation [Harborwide and Commercial Core]), summarizes trips generated by the existing Harbor uses. The trips projected within Table 4.5-2 were obtained by applying the trip generation rates provided in Table 4.5-1. As shown in the table, the Harbor currently generates approximately 19,198 daily trips, which includes approximately 1,016 a.m. peak-hour trips and approximately 1,441 p.m. peak-hour trips.

**Table 4.5-2  
EXISTING TRIP GENERATION (HARBORWIDE AND COMMERCIAL CORE)**

Planning Area	ITE Land Use Description	ITE Land Use (Code)	Size/ Capacity	AM			PM			ADT
				In	Out	Total	In	Out	Total	
1	Car Trailer Parking	420	183 Spaces	5	9	15	20	15	35	542
	BSB – Number X	710	2.5 t.s.f.	3	0	4	1	3	4	28
	Shipyards Building	942	5 t.s.f.	10	5	15	8	8	17	79
	County Operations Maintenance Yard – Office	710	1.8 t.s.f.	2	0	3	0	2	3	20
2	Car Trailer Parking	420	130 Spaces	4	7	10	14	10	25	385
	BSB – Number 1 Yacht Brokerage	710	2 t.s.f.	3	0	3	1	2	3	22
	Retail/Restaurant – Retail	814	26.6 t.s.f.	0	0	0	32	40	72	1,179
	Retail/Restaurant – Restaurant	832	51.3 t.s.f.	307	284	591	342	219	560	6,523
Commercial Core Total (Planning Areas 1 and 2)				334	305	639	418	299	717	8,778
3	Hotel	310	136 rooms	53	38	91	46	49	95	1,213
	BSB – No. 2 Yacht Bkg. – RELO to PA 2	710	1.8 t.s.f.	2	0	3	0	2	3	20
	BSB – Number 3	710	1.8 t.s.f.	2	0	3	0	2	3	20
	BSB – Number 4	710	2.5 t.s.f.	3	0	4	1	3	4	28
4	Harbor Patrol Building	710	6 t.s.f.	8	1	9	2	7	9	66
	Beach House Restaurant	931	10 t.s.f.	7	2	8	50	25	75	900
	BSB – No. D Dana West Yacht Club	495	3.6 t.s.f.	4	2	6	2	4	6	82
	BSB – Number E	710	1.8 t.s.f.	2	0	3	0	2	3	20
	BSB – Number F	710	1.8 t.s.f.	2	0	3	0	2	3	20
	BSB – Number 5	710	2 t.s.f.	3	0	3	1	2	3	22
	BSB – Number 6	710	1.8 t.s.f.	2	0	3	0	2	3	20
	BSB – Number 7	710	1.8 t.s.f.	2	0	3	0	2	3	20
	BSB – Number 8	710	1.8 t.s.f.	2	0	3	0	2	3	20
	Dana Point Yacht Club	495	12.4 t.s.f.	12	8	20	6	14	20	284
5	Youth and Group Facility	495	11 t.s.f.	11	7	18	5	13	18	252
	BSB – Number A	710	1.8 t.s.f.	2	0	3	0	2	3	20
	BSB – Number B	710	1.8 t.s.f.	2	0	3	0	2	3	20
	BSB – Number C	710	1.8 t.s.f.	2	0	3	0	2	3	20
9 & 10	Boat Slips/Docks	420	2,444	73	122	196	269	196	464	7,234
11 & 12	Boat Slips/Docks	420	47	1	2	4	5	4	9	139
Harborwide Total (Planning Areas 3-12)				529	487	1,016	805	636	1,441	19,198
t.s.f. = thousand square feet; BSB = Boater Service Building										
Source: Dana Point Harbor Revitalization Traffic and Parking Analysis (September 16, 2005), prepared by RBF Consulting.										



## EXISTING WEEKDAY PEAK-HOUR LOS

Table 4.5-3 (Existing Weekday Peak-Hour LOS), summarizes the existing weekday a.m. and p.m. peak-hour V/C ratio and corresponding LOS of the study intersections, based on the existing peak-hour intersection volumes shown in Exhibit 4.5-1.

As shown in Table 4.5-3, the study intersections are currently operating at an acceptable LOS during weekday a.m. and p.m. peak-hour conditions, according to performance criteria, except for the Camino Capistrano/Stonehill Drive intersection (a.m. peak hours).

**Table 4.5-3  
EXISTING WEEKDAY PEAK-HOUR LOS**

Study Intersection	AM Peak Hour <sup>1</sup>			PM Peak Hour <sup>1</sup>		
	V/C	Delay	LOS	V/C	Delay	LOS
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.459	N/A	A	0.503	N/A	A
Street of the Golden Lantern/Stonehill Dr	0.438	N/A	A	0.591	N/A	A
Street of the Golden Lantern/Pacific Coast Hwy(*)(**)	0.482	N/A	A	0.525	N/A	A
Street of the Golden Lantern/Del Prado Ave(*)	0.325	N/A	A	0.513	N/A	A
Island Way/Dana Point Harbor Dr	N/A	10.0	B	N/A	10.8	B
Casitas Place/Dana Point Harbor Dr	N/A	9.7	A	N/A	11.3	B
Street of the Golden Lantern/Dana Point Harbor Dr	0.225	N/A	A	0.336	N/A	A
Puerto Place/Dana Point Harbor Dr	N/A	10.4	B	N/A	12.5	B
Street of the Park Lantern/Dana Point Harbor Dr	0.161	N/A	A	0.252	N/A	A
Del Obispo St/Stonehill Dr	0.659	N/A	B	0.674	N/A	B
Del Obispo St/Pacific Coast Hwy(**)	0.649	N/A	B	0.791	N/A	C
Doheny Park Plaza/Pacific Coast Hwy(**)	0.607	N/A	B	0.698	N/A	B
Camino Capistrano/Stonehill Dr	0.871	N/A	D	0.706	N/A	C
I-5 SB Off-Ramp/SR-1	0.235	N/A	A	0.325	N/A	A
I-5 NB Ramps/SR-1	0.254	N/A	A	0.238	N/A	A
(*) CMP Intersection						
(**) LOS D acceptable for Pacific Coast Highway (major arterial highway).						
<sup>1</sup> Existing weekday traffic counts were conducted on June 1, 2005.						

## EXISTING WEEKEND PEAK HOUR LEVEL OF SERVICE

Table 4.5-4 (Existing Weekend Peak-Hour LOS), summarizes the existing weekend noon and p.m. peak-hour V/C ratio and corresponding LOS of the study intersections based on existing peak-hour intersection volumes shown in Exhibit 4.5-2.



**Table 4.5-4  
EXISTING WEEKEND PEAK-HOUR LOS**

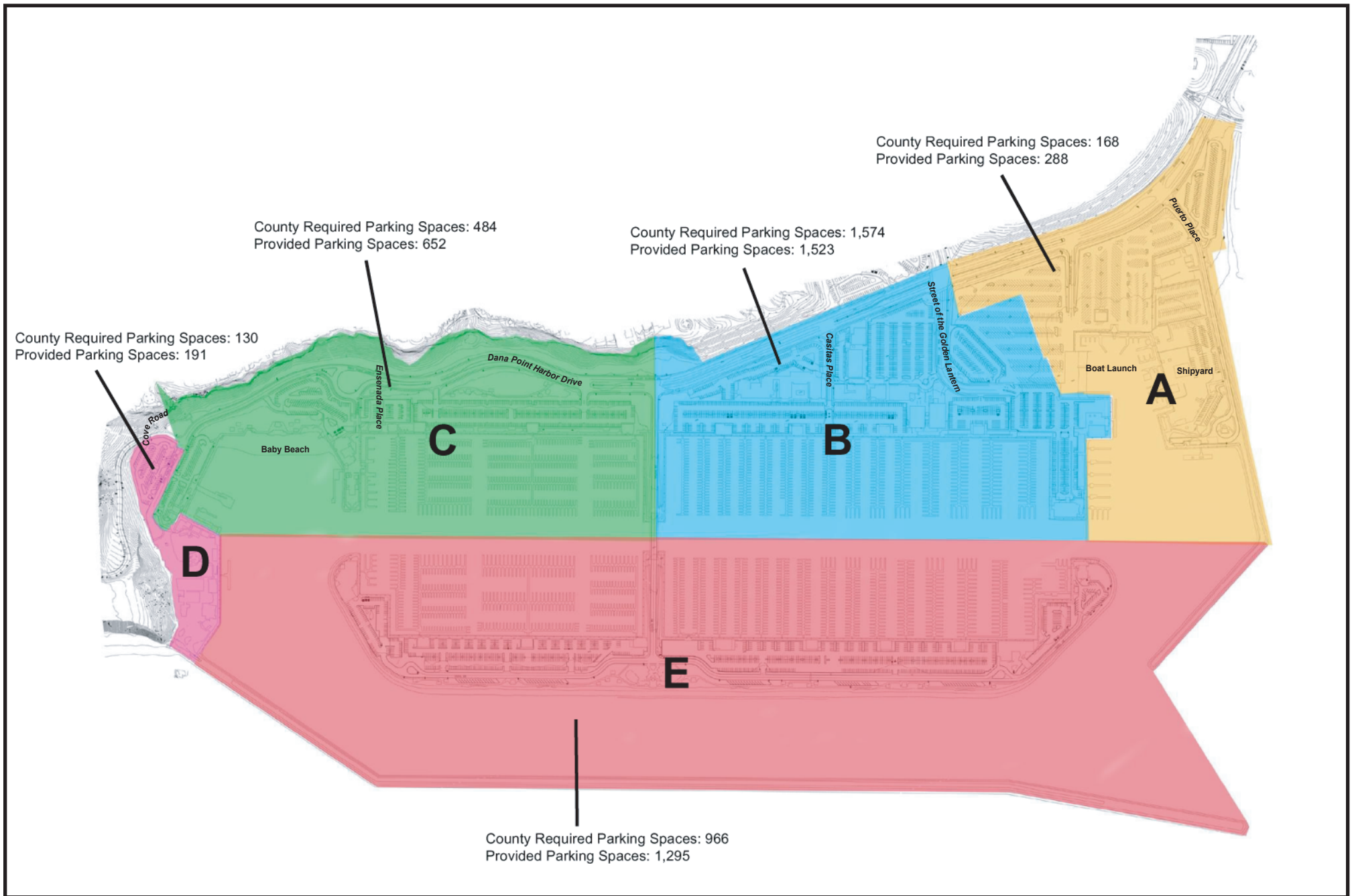
Study Intersection	Noon <sup>1</sup>			PM Peak Hour <sup>1</sup>		
	V/C	Delay	LOS	V/C	Delay	LOS
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.653	N/A	B	0.568	N/A	A
Street of the Golden Lantern/Stonehill Dr	0.566	N/A	A	0.571	N/A	A
Street of the Golden Lantern/Pacific Coast Hwy(*) (**)	0.534	N/A	A	0.504	N/A	A
Street of the Golden Lantern/Del Prado Ave(*)	0.601	N/A	B	0.562	N/A	A
Island Way/Dana Point Harbor Dr	N/A	12.4	B	N/A	13.2	B
Casitas Place/Dana Point Harbor Dr	N/A	12.6	B	N/A	13.7	B
Street of the Golden Lantern/Dana Point Harbor Dr	0.566	N/A	A	0.593	N/A	A
Puerto Place/Dana Point Harbor Dr	N/A	14.7	B	N/A	17.7	C
Street of the Park Lantern/Dana Point Harbor Dr	0.323	N/A	A	0.390	N/A	A
Del Obispo St/Stonehill Dr	0.607	N/A	B	0.577	N/A	A
Del Obispo St/Pacific Coast Hwy(**)	0.753	N/A	C	0.679	N/A	B
Doheny Park Plaza/Pacific Coast Hwy(**)	0.653	N/A	B	0.657	N/A	B
Camino Capistrano/Stonehill Dr	0.785	N/A	C	0.810	N/A	D
I-5 SB Off-Ramp/SR-1	0.256	N/A	A	0.283	N/A	A
I-5 NB Ramps/SR-1	0.182	N/A	A	0.201	N/A	A
(*) CMP Intersection						
(**) LOS D acceptable for Pacific Coast Highway (major arterial highway).						
<sup>1</sup> Existing weekend traffic counts were conducted on May 28, 2005.						

As shown in Table 4.5-4, the study intersections are currently operating at an acceptable LOS during weekday a.m. and p.m. peak-hour conditions, with the exception of the Camino Capistrano/Stonehill Drive intersection (p.m. peak hours).

#### 4.5.1.2 EXISTING PARKING

A parking analysis was prepared to determine existing parking supply for existing conditions as well as to forecast whether adequate parking would be provided upon buildout of the Commercial Core and Harborwide conditions.

For analysis purposes, the existing study area has been divided into parking zones and identified by number as shown in Exhibit 4.5-3 (Existing Parking Spaces Required and Provided). Because of the Harbor's unique nature, the peak parking condition is impacted by passive recreational uses that are not specific to any Harbor business (walking, picnics, whale-watching, Old Cove Marine Preserve visits, sight-seeing, etc.).



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

## EXISTING PARKING SPACES REQUIRED/PROVIDED

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT



## EXISTING PARKING CAPACITY AND DEMAND

To determine the Harbor parking capacity, all parking spaces within the Harbor were counted, as shown in Exhibit 4.5-3. Table 4.5-5 (*Existing Parking Requirements*), summarizes the on-site parking requirements for existing land uses, based on County parking requirements.

**Table 4.5-5  
EXISTING PARKING REQUIREMENTS**

Zone	Planning Area	Description	Land Use	Parking Requirement	Size	Required Spaces	Provided Spaces <sup>1</sup>
A	1	Surface Boat Storage	Boat Use <sup>2</sup>	0.25 per boat	516 boat spaces	129	
	1	BSB X	Office	1 per 250 s.f. of gfa	2,500 s.f.	10	
	1	Shipyards Building	Motor Vehicle Sales & Auto Repair	1 per 400 s.f. of gfa	5,000 s.f.	13	
	1	County Maintenance Yard Building – Office	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	11	Recreational Boat Slips (from PA 11)	Boat Use <sup>5</sup>	0.6 per boat slip	32 slips	9	
	TOTAL					168	288
B	2	BSB 1	Office	1 per 250 s.f. of gfa	2,000 s.f.	8	
	2	Catalina Terminal Building <sup>4</sup>		Measured Use	0 s.f.	160	
	2	Retail/Restaurant – Retail Component	Retail	1 per 200 s.f. of gfa	26,600 s.f.	133	
	2	Retail/Restaurant – Restaurant Component	Restaurant	1 per 100 s.f. up to 4,000 s.f. plus 1 per each 80 s.f. above 4,000 s.f.	61,500 s.f.	666	
	3	Hotel	Hotel	1 per guest room	136 rooms	136	
	3	BSB 3	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	3	BSB 4	Office	1 per 250 s.f. of gfa	2,500 s.f.	10	
	10	Recreational Boat Slips (from PA 10)	Boat Use <sup>5</sup>	0.6 per boat slip	757 slips	454	
	TOTAL					1,574	1,523
C	5	Recreational Boat Slips (from PA 9)	Boat Use <sup>5</sup>	0.6 per boat slip	526 slips	316	
	5	Youth and Group Facility	Union Halls, Lodges, Clubs	1 per 75 s.f. of gfa	11,000 s.f.	147	
	5	BSB A	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	5	BSB B	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	5	BSB C	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	TOTAL					484	652
D	6	Ocean Institute <sup>3</sup>				130	
	TOTAL					130	191





**Table 4.5-5 [continued]  
EXISTING PARKING REQUIREMENTS**

Zone	Planning Area	Description	Land Use	Parking Requirement	Size	Required Spaces	Provided Spaces <sup>1</sup>
E	9 & 10	Recreational Boat Slips (from PA 9 & 10)	Boat Use <sup>5</sup>	0.6 per boat slip	1,161 slips	697	
	9 & 10	Commercial Boat Slips	Boat Use <sup>5</sup>	2 per boat slip	15 slips	30	
	4	Harbor Patrol Building	Office	1 per 250 s.f. of gfa	6,000 s.f.	24	
	4	Beach House Restaurant	Restaurant	1 per 100 s.f. up to 4,000 s.f., plus 1 per each 80 s.f. above 4,000 s.f.	10,000 s.f.	115	
	4	BSB D – Dana West Yacht Club	Yacht Club & Storage <sup>2</sup>	4 per 1,000 s.f.	1,800 s.f.	7	
	4	BSB E	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	4	BSB F	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	4	BSB 5	Office	1 per 250 s.f. of gfa	2,000 s.f.	8	
	4	BSB 6	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	4	BSB 7	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	4	BSB 8	Office	1 per 250 s.f. of gfa	1,800 s.f.	7	
	4	Dana Point Yacht Club	Yacht Club & Storage <sup>2</sup>	4 per 1,000 s.f.	12,400 s.f.	50	
	TOTAL					966	1,295

BSB = Boater Service Building; s.f. = square feet; gfa = gross floor area; PA = Planning Area.

<sup>1</sup> This total does not include the car with trailer spaces provided for the boat launch ramp, or the on-street parking along a portion of Dana Point Harbor Drive. Additionally, the Boater Service Buildings parking requirement is based on the office portion of the buildings gross floor area.

<sup>2</sup> Rates are based on City of Los Angeles Planning and Zoning Code, Section 12.21, 9/13/2000 revision, and California Department of Boating and Waterways standards.

<sup>3</sup> Total number of parking spaces required, based on *Traffic and Parking Study for the Orange County Marine Institute Expansion* (January 27, 2000).

<sup>4</sup> Current summertime peak-hour operations

<sup>5</sup> Rates are based on California Department of Boating and Waterways standards.

<sup>6</sup> The parking requirement is calculated on a restaurant-by-restaurant basis, not an aggregate total. The restaurant square footage includes outdoor patio/dining areas.

### 4.5.1.3 BICYCLE AND PEDESTRIAN ACCESS

The County of Orange Master Plan of Bikeways identifies Dana Point Harbor Drive as a Class II Bikeway (bike lane). Class II Bikeways provide a restricted right-of-way (ROW) in the established paved area of highways designated for the exclusive or semi-exclusive use of bicycles, with through travel by motor vehicles or pedestrians prohibited, but permits motor vehicle parking and cross-flows by pedestrians and motorists.

### 4.5.2 METHODOLOGY

It should be noted that these standards are consistent with *County of Orange Transportation Implementation Manual*, adopted by the Board of Supervisors on March 15, 1994.



#### **4.5.2.1 TRAFFIC SCENARIOS ANALYZED**

The following weekday and weekend scenarios were studied in the analysis:

- Existing Conditions;
- Forecast Year 2012 Without Project Conditions;
- Forecast Year 2012 With Commercial Core Project Conditions;
- Forecast Buildout Year 2030 Without Project Conditions;
- Forecast Buildout Year 2030 with Commercial Core Project Conditions; and
- Forecast Buildout Year 2030 with Harborwide Project Conditions.

#### **4.5.2.2 STUDY AREA STREET SYSTEM**

##### **STUDY AREA INTERSECTIONS**

The County of Orange, in consultation with the City of Dana Point staff, defined the following 15 intersections as part of the Project vicinity to be analyzed:

- Street of the Blue Lantern/Pacific Coast Highway (signalized);
- Street of the Golden Lantern/Stonehill Drive (signalized);
- Street of the Golden Lantern/Pacific Coast Highway (signalized);
- Street of the Golden Lantern/Del Prado Avenue (signalized);
- Island Way/Dana Point Harbor Drive (one-way stop controlled);
- Casitas Place/Dana Point Harbor Drive (one-way stop controlled);
- Street of the Golden Lantern/Dana Point Harbor Drive (signalized);
- Puerto Place/Dana Point Harbor Drive (one-way stop controlled);
- Street of the Park Lantern/Dana Point Harbor Drive (signalized);
- Del Obispo Street/Stonehill Drive (signalized);
- Del Obispo Street/Pacific Coast Highway (signalized);
- Doheny Park Plaza/Pacific Coast Highway (signalized);
- Camino Capistrano/Stonehill Drive (signalized);
- I-5 Southbound Off-Ramp/SR-1 (signalized); and
- I-5 Northbound Ramps/SR-1 (signalized).

Based on the *Orange County Transportation Authority Congestion Management Plan* (OCTA CMP) study area thresholds, two of the 15 study intersections are included in the CMP area:

- Street of the Golden Lantern/Pacific Coast Highway; and
- Street of the Golden Lantern/Del Prado Avenue.



## STUDY AREA ROADWAYS

The characteristics of the roadway system in the vicinity of the Project site are described below.

- Interstate 5 (I-5) provides regional access for the project site as a six- to eight-lane freeway, traversing the State of California (State) in a north-south orientation. I-5 originates at the Mexican border and continues north to its terminus at the Canadian border.
- Pacific Coast Highway (State Route 1 [SR-1]) is a four-lane divided roadway, trending in an east-west direction. Pacific Coast Highway is classified as a major arterial highway and designated SR-1. The posted speed limit on Pacific Coast Highway is 40 miles per hour (mph) in the project vicinity.
- Stonehill Drive is a four-lane divided roadway with a raised median trending in an east-west direction; on-street parking is prohibited. The posted speed limit on Stonehill Drive is 40 mph.
- Doheny Park Road is a four-lane divided roadway trending in a north-south direction; on-street parking is prohibited. The posted speed limit on Doheny Park Road is 45 mph.
- Camino Capistrano is a four-lane divided roadway trending in a north-south direction; on-street parking is prohibited. The posted speed limit on Camino Capistrano is 45 mph.
- Doheny Park Plaza is a two-lane undivided driveway trending in a north-south direction.
- Del Obispo Street is a four-lane divided roadway with a raised median trending in a north-south direction; on-street parking is prohibited. The posted speed limit on Del Obispo Street is 35 mph.
- Street of the Golden Lantern is a four- to six-lane divided roadway trending in a north-south direction; on-street parking is provided north of Dana Point Harbor Drive. The posted speed limit on Street of the Golden Lantern is 30 mph north of Dana Point Harbor Drive; south of Dana Point Harbor Drive, 25 mph.
- Del Prado Avenue is a three-lane roadway trending in an east-west direction; on-street parking is permitted. The posted speed limit on Del Prado Avenue is 30 mph.
- Dana Point Harbor Drive is a four-lane divided roadway trending in an east-west direction to the turn-around located adjacent to the Youth and Group Facility, where the road transitions to a 2-lane, non-divided roadway; on-street parking is provided in some locations. The posted speed limit on Dana Point Harbor Drive is 25 mph between Cove Road and Street of the Golden Lantern; between Street of the Golden Lantern and Pacific Coast Highway, 30 mph.



- Street of the Blue Lantern is a two-lane undivided roadway trending in a north-south direction; on-street parking is provided. The posted speed limit on Street of the Blue Lantern is 25 mph.
- Street of the Park Lantern is a two- to four-lane undivided roadway trending in a northwest-southeast direction; on-street parking is prohibited. The posted speed limit on Street of the Park Lantern is 25 mph.
- Island Way is a two-lane undivided roadway trending in north-south direction; on-street parking is prohibited. The posted speed limit on Island Way is 25 mph.
- Casitas Place is a two-lane undivided roadway trending in north-south direction; on-street parking is prohibited. The posted speed limit on Casitas Place is 25 mph.
- Puerto Place is a two-lane undivided roadway trending in north-south direction; on-street parking is prohibited. The posted speed limit on Puerto Place is 25 mph.

Exhibit 4.5-4 (Study Intersection Locations) illustrates the study area utilized for the impact analysis.

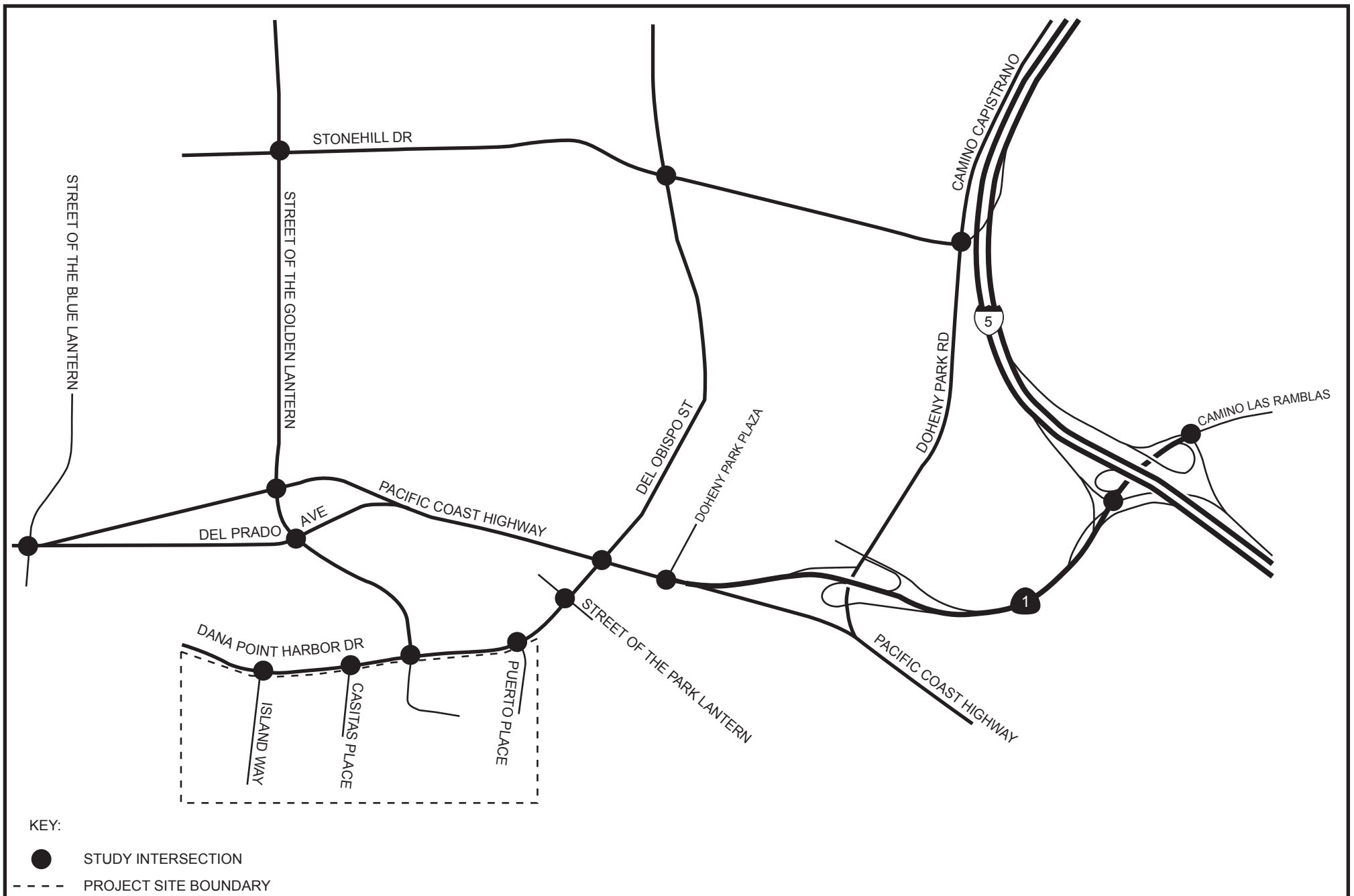
#### 4.5.2.3 INTERSECTION OPERATION METHODOLOGY

Level of service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection. The Intersection Capacity Utilization (ICU) analysis method is utilized to determine the operating LOS of study intersections.

The ICU methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow traffic conditions) to LOS F (severely congested conditions), based on corresponding volume/capacity (V/C) ratios, shown in Table 4.5-6 (Volume-to-Capacity Ratio and Level of Service (LOS)).

**Table 4.5-6  
VOLUME-TO-CAPACITY (V/C) RATIO AND LEVEL OF SERVICE (LOS)**

V/C Ratio	LOS
< 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E
≥ 1.00	F
Source: Institute of Transportation Engineers, <i>Highway Capacity Manual</i> , 2000.	



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

## STUDY INTERSECTION LOCATIONS

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

**EXHIBIT 4.5-4**



### **4.5.3 SIGNIFICANCE CRITERIA**

#### **4.5.3.1 CEQA REQUIREMENTS**

Environmental impact thresholds as indicated in Appendix G (Initial Study Checklist) of the *CEQA Guidelines* were used as significance thresholds in this analysis. As such, the project will create a significant impact if it will:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., substantially increase either the number of vehicle trips, the volume-to-capacity ratio (V/C) on roads, or congestion at intersections); refer to Impact Statements 4.5-1 (Short-Term [Construction] Traffic and Parking Conditions) and 4.5-2 (Trip Generation, Distribution, and Assignment);
- Exceed, either individually or cumulatively, a level of service (LOS) standard established by the county Congestion Management Program (CMP) agency for designated roads or highways; refer to Impact Statements 4.5-1 (Short-Term [Construction] Traffic and Parking Conditions) and 4.5-2 (Trip Generation, Distribution, and Assignment);
- Change air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; refer to Section 7, (Effects Found Not To Be Significant);
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); refer to Section 7 (Effects Found Not To Be Significant);
- Result in inadequate emergency access; refer to Section 7 (Effects Found Not To Be Significant);
- Result in inadequate parking capacity; refer to Impact Statement 4.5-3 (Parking); and/or
- Conflict with adopted policies, plans, or programs supporting other modes of transportation (e.g., bus turnouts, bicycle racks); refer to Section 7 (Effects Found Not To Be Significant).

#### **4.5.3.2 THRESHOLD OF SIGNIFICANCE**

The project would have a significant impact if it lowers an existing acceptable level of service to an unacceptable level. A significant impact will also occur when the Project increases traffic demand at a study intersection by 1 percent of capacity (ICU  $\geq 0.010$ ), causing or worsening unacceptable service level (LOS E or F) conditions.



#### 4.5.4 PROJECT IMPACTS

Impacts on traffic and circulation are analyzed below according to topic.

For traffic and parking impacts, cumulative impacts are included in the analysis of trip generation, distribution, and assignment (Impact 4.5.4.2), which incorporates traffic projections for 2012 and 2030.

##### 4.5.4.1 SHORT-TERM (CONSTRUCTION) TRAFFIC AND PARKING CONDITIONS

4.5-1 *Construction activities associated with the proposed Project will generate additional vehicle trips on adjacent roadways and impact existing parking facilities, thus affecting the level of service at intersections and roadways and parking capacities. Implementation of Project Design Features, Standard Conditions of Approval, and Mitigation Measures will reduce impacts to less than significant.*

#### HARBORWIDE

To minimize the disruption of traffic and parking facilities in and around the Harbor for marina users and visitors during construction operations, Mitigation Measures (MMs) have been developed for the proposed Project. The MMs include establishing a Construction Management Plan to provide adequate parking facilities, for both boats and vehicles, to offset any temporary loss of parking in the Harbor due to construction (refer to MM 4.5-3). As part of the Construction Management Plan, a combination of on- and off-site parking areas will be used for the temporary storage of boats, vehicles, and employee parking. Two off-site parking locations (identified as the Selva parking lot and the SCWD lot) would potentially be utilized for vehicle and boat parking during construction activities. The SCWD lot is intended to be utilized as a boat storage lot only. However, if the County is not able to utilize the SCWD lot for boat storage, the Selva lot would be used instead for boat storage as well as for overflow vehicle parking (possibly for Harbor business employees and/or for remote parking for special events or specific businesses).

Harbor visitors and guest parking at the off-site locations would have access to regularly scheduled shuttle transportation during special events and periods of peak Harbor usage. The SCAs also require that the County Resources and Development Management Department develop a construction sign program to direct Harbor visitors and boaters to available parking locations (refer to MM 4.5-2).

The Construction Management Plan would also minimize disruptions of traffic flow during construction activities. The Plan would include the locations of shuttle drop-off areas, relocation of public transit facilities, and provisions for valet service (if construction activities do not allow convenient parking adjacent to existing businesses). Additionally, should any construction work occur in Caltrans of City right-of-way, encroachment permits would be prepared (Refer to SCA 4.5-2 and MM 4.5-1).

Thus, implementation of SCAs would reduce potentially significant impacts on parking and traffic from construction activities to less than significant.



## **COMMERCIAL CORE**

Refer to the Harborwide discussion above.

## **OFF-SITE AREAS**

Refer to the Harborwide discussion above.

### **4.5.4.2 TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT**

4.5-2     *The proposed Project would generate additional trips on the adjacent roadways, thus affecting the level of service at intersections and roadways identified below. Implementation of the identified Project Design Features, Standard Conditions of Approval, and Mitigation Measures would reduce impacts to less than significant.*

## **HARBORWIDE**

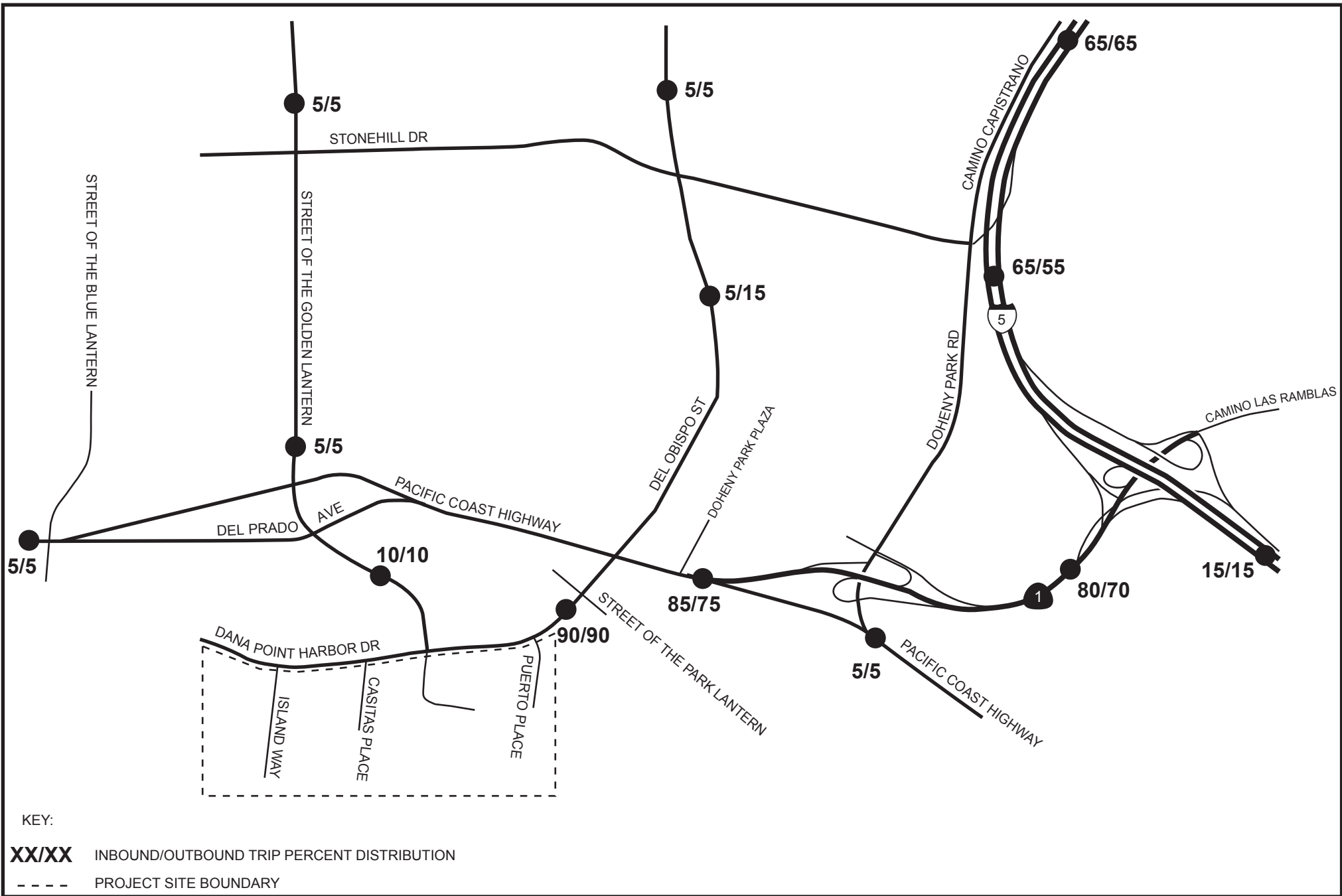
Recognizing the importance of adequate parking and circulation within the Harbor, both for businesses and for coastal access, the Project has incorporated extensive PDFs to provide enhanced traffic circulation, in addition to implementation of SCAs, PDFs, and Mitigation Measures.

To calculate trips forecast to be generated by the proposed Project, the ITE trip generation rates from Table 4.5-1 were utilized. Table 4.5-7 (Harborwide Trip Generation) summarizes the trips forecast to be generated by the proposed Project. As shown in this table, the Project conservatively generates approximately 26,201 daily trips, which includes approximately 1,518 a.m. peak-hour trips and approximately 2,018 p.m. peak-hour trips. Note that the Harborwide buildout condition is forecast to generate only an additional 7,003 daily trips (502 additional a.m. peak-hour and 577 additional p.m. peak-hour) beyond the exiting Harborwide trips depicted in Table 4.5-2.

Exhibit 4.5-5, (Forecast Project Inbound/Outbound Trip Percent Distribution), shows the inbound and outbound forecast trip percent distribution of Project-generated peak-hour trips used in this analysis.

Exhibit 4.5-6 (Forecast Harborwide Project-Generated Weekday AM/PM Peak-Hour Trip Assignment) and Exhibit 4.5-7 (Forecast Harborwide Project-Generated Weekend Noon/PM Peak-Hour Trip Assignment) show the assignment of weekday and weekend peak-hour trips for the Harborwide buildout conditions under Year 2030, assuming the trip distribution shown in Exhibit 4.5-5.





Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

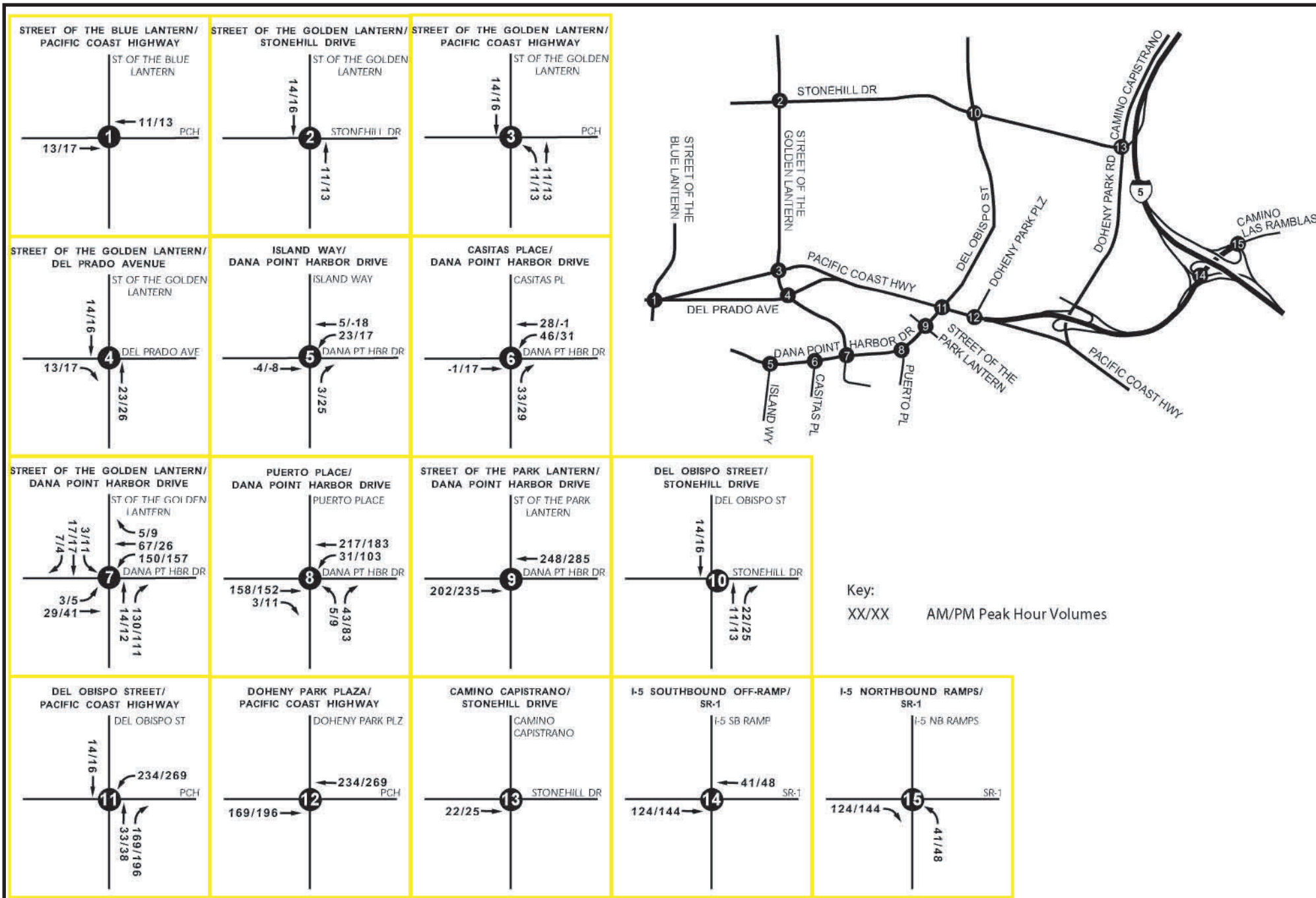


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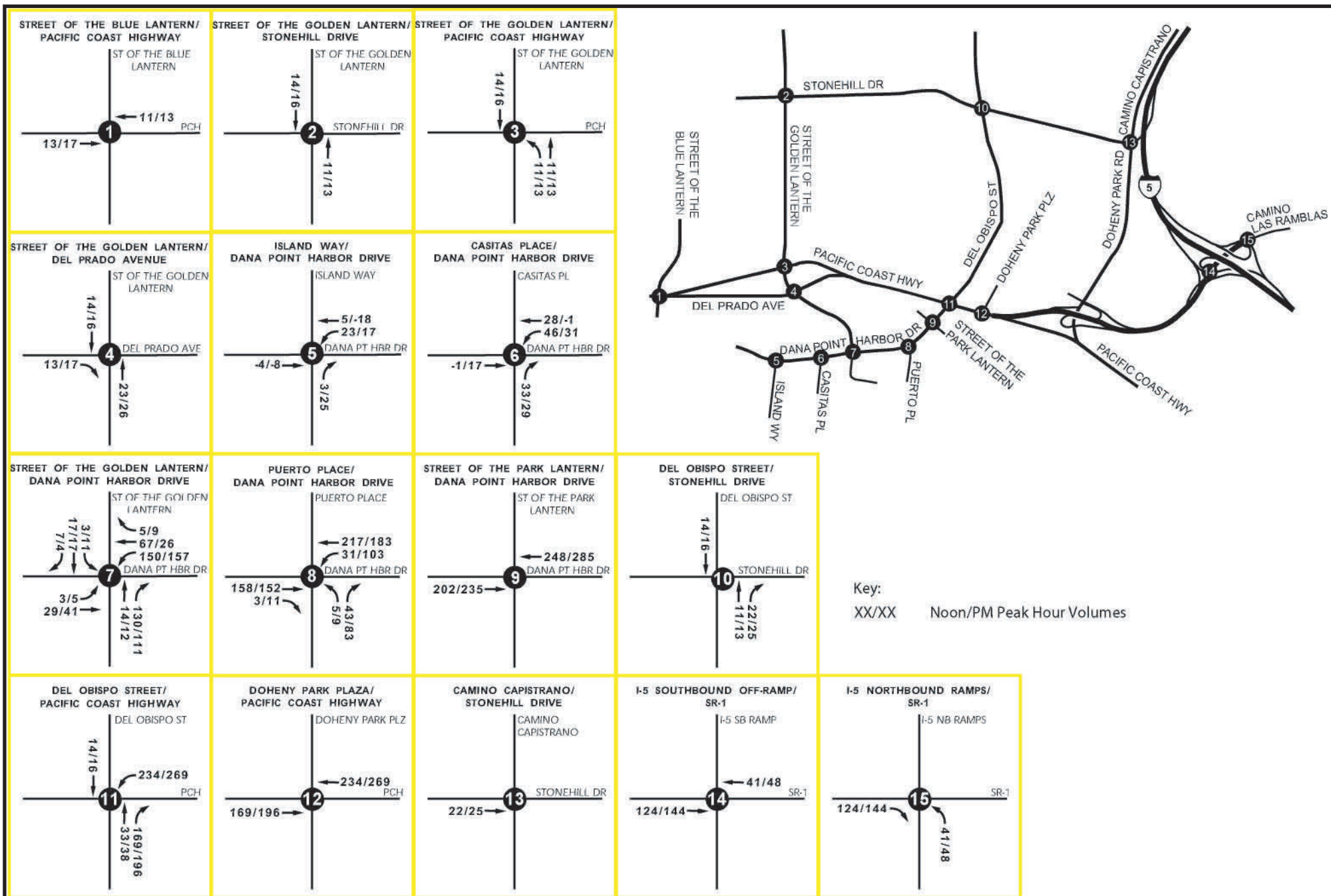
## FORECAST PROJECT INBOUND/OUTBOUND TRIP PERCENT DISTRIBUTION

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

**EXHIBIT 4.5-5**



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.



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## FORECAST HARBORWIDE PROJECT-GENERATED WEEKEND NOON/PM PEAK-HOUR TRIP ASSIGNMENT

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

EXHIBIT 4.5-7



**Table 4.5-7  
HARBORWIDE TRIP GENERATION**

Planning Area	Description	ITE Land Use (Code)	Size	AM			PM			Average Daily Trips (ADT)
				In	Out	Total	In	Out	Total	
1	Dry Stacked-Boat Storage	420	800 Slips	24	40	64	88	64	152	2,368
	Car Trailer Parking	420	230 Slips	7	12	18	25	18	44	681
	Dry Stacked-Boat Storage – Office	710	5.6 t.s.f.	8	1	9	1	7	8	62
	Dry Stacked-Boat Storage – New Marine Retail Store	814	9.1 t.s.f.	7	4	11	11	14	25	403
	Shipyard Building	942	2.5 t.s.f.	5	3	7	4	4	8	40
	Lighthouse Facility – Museum	590	2.5 t.s.f.	2	1	3	9	9	18	135
2	BSB – Number 1 Yacht Brokerage	710	6.8 t.s.f.	9	1	11	2	8	10	75
	BSB – Number 2 Yacht Brokerage – RELO from PA 3	710	1.8 t.s.f.	2	0	3	0	2	3	20
	Retail/Restaurant – Retail	814	32.8 t.s.f.	0	0	0	39	50	89	1,454
	Retail/Restaurant – Restaurant	832	78.4 t.s.f.	470	434	903	522	334	856	9,969
Commercial Core Total				534	496	1,030	701	510	1,211	15,207
3	Hotel	310	220 rooms	86	62	147	75	79	154	1,962
	Hotel Restaurant	832	2.75 t.s.f.	16	15	32	18	12	30	350
	BSB – Number 3	710	3.3 t.s.f.	4	1	5	1	4	5	36
	BSB – Number 4	710	3.5 t.s.f.	5	1	5	1	4	5	39
4	Harbor Patrol Building	710	7.5 t.s.f.	10	1	12	2	9	11	83
	Beach House Restaurant	931	15 t.s.f.	10	2	12	75	37	112	1,349
	BSB – Number D Dana West Yacht Club	495	8.6 t.s.f.	9	5	14	4	10	14	197
	BSB – Number E	710	2.8 t.s.f.	4	1	4	1	3	4	31
	BSB – Number F	710	2.8 t.s.f.	4	1	4	1	3	4	31
	BSB – Number 5	710	3.3 t.s.f.	4	1	5	1	4	5	36
	BSB – Number 6	710	3.3 t.s.f.	4	1	5	1	4	5	36
	BSB – Number 7	710	3.3 t.s.f.	4	1	5	1	4	5	36
	BSB – Number 8	710	3.3 t.s.f.	4	1	5	1	4	5	36
	Dana Point Yacht Club	495	18 t.s.f.	18	11	29	9	21	30	412
5	Youth and Group Facility	495	17 t.s.f.	17	11	28	8	20	28	389
	BSB – Number A	710	2.8 t.s.f.	4	1	4	1	3	4	31
	BSB – Number B	710	2.8 t.s.f.	4	1	4	1	3	4	31
	BSB – Number C	710	2.8 t.s.f.	4	1	4	1	3	4	31
9 & 10	Boat Slips	420	1,898 Slips	57	95	152	209	152	361	5,618
11 & 12	Boat Slips	420	88 Slips	3	4	7	10	7	17	260
Harborwide Total				805	713	1,518	1,122	896	2,018	26,201

Source: Institute of Transportation Engineers, *ITE Trip Generation Manual*, 7<sup>th</sup> Edition, 2003.



## **Forecast Year 2030 Without Project Conditions**

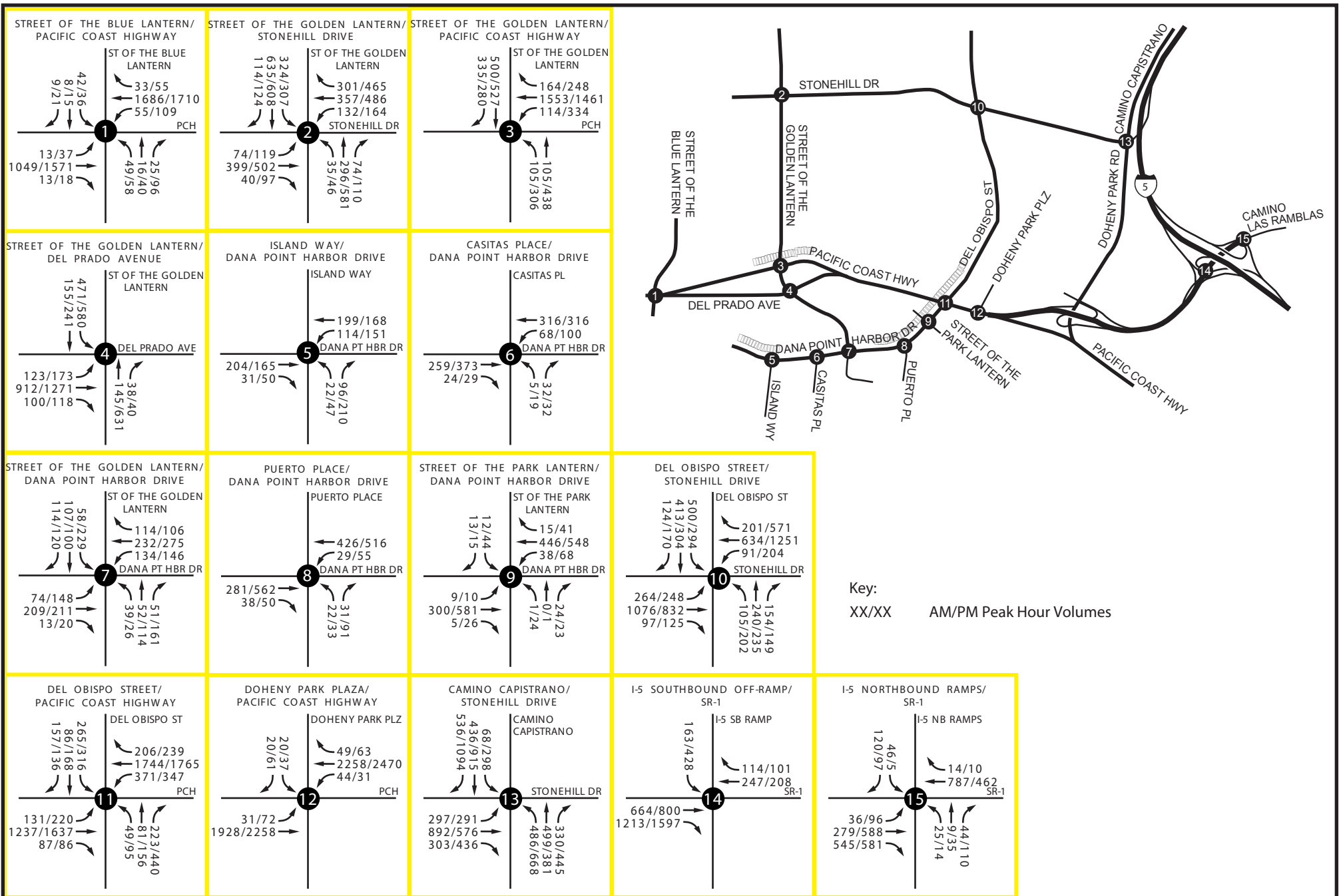
### **Intersection Capacity Utilization (ICU) Analysis**

Forecast buildout year 2030 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes along with trips forecasted to be generated by the nearby Headlands development to determine background traffic volumes. This is a conservative assumption, because the growth rate factor is applied to all vehicle movements at the study intersections. Additionally, trips forecast to be generated by the Headlands Development were added to the forecast background condition traffic volumes. Exhibits 4.5-8 (Forecast Year 2030 Without Project Weekday AM/PM Peak-Hour Intersection Volumes) and 4.5-9 (Forecast Year 2030 Without Project Weekend Noon/PM Peak-Hour Intersection Volumes) show forecast buildout year 2030 without Project weekday a.m. peak-hour and p.m. peak-hour volumes and forecast buildout year 2030 without Project weekend noon peak-hour and p.m. peak-hour volumes at the study intersections.

Forecast buildout year 2030 without project conditions assume the following City-planned transportation improvements at the Camino Capistrano/Stonehill Drive intersection.

- *Camino Capistrano/Stonehill Drive* – Restripe the northbound Camino Capistrano approach from two left-turn lanes and one shared through/right-turn lane to consist of one left-turn lane, one shared left/through lane, and one right-turn lane. Widen the southbound Camino Capistrano approach from one left-turn lane, two through lanes, and one right-turn lane to consist of one left-turn lane, two through lanes, and two right-turn lanes. Widen the eastbound Stonehill Drive approach from one left-turn lane, one through lane, and one right-turn lane to consist of one left-turn lane, two through lanes, and one right-turn lane. Modify the Camino Capistrano/Stonehill Drive intersection signal phasing from protected phasing to split phasing.

It should also be noted that the City of Dana Point has recently improved the Del Obispo/Dana Point Harbor Drive at Pacific Coast Highway intersection by restriping the northbound approach leg to provide a second right-turn lane.



## FORECAST YEAR 2030 WITHOUT PROJECT WEEKDAY AM/PM

### PEAK-HOUR INTERSECTION VOLUMES

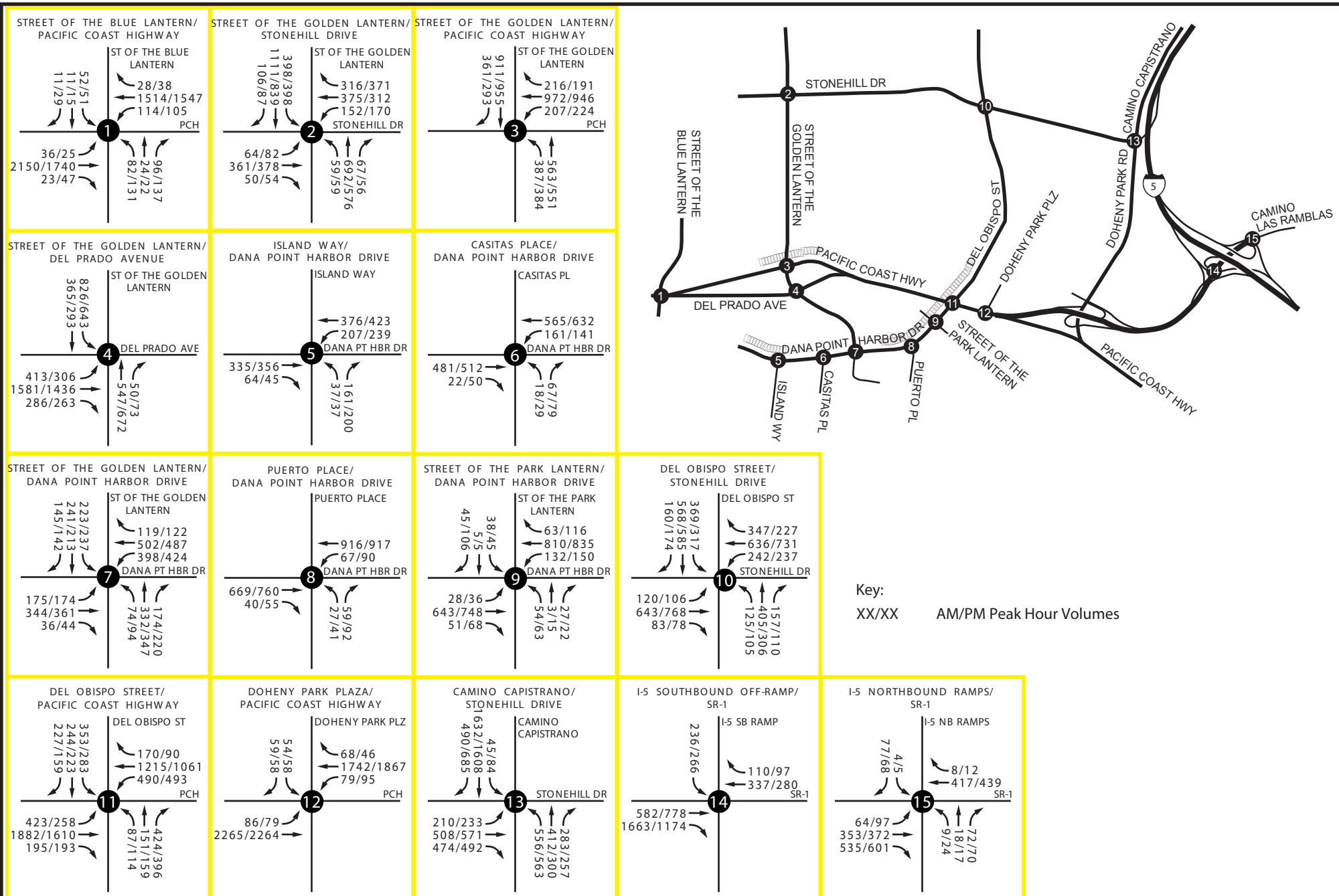
DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

**EXHIBIT 4.5-8**



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.





**FORECAST YEAR 2030 WITHOUT PROJECT WEEKEND NOON/PM**

**PEAK-HOUR INTERSECTION VOLUMES**

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

**EXHIBIT 4.5-9**



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.



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### Forecast Year 2030 Weekday Without Project Peak-Hour LOS

Table 4.5-8 (Forecast Year 2030 Without Project Weekday Peak-Hour LOS), summarizes forecast year 2030 weekday without Project a.m. and p.m. peak-hour V/C and corresponding LOS of the study intersections.

**Table 4.5-8  
FORECAST YEAR 2030 WITHOUT PROJECT WEEKDAY PEAK-HOUR LOS**

Study Intersection	AM Peak Hour <sup>1</sup>			PM Peak Hour <sup>1</sup>		
	V/C	Delay (seconds)	LOS	V/C	Delay (seconds)	LOS
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.588	N/A	A	0.659	N/A	B
Street of the Golden Lantern/Stonehill Dr	0.548	N/A	A	0.745	N/A	C
Street of the Golden Lantern/Pacific Coast Hwy(*) (**)	0.614	N/A	B	0.681	N/A	B
Street of the Golden Lantern/Del Prado Ave(*)	0.410	N/A	A	0.655	N/A	B
Island Way/Dana Point Harbor Dr	N/A	10.8	B	N/A	12.2	B
Casitas Place/Dana Point Harbor Dr	N/A	10.3	B	N/A	12.8	B
Street of the Golden Lantern/Dana Point Harbor Dr	0.281	N/A	A	0.420	N/A	A
Puerto Place/Dana Point Harbor Dr	N/A	11.3	B	N/A	15.4	C
Street of the Park Lantern/Dana Point Harbor Dr	0.193	N/A	A	0.310	N/A	A
Del Obispo St/Stonehill Dr	0.831	N/A	D	0.850	N/A	D
Del Obispo St/Pacific Coast Hwy(**)	0.826	N/A	D	0.954	N/A	E
Doheny Park Plaza/Pacific Coast Hwy(**)	0.771	N/A	C	0.895	N/A	D
Camino Capistrano/Stonehill Dr	0.734	N/A	C	0.885	N/A	D
I-5 SB Off-Ramp/SR-1	0.293	N/A	A	0.411	N/A	A
I-5 NB Ramps/SR-1	0.314	N/A	A	0.288	N/A	A
v/c = volume-to-capacity ratio; LOS = level of service (*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). N/A = Not Applicable; deficient intersection operation shown in <b>bold</b> .						
<sup>1</sup> Forecast buildout year 2030 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes.						

As shown in Table 4.5-8, the study intersections are forecast to operate at an acceptable LOS during the a.m. and p.m. peak hour, according to the performance criteria for forecast year 2030 weekday without Project conditions, with the exception of the Del Obispo St/Pacific Coast Hwy intersection.





### Forecast Year 2030 Weekend Without Project Peak Hour LOS

Table 4.5-9 (Forecast Year 2030 Weekend Without Project Peak-Hour LOS) summarizes forecast year 2030 weekend without Project noon and p.m. peak-hour V/C and corresponding LOS of the study intersections.

**Table 4.5-9  
FORECAST YEAR 2030 WEEKEND WITHOUT PROJECT PEAK-HOUR LOS**

Study Intersection	Noon <sup>1</sup>			PM Peak Hour <sup>1</sup>		
	V/C	Delay (seconds)	LOS	V/C	Delay (seconds)	LOS
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.843	N/A	D	0.748	N/A	C
Street of the Golden Lantern/Stonehill Dr	0.711	N/A	C	0.720	N/A	C
Street of the Golden Lantern/Pacific Coast Hwy(*) (**)	0.680	N/A	B	0.649	N/A	B
Street of the Golden Lantern/Del Prado Ave(*)	0.764	N/A	C	0.718	N/A	C
Island Way/Dana Point Harbor Dr	N/A	15.7	C	N/A	17.9	C
Casitas Place/Dana Point Harbor Dr	N/A	15.4	C	N/A	17.9	C
Street of the Golden Lantern/Dana Point Harbor Dr	0.712	N/A	C	0.749	N/A	C
Puerto Place/Dana Point Harbor Dr	N/A	20.4	C	N/A	31.4	D
Street of the Park Lantern/Dana Point Harbor Dr	0.400	N/A	A	0.487	N/A	A
Del Obispo St/Stonehill Dr	0.764	N/A	C	0.724	N/A	C
Del Obispo St/Pacific Coast Hwy(**)	0.941	N/A	E	0.867	N/A	D
Doheny Park Plaza/Pacific Coast Hwy(**)	0.829	N/A	D	0.839	N/A	D
Camino Capistrano/Stonehill Dr	1.093	N/A	F	1.066	N/A	F
I-5 SB Off-Ramp/SR-1	0.317	N/A	A	0.357	N/A	A
I-5 NB Ramps/SR-1	0.221	N/A	A	0.250	N/A	A
v/c = volume-to-capacity ratio; LOS = level of service (*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). N/A = Not Applicable; deficient intersection operation shown in bold.						
<sup>1</sup> Forecast buildout year 2030 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes.						

As shown in Table 4.5-9, the study intersections are forecast to operate at an acceptable LOS during the noon and p.m. peak hour, according to the performance criteria, for forecast year 2030 weekend without Project conditions, with the exception of the following two intersections:

- Del Obispo Street/Pacific Coast Highway (noon peak hour only); and
- Camino Capistrano/Stonehill Drive (both noon and p.m. peak hour).



## State Highway Impact Analysis

The purpose of the State of California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies* is to provide a safe and efficient State transportation system, consistency and uniformity in the identification of traffic impacts generated by local land use proposals, and consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals. The Caltrans traffic studies guide requires review of individual projects that might on their own impact the CMP transportation system.

This section evaluates the forecast impact of Project-generated trips at the following State Highway study intersections:

- I-5 Southbound Off-Ramp/SR-1; and
- I-5 Northbound Ramps/SR-1.

Caltrans advocates the use of *Highway Capacity Manual* (HCM) intersection analysis methodology to analyze the operation of signalized and unsignalized intersections. The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle as shown in Table 4.5-10 (LOS and Delay Ranges).

**Table 4.5-10**  
**LEVEL OF SERVICE AND DELAY RANGES**

Level of Service (LOS)	Delay (seconds)	
	Signalized Intersections	Unsignalized Intersections
A	< 10.0	< 10.0
B	> 10.0 to < 20.0	> 10.0 to < 15.0
C	> 20.0 to < 35.0	> 15.0 to < 25.0
D	> 35.0 to < 55.0	> 25.0 to < 35.0
E	> 55.0 to < 80.0	> 35.0 to < 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, *Highway Capacity Manual*, HCM2000 Edition (Washington D.C., 2000).

Level of service is based on the average stopped delay per vehicle for all movements of signalized intersections and all-way stop-controlled intersections; for one-way or two-way stop-controlled intersections, LOS is based on the worst stop-controlled movement. The Caltrans goal for peak-hour intersection operation is LOS C or better.

### Freeway Ramp Analysis

#### Forecast Buildout Year 2030 Without Project Weekday Conditions

Table 4.5-11 (State Highway Forecast Buildout Year 2030 Without Project Weekday Conditions AM/PM Peak-Hour Intersection LOS) summarizes forecast buildout year 2030 without Project weekday a.m. peak-hour and p.m. peak-hour LOS of the State Highway study intersections.



**Table 4.5-11**  
**STATE HIGHWAY FORECAST BUILDOUT YEAR 2030 WITHOUT PROJECT**  
**WEEKDAY CONDITIONS AM/PM PEAK-HOUR INTERSECTION LOS**

Study Intersection	AM Peak Hour	PM Peak Hour
	Delay (seconds) – LOS	Delay (seconds) – LOS
I-5 SB Off-Ramp/SR-1	9.7 – A	17.1 – B
I-5 NB Ramps/SR-1	10.8 – B	10.4 – B

LOS = level of service; SR = State Route.

As shown in Table 4.5-11, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better), according to Caltrans performance criteria for forecast buildout year 2030 without Project weekday conditions.

*Forecast Buildout Year 2030 Without Project Weekend Conditions*

Table 4.5-12 (State Highway Forecast Buildout Year 2030 Without Project Weekend Conditions Noon/PM Peak-Hour Intersection LOS) summarizes forecast buildout year 2030 without Project weekday a.m. peak hour and p.m. peak-hour LOS of the State Highway study intersections.

**Table 4.5-12**  
**STATE HIGHWAY FORECAST BUILDOUT YEAR 2030 WITHOUT PROJECT WEEKDAY**  
**CONDITIONS NOON/PM PEAK-HOUR INTERSECTION LOS**

Study Intersection	Noon	PM Peak Hour
	Delay (seconds) – LOS	Delay (seconds) – LOS
I-5 SB Off-Ramp/SR-1	12.9 – B	13.0 – B
I-5 NB Ramps/SR-1	10.4 – B	9.7 – A

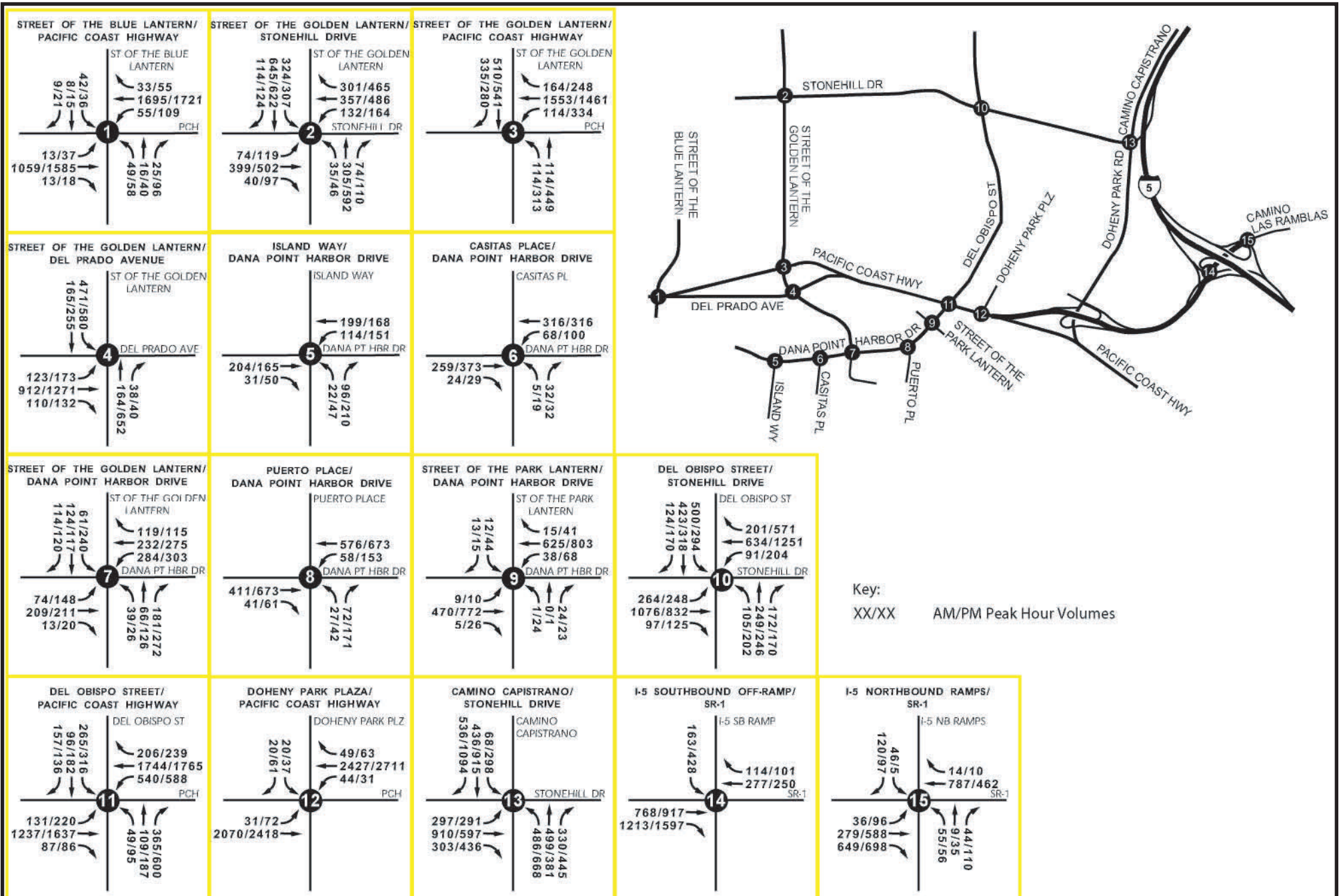
LOS = level of service; SR = State Route.

As shown in Table 4.5-12, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better), according to Caltrans performance criteria for forecast buildout year 2030 without Project weekday conditions.

**Forecast Year 2030 with Commercial Core Conditions**

**Intersection Capacity Utilization Analysis**

Exhibit 4.5-10 (Forecast Year 2030 Weekday plus Commercial Core Project AM/PM Peak-Hour Intersection Volumes) and Exhibit 4.5-11 (Forecast Year 2030 Weekend plus Commercial Core Project Noon/PM Peak-Hour Intersection Volumes) show forecast year 2030 weekday plus Commercial Core Project peak-hour volumes and weekend peak-hour traffic volumes at the study intersections.

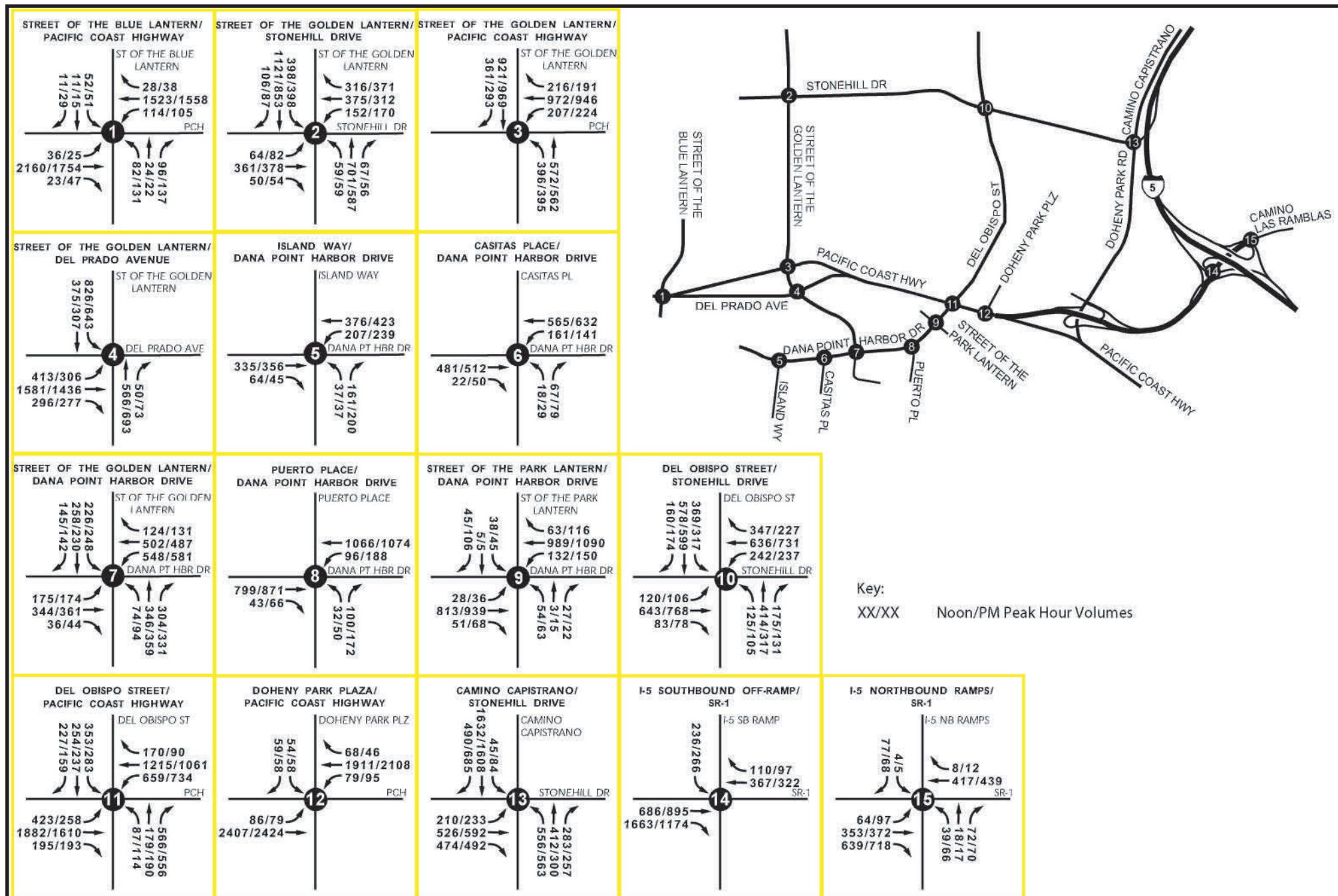


Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

## FORECAST YEAR 2030 WEEKDAY PLUS COMMERCIAL CORE PROJECT AM/PM PEAK-HOUR INTERSECTION VOLUMES

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT





## FORECAST YEAR 2030 WEEKEND PLUS COMMERCIAL CORE PROJECT

### NOON/PM PEAK-HOUR INTERSECTION VOLUMES

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

EXHIBIT 4.5-11



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.



Forecast buildout year 2030 with Commercial Core Project traffic volumes were derived by adding net trips generated by the Commercial Core component of the proposed Project to forecast buildout year 2030 without Project traffic volumes. Forecast buildout year 2030 with Commercial Core Project conditions assume the City's planned transportation improvements at the Camino Capistrano/Stonehill Drive intersection.

#### Forecast Year 2030 Weekday Plus Commercial Core Project Peak-Hour LOS

Table 4.5-13 (Forecast Year 2030 Weekday plus Commercial Core Project Peak-Hour LOS) summarizes forecast year 2030 weekday plus Commercial Core Project a.m. and p.m. peak-hour V/C and corresponding LOS of the study intersections.

**Table 4.5-13**  
**FORECAST YEAR 2030 WEEKDAY**  
**PLUS COMMERCIAL CORE PROJECT PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekday Conditions <sup>1</sup>		Forecast Buildout Year 2030 with Commercial Core Project Weekday Conditions <sup>2</sup>		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.588 – N/A – A	0.659 – N/A – B	0.590– N/A – A	0.663– N/A – B	No
Street of the Golden Lantern/Stonehill Dr	0.548 – N/A – A	0.745 – N/A – C	0.551– N/A – A	0.748– N/A – C	No
Street of the Golden Lantern/Pacific Coast Hwy(*)(**)	0.614 – N/A – B	0.681 – N/A – B	0.619 – N/A – B	0.688– N/A – B	No
Street of the Golden Lantern/Del Prado Ave(*)	0.410 – N/A – A	0.655 – N/A – B	0.416 – N/A – A	0.662– N/A – B	No
Island Wy/Dana Point Harbor Dr	N/A – 10.8 – B	N/A – 12.2 – B	N/A – 10.8 – B	N/A – 12.2 – B	No
Casitas Pl/Dana Point Harbor Dr	N/A – 10.3 – B	N/A – 12.8 – B	N/A – 10.3 – B	N/A – 12.8 – B	No
Street of the Golden Lantern/Dana Point Harbor Dr	0.281 – N/A – A	0.420 – N/A – A	0.375– N/A – A	0.506– N/A – A	No
Puerto Pl/Dana Point Harbor Dr	N/A – 11.3 – B	N/A – 15.4 – C	N/A – 13.1 – B	N/A – 29.7 – C	No
Street of the Park Lantern/Dana Point Harbor Dr	0.193 – N/A – A	0.310 – N/A – A	0.246– N/A – A	0.366 – N/A – A	No
Del Obispo St/Stonehill Dr	0.831 – N/A – D	0.850 – N/A – D	0.838 – N/A – D	0.859 – N/A – D	No
Del Obispo St/Pacific Coast Hwy(**)	0.826 – N/A – D	0.954 – N/A – E	0.842 – N/A – D	0.972 – N/A – E	Yes
Doheny Park Plaza/Pacific Coast Hwy(**)	0.771 – N/A – C	0.895 – N/A – D	0.820 – N/A – D	0.966 – N/A – E	Yes
Camino Capistrano/Stonehill Dr	0.734 – N/A – C	0.885 – N/A – D	0.740– N/A – C	0.885 – N/A – D	No
I-5 SB Off-Ramp/SR-1	0.293 – N/A – A	0.411 – N/A – A	0.324– N/A – A	0.445 – N/A – A	No
I-5 NB Ramps/SR-1	0.314 – N/A – A	0.288 – N/A – A	0.332 – N/A – A	0.313 – N/A – A	No
(*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). Deficient intersection operation shown in bold.					
<sup>1</sup> Forecast buildout year 2030 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes. <sup>2</sup> The “with project” traffic volumes were derived by adding the Project generated trips for Planning Areas 1 and 2 (refer to Table 4.5-7) to the “with project” condition.					



As shown in Table 4.5-13, the study intersections are forecast to operate at an acceptable LOS during a.m. and p.m. peak hour for forecast year 2030 weekday plus Commercial Core Project conditions, according to the performance criteria, with the exception of the following intersections:

- Del Obispo Street/Pacific Coast Highway (p.m. peak hour only); and
- Doheny Park Plaza/Pacific Coast Highway (p.m. peak hour only).

As also shown in Table 4.5-13, the addition of Project-generated trips is forecast to result in a significant impact at the same two study intersections for forecast buildout year 2030 with Commercial Core Project weekday conditions.

**Forecast Year 2030 Weekday plus Commercial Core Project Recommended Mitigation Measures**

To reduce project impacts to a level considered less than significant level at the Del Obispo Street/Pacific Coast Highway, MM 4.5-4 is recommended to restripe the eastbound Pacific Coast Highway approach. Additionally, MM 4.5-5 is recommended at the Doheny Park Plaza/Pacific Coast Highway intersection to widen the eastbound Pacific Coast Highway approach. Note that Caltrans has recently transferred (quitclaimed) ownership of Pacific Coast Highway to the City of Dana Point. By entering into a fairshare contribution agreement with the City of Dana Point to implement the recommended Mitigation Measures, the p.m. peak hour LOS would return to an acceptable level. All transportation related improvements would be required to place traffic signal conduits underground and provide adequate site distance (refer to SCAs 4.5-3 and 4.5-4).

Assuming implementation of the recommended Mitigation Measures, Table 4.5-14 (Mitigated Forecast Year 2030 Weekday Plus Commercial Core Project Peak-Hour LOS) shows the mitigated a.m. and p.m. peak-hour LOS of the intersection for forecast year 2030 weekday plus Commercial Core Project conditions.

**Table 4.5-14  
MITIGATED FORECAST YEAR 2030 WEEKDAY  
PLUS COMMERCIAL CORE PROJECT PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekday Conditions		Forecast Buildout Year 2030 with Commercial Core Project Weekday Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Del Obispo St/Pacific Coast Hwy <sup>(*)</sup> ( <sup>**</sup> )	0.842– N/A – D	0.972– N/A – E	0.651– N/A – B	0.775 – N/A – C	No
Doheny Park Plaza/Pacific Coast Hwy <sup>(**)</sup>	0.820 – N/A – D	0.966 – N/A – E	0.578– N/A – A	0.694 – N/A – B	No
<sup>(*)</sup> CMP Intersection <sup>(**)</sup> LOS D acceptable for Pacific Coast Highway (major arterial highway). Deficient intersection operation shown in <b>bold</b> .					



As shown in Table 4.5-14, assuming implementation of the recommended Mitigation Measures, the intersections are forecast to operate at an acceptable LOS during the a.m. and p.m. peak hour for forecast year 2030 weekday plus Commercial Core Project conditions.

#### Forecast Year 2030 Weekend Plus Commercial Core Project Peak Hour LOS

Table 4.5-15 (Forecast Year 2030 Weekend plus Commercial Core Project Peak-Hour LOS) summarizes forecast year 2030 weekend plus Commercial Core Project noon and p.m. peak hour V/C and corresponding LOS of the study intersections.

**Table 4.5-15  
FORECAST YEAR 2030 WEEKEND PLUS  
COMMERCIAL CORE PROJECT PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekend Conditions <sup>1</sup>		Forecast Buildout Year 2030 with Commercial Core Project Weekend Conditions <sup>2</sup>		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.843 – N/A – D	0.748 – N/A – C	0.846 – N/A – D	0.752– N/A – C	No
Street of the Golden Lantern/Stonehill Dr	0.711 – N/A – C	0.720 – N/A – C	0.714– N/A – C	0.723 – N/A – C	No
Street of the Golden Lantern/Pacific Coast Hwy(*) (**)	0.680 – N/A – B	0.649 – N/A – B	0.686 – N/A – B	0.658– N/A – B	No
Street of the Golden Lantern/Del Prado Ave(*)	0.764 – N/A – C	0.718 – N/A – C	0.769 – N/A – C	0.724 – N/A – C	No
Island Wy/Dana Point Harbor Dr	N/A – 15.7 – C	N/A – 17.9 – C	N/A – 15.7 – C	N/A – 17.9 – C	No
Casitas Pl/Dana Point Harbor Dr	N/A – 15.4 –C	N/A – 17.9 – C	N/A – 15.4 –C	N/A – 17.9 – C	No
Street of the Golden Lantern/Dana Point Harbor Dr	0.712 – N/A – C	0.749 – N/A – C	0.810– N/A – C	0.855– N/A – C	No
Puerto Pl/Dana Point Harbor Dr	N/A – 20.4 – C	N/A – 31.4 – D	N/A – 31.2– D	177.9 – N/A – F	Yes
Street of the Park Lantern/Dana Point Harbor Dr	0.400 – N/A – A	0.487 – N/A – A	0.450 – N/A – A	0.543 – N/A – A	No
Del Obispo St/Stonehill Dr	0.764 – N/A – C	0.724 – N/A – C	0.771– N/A – C	0.734 – N/A – C	No
Del Obispo St/Pacific Coast Hwy(**)	0.941 – N/A – E	0.867 – N/A – D	1.007 – N/A – F	0.946– N/A – E	Yes
Doheny Park Plaza/Pacific Coast Hwy(**)	0.829 – N/A – D	0.839 – N/A – D	0.871 – N/A – D	0.887 – N/A – D	No
Camino Capistrano/Stonehill Dr	1.093 – N/A – F	1.066 – N/A – F	1.093 – N/A – F	1.066 – N/A – F	No
I-5 SB Off-Ramp/SR-1	0.317 – N/A – A	0.357 – N/A – A	0.335 – N/A – A	0.391– N/A – A	No
I-5 NB Ramps/SR-1	0.221 – N/A – A	0.250 – N/A – A	0.239 – N/A – A	0.274 – N/A – A	No
(*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). Deficient intersection operation shown in bold.					
<sup>1</sup> Forecast buildout year 2030 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes.					
<sup>2</sup> The “with project” traffic volumes were derived by adding the Project generated trips for Planning Areas 1 and 2 (refer to Table 4.5-7) to the “with project” condition.					

As shown in Table 4.5-15, the study intersections are forecast to operate at an acceptable LOS during a.m. and p.m. peak hours for forecast year 2030 weekend plus Commercial Core Project conditions, according to the performance criteria, with the exception of the following three intersections:





- Puerto Place/Dana Point Harbor Drive (p.m. peak hour only);
- Del Obispo Street/Pacific Coast Highway (both noon and p.m. peak hour);  
and
- Camino Capistrano/Stonehill Drive (both noon and p.m. peak hour).

Also, as shown in Table 4.5-15, the addition of Project-generated trips is forecast to result in a significant impact at the following two intersections for forecast year 2030 weekend plus Commercial Core Project conditions:

- Puerto Place/Dana Point Harbor Drive (p.m. peak hour only); and
- Del Obispo Street/Pacific Coast Highway (both noon and p.m. peak hour).

*Forecast Year 2030 Weekend plus Commercial Core Project Recommended Mitigation Measures*

To reduce project impacts to a level considered less than significant level at the Del Obispo Street/Pacific Coast Highway intersection, MM 4.5-4 is recommended to restripe the eastbound Pacific Coast Highway approach. Additionally, MM 4.5-6 requires a performance study 6 months after completion of the Commercial Core to determine whether the Puerto Place/Dana Point Harbor Drive intersection would need to be signalized. With the implementation of the recommended mitigation, impacts would be reduced to a less than significant level. All transportation related improvements would be required to place traffic signal conduits underground and provide adequate site distance (refer to SCAs 4.5-3 and 4.5-4).

It is assumed that, for forecast buildout year 2030 with Commercial Core Project weekend conditions, due to higher traffic volumes at all movements, the Puerto Place/Dana Point Harbor Drive intersection would satisfy the conditions set forth within the Federal Highway Administrations (FHWA) *Manual on Uniform Traffic Control Devices* signal warrant criteria for forecast year 2012 with Commercial Core Project weekend conditions.

Assuming implementation of the recommended Mitigation Measures, Table 4.5-16 (Mitigated Forecast Year 2030 Weekend plus Commercial Core Project Peak-Hour LOS) shows the mitigated noon and p.m. peak-hour LOS of the intersection for forecast year 2030 weekend plus Commercial Core Project conditions.



**Table 4.5-16**  
**MITIGATED FORECAST YEAR 2030 WEEKEND**  
**PLUS COMMERCIAL CORE PROJECT PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekend Conditions		Forecast Buildout Year 2030 With Commercial Core Project Weekend Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
Puerto Pl/Dana Point Harbor Dr	N/A – 31.2 – D	175.5 – N/A – F	0.431 – N/A – A	0.567 – N/A – A	No
Del Obispo St/Pacific Coast Hwy <sup>(*)(**)</sup>	1.006 – N/A –F	0.945– N/A – E	0.822 – N/A – D	0.788 – N/A – C	No
<sup>(*)</sup> CMP Intersection <sup>(**)</sup> LOS D acceptable for Pacific Coast Highway (major arterial highway). Deficient intersection operation is shown in bold.					

As shown in Table 4.5-16, assuming implementation of the recommended Mitigation Measures, the intersections are forecast to operate at an acceptable LOS during the noon and p.m. peak hour for forecast year 2030 weekend with Commercial Core Project conditions.

### State Highway Impact Analysis

#### Freeway Ramp Analysis

#### Forecast Buildout Year 2030 with Commercial Core Weekday Conditions

Table 4.5-17 (State Highway Forecast Buildout Year 2030 with Commercial Core Weekday Conditions AM/PM Peak-Hour Intersection LOS) summarizes forecast buildout year 2030 without Project weekday a.m. peak-hour and p.m. peak-hour LOS of the State Highway study intersections.

As shown in Table 4.5-17, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better), according to Caltrans performance criteria for forecast buildout year 2030 without Project weekday conditions.

**Table 4.5-17**  
**STATE HIGHWAY FORECAST BUILDOUT YEAR 2030 WITH COMMERCIAL CORE**  
**WEEKDAY CONDITIONS AM/PM PEAK-HOUR INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekday Conditions		Forecast Buildout Year 2030 with Commercial Core Project Weekday Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
I-5 SB Off-Ramp/SR-1	9.7 – A	17.1 – B	8.9 – A	16.7 – B	No
I-5 NB Ramps/SR-1	10.8 – B	10.4 – B	11.2 – A	10.9 – B	No



Forecast Buildout Year 2030 with Commercial Core Weekday Conditions

Table 4.5-18 (State Highway Forecast Buildout Year 2030 with Commercial Core Weekend Conditions Noon/PM Peak-Hour Intersection LOS) summarizes forecast buildout year 2030 without Project weekend noon and p.m. peak-hour LOS of the State Highway study intersections.

As shown in Table 4.5-18, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast buildout year 2030 without Project weekday conditions.

**Table 4.5-18**  
**STATE HIGHWAY FORECAST BUILDOUT YEAR 2030 WITH COMMERCIAL CORE**  
**WEEKEND CONDITIONS NOON/PM PEAK HOUR INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekend Conditions		Forecast Buildout Year 2030 with Commercial Core Project Weekend Conditions		Significant Impact?
	Delay (seconds) -- LOS		Delay (seconds) -- LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
I-5 SB Off-Ramp/SR-1	12.9 – B	13.0 – B	12.4 – B	12.2 – B	No
I-5 NB Ramps/SR-1	10.4 – B	9.7 – A	10.8 – B	11.2 – B	No

**Orange County Congestion Management Program Analysis**

The purpose of the Congestion Management Program (CMP) is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use, and air quality planning programs throughout the County. The program is consistent with that of the Southern California Association of Governments (SCAG). The CMP program requires review of significant individual projects, which might, on their own, impact the CMP transportation system.

According to the CMP (OCTA 2001), proposed developments that meet the following criteria shall be evaluated:

- Projects with the potential to create an impact of more than three percent of LOS “E” capacity on CMP Highway system links; and
- Projects that have direct access to a CMP link and generate 1,600 or more daily trips.

Based on the OCTA CMP study area thresholds, the following intersections are included in the CMP study area:

- Street of the Golden Lantern/Pacific Coast Highway; and
- Street of the Golden Lantern/Del Prado Avenue.



Forecast Buildout Year 2030 with Commercial Core Project Weekday Conditions  
CMP Intersection Peak-Hour LOS

Table 4.5-19 (Forecast Buildout Year 2030 with Commercial Core Project Weekday Conditions AM/PM Peak-Hour CMP Intersection LOS) summarizes the a.m. peak-hour and p.m. peak-hour LOS of the CMP study intersections.

**Table 4.5-19**  
**FORECAST BUILDOUT YEAR 2030 WITH COMMERCIAL CORE PROJECT WEEKDAY**  
**CONDITIONS AM/PM PEAK-HOUR CMP INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekday Conditions		Forecast Buildout Year 2030 with Commercial Core Project Weekday Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Street of the Golden Lantern/Pacific Coast Hwy	0.614 – N/A – B	0.681 – N/A – B	0.619– N/A – B	0.688 – N/A – B	No
Street of the Golden Lantern/Del Prado Ave	0.410 – N/A – A	0.655 – N/A – B	0.416 – N/A – A	0.662 – N/A – B	No
N/A = Not Applicable.					

As shown in Table 4.5-19, based on the OCTA CMP-established thresholds of significance, the addition of Project-generated trips at the CMP study intersections is forecast to result in no significant impacts for forecast buildout year 2030 with Commercial Core Project weekday conditions.

Forecast Buildout Year 2030 with Commercial Core Project Weekend Conditions  
CMP Intersection Peak-Hour LOS

Table 4.5-20 (Forecast Buildout Year 2030 with Commercial Core Project Weekend Conditions Noon/PM Peak-Hour CMP Intersection LOS) summarizes the noon and p.m. peak-hour LOS of the CMP study intersections.

**Table 4.5-20**  
**FORECAST BUILDOUT YEAR 2030 WITH COMMERCIAL CORE PROJECT WEEKEND**  
**CONDITIONS NOON/PM PEAK-HOUR CMP INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekend Conditions		Forecast Buildout Year 2030 with Commercial Core Project Weekend Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
Street of the Golden Lantern/Pacific Coast Hwy	0.680 – N/A – B	0.649 – N/A – B	0.686 – N/A – B	0.658 – N/A – B	No
Street of the Golden Lantern/Del Prado Ave	0.764 – N/A – C	0.718 – N/A – C	0.769– N/A – C	0.724– N/A – C	No
N/A = Not Applicable.					



As shown in Table 4.5-20, based on the OCTA CMP-established thresholds of significance, the addition of Project-generated trips at the CMP study intersections is forecast to result in no significant impacts for forecast buildout year 2030 with Commercial Core Project weekend conditions.

### **Forecast Year 2030 with Harborwide Buildout Conditions**

#### **Intersection Capacity Utilization Analysis**

Exhibit 4.5-12 (Forecast Year 2030 Weekday plus Harborwide Buildout Conditions AM/PM Peak-Hour Intersection Volumes) and Exhibit 4.5-13 (Forecast Year 2030 Weekend plus Harborwide Buildout Conditions Noon/PM Peak-Hour Intersection Volumes) show forecast year 2030 weekday plus Harborwide buildout peak-hour volumes and weekend peak-hour traffic volumes at the study intersections.

Forecast buildout year 2030 with Harborwide project traffic volumes were derived by adding net trips generated by the entire Harborwide project to forecast buildout year 2030 without Project traffic volumes. Forecast buildout year 2030 with Harborwide Project conditions assumes the City's planned transportation improvements at the Camino Capistrano/Stonehill Drive intersection, as well as Mitigation Measures identified in forecast buildout year 2030 with Commercial Core Project conditions.

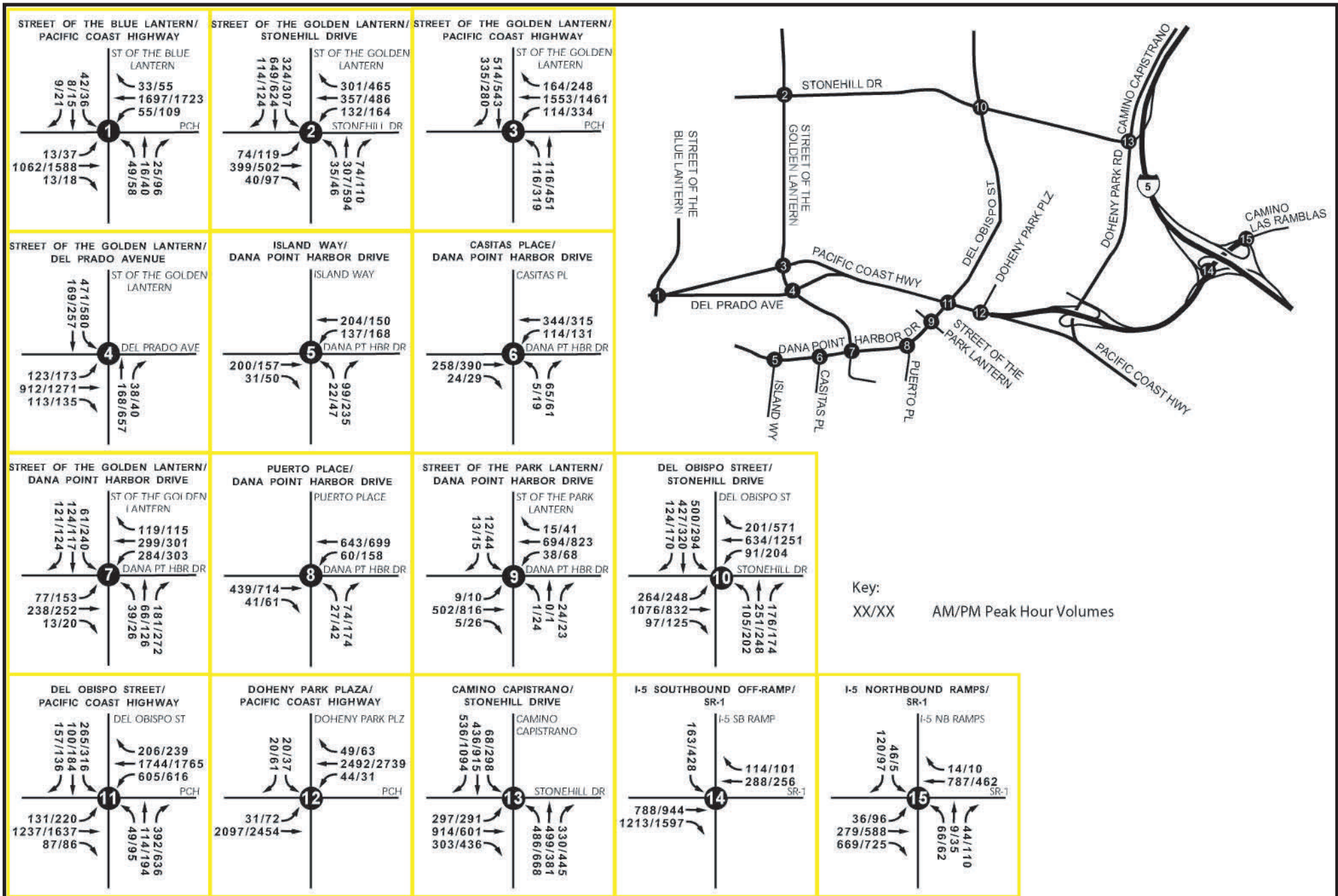
#### **Forecast Year 2030 Weekday plus Harborwide Buildout Conditions Peak-Hour LOS**

Table 4.5-21 (Forecast Year 2030 Weekday plus Harborwide Buildout Conditions Peak Hour LOS) summarizes forecast year 2030 weekday plus Harborwide buildout conditions a.m. and p.m. peak-hour V/C and corresponding LOS of the study intersections.

As shown in Table 4.5-21, with the addition of Project-generated trips, as well as assuming Mitigation Measures identified for forecast buildout year 2030 with Commercial Core Project weekday conditions, the following study intersection is forecast to operate at a deficient LOS for forecast buildout year 2030 with Harborwide Project weekday conditions:

- Del Obispo Street/Stonehill Drive (both a.m. and p.m. peak hour).

As also shown in Table 4.5-21, based on the thresholds of significance, the addition of Project-generated trips is forecast to result in no significant impacts at the study intersections for forecast buildout year 2030 with Harborwide Project weekday conditions (assuming Mitigation Measures identified for forecast buildout year 2030 with Commercial Core Project weekday conditions).

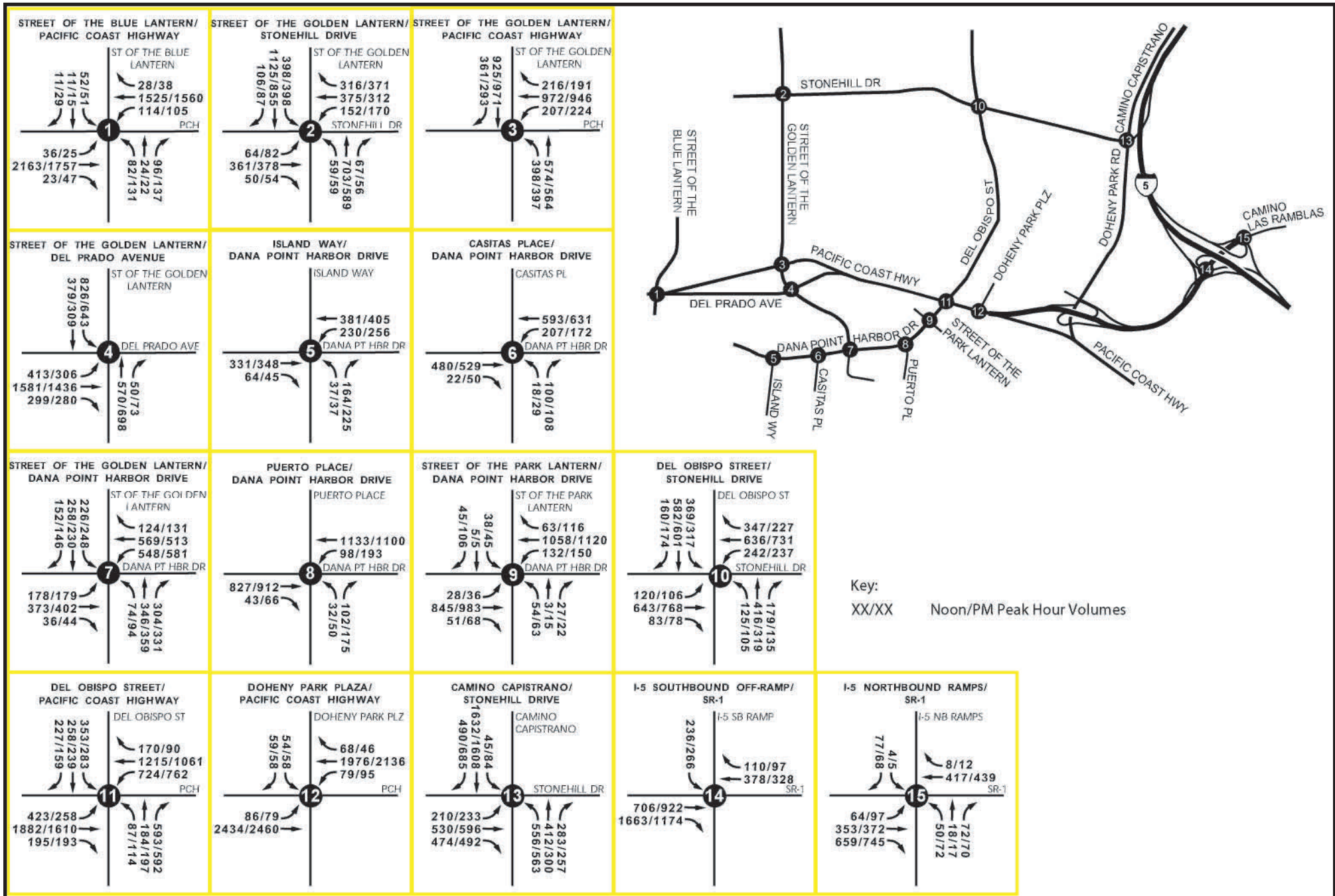


Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

## FORECAST YEAR 2030 WEEKDAY PLUS HARBORWIDE BUILDOUT CONDITIONS AM/PM PEAK-HOUR INTERSECTION VOLUMES

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT





## FORECAST YEAR 2030 WEEKEND PLUS HARBORWIDE BUILDOUT CONDITIONS

### NOON/PM PEAK-HOUR INTERSECTION VOLUMES

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

EXHIBIT 4.5-13



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.



**Table 4.5-21**  
**FORECAST YEAR 2030 WEEKDAY**  
**PLUS HARBORWIDE BUILDOUT CONDITIONS PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekday Conditions <sup>1</sup>		Forecast Buildout Year 2030 with Harborwide Project Weekday Conditions <sup>2</sup>		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.588 – N/A – A	0.659 – N/A – B	0.591 – N/A – A	0.664 – N/A – B	No
Street of the Golden Lantern/Stonehill Dr	0.548 – N/A – A	0.745 – N/A – C	0.551 – N/A – A	0.749 – N/A – C	No
Street of the Golden Lantern/Pacific Coast Hwy(*) (**)	0.614 – N/A – B	0.681 – N/A – B	0.620 – N/A – B	0.689 – N/A – B	No
Street of the Golden Lantern/Del Prado Ave(*)	0.410 – N/A – A	0.655 – N/A – B	0.417– N/A – A	0.663 – N/A – B	No
Island Wy/Dana Point Harbor Dr	N/A – 10.8 – B	N/A – 12.2 – B	N/A – 10.9 – B	N/A – 12.5 – B	No
Casitas Pl/Dana Point Harbor Dr	N/A – 10.3 – B	N/A – 12.8 – B	N/A – 10.4 – B	N/A – 13.0 – B	No
Street of the Golden Lantern/Dana Point Harbor Dr	0.281 – N/A – A	0.420 – N/A – A	0.383– N/A – A	0.518– N/A – A	No
Puerto Pl/Dana Point Harbor Dr	N/A – 11.3 – B	N/A – 15.4 – C	0.298– N/A – A	0.498 – N/A – A	No
Street of the Park Lantern/Dana Point Harbor Dr	0.193 – N/A – A	0.310 – N/A – A	0.266 – N/A – A	0.379 – N/A – A	No
Del Obispo St/Stonehill Dr	0.831 – N/A – D	0.850 – N/A – D	0.840 – N/A – D	0.861 – N/A – D	No
Del Obispo St/Pacific Coast Hwy(**)	0.826 – N/A – D	0.954 – N/A – E	0.645 – N/A – B	0.779 – N/A – C	No
Doheny Park Plaza/Pacific Coast Hwy(**)	0.771 – N/A – C	0.895 – N/A – D	0.590 – N/A – A	0.700 – N/A – B	No
Camino Capistrano/Stonehill Dr	0.734 – N/A – C	0.885 – N/A – D	0.741 – N/A – C	0.885 – N/A – D	No
I-5 SB Off-Ramp/SR-1	0.293 – N/A – A	0.411 – N/A – A	0.330 – N/A – A	0.453 – N/A – A	No
I-5 NB Ramps/SR-1	0.314 – N/A – A	0.288 – N/A – A	0.338– N/A – A	0.316 – N/A – A	No
(*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). Deficient intersection operation is shown in bold.					
<sup>1</sup> Forecast buildout year 2030 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes.					
<sup>2</sup> The “with project” traffic volumes were derived by adding the Project generated trips for Planning Areas 1 through 12 (refer to Table 4.5-7) to the “with project” condition.					

#### Forecast Year 2030 Weekend Plus Harborwide Buildout Conditions Peak-Hour LOS

Table 4.5-22 (Forecast Year 2030 Weekend plus Harborwide Buildout Conditions Peak Hour LOS) summarizes forecast year 2030 weekend plus Harborwide buildout conditions noon and p.m. peak-hour V/C and corresponding LOS of the study intersections.

As shown in Table 4.5-22, with the addition of Project-generated trips as well as assuming Mitigation Measures identified for forecast buildout year 2030 with Commercial Core Project weekend conditions, the Camino Capistrano/Stonehill Drive intersection is forecast to operate at a deficient LOS for forecast buildout year 2030 with Harborwide Project weekend conditions during both the noon peak hour and p.m. peak hour, according to the performance criteria.





**Table 4.5-22**  
**FORECAST YEAR 2030 WEEKEND**  
**PLUS HARBORWIDE BUILDOUT CONDITIONS PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2030 without Project Weekend Conditions <sup>1</sup>		Forecast Buildout Year 2030 with Harborwide Project Weekend Conditions <sup>2</sup>		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.843 – N/A – D	0.748 – N/A – C	0.847– N/A – D	0.753– N/A – C	No
Street of the Golden Lantern/Stonehill Dr	0.711 – N/A – C	0.720 – N/A – C	0.715– N/A – C	0.724 – N/A – C	No
Street of the Golden Lantern/Pacific Coast Hwy(*)(**)	0.680 – N/A – B	0.649 – N/A – B	0.687– N/A – B	0.660 – N/A – B	No
Street of the Golden Lantern/Del Prado Ave(*)	0.764 – N/A – C	0.718 – N/A – C	0.770– N/A – C	0.726 – N/A – C	No
Island Wy/Dana Point Harbor Dr	N/A – 15.7 – C	N/A – 17.9 – C	N/A – 16.2 – C	N/A – 18.6 – C	No
Casitas Pl/Dana Point Harbor Dr	N/A – 15.4 – C	N/A – 17.9 – C	N/A – 16.3 – C	N/A – 19.4 – C	No
Street of the Golden Lantern/Dana Point Harbor Dr	0.712 – N/A – C	0.749 – N/A – C	0.818 – N/A – D	0.867 – N/A – D	No
Puerto Pl/Dana Point Harbor Dr	N/A – 20.4 – C	N/A – 31.4 – D	0.462 – N/A – A	0.584 – N/A – A	No
Street of the Park Lantern/Dana Point Harbor Dr	0.400 – N/A – A	0.487 – N/A – A	0.460 – N/A – A	0.556 – N/A – A	No
Del Obispo St/Stonehill Dr	0.764 – N/A – C	0.724 – N/A – C	0.773 – N/A – C	0.735 – N/A – C	No
Del Obispo St/Pacific Coast Hwy(**)	0.941 – N/A – E	0.867 – N/A – D	0.844 – N/A – D	0.797 – N/A – C	No
Doheny Park Plaza/Pacific Coast Hwy(**)	0.829 – N/A – D	0.839 – N/A – D	0.640 – N/A – B	0.656– N/A – B	No
Camino Capistrano/Stonehill Dr	1.093 – N/A – F	1.066 – N/A – F	1.093 – N/A – F	1.066 – N/A – F	No
I-5 SB Off-Ramp/SR-1	0.317 – N/A – A	0.357 – N/A – A	0.341 – N/A – A	0.399 – N/A – A	No
I-5 NB Ramps/SR-1	0.221 – N/A – A	0.250 – N/A – A	0.245 – N/A – A	0.278 – N/A – A	No
(*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). Deficient intersection operation is shown in bold.					
<sup>1</sup> Forecast buildout year 2030 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes. <sup>2</sup> The “with project” traffic volumes were derived by adding the Project generated trips for Planning Areas 1 through 12 (refer to Table 4.5-7) to the “with project” condition.					

As also shown in Table 4.5-22, based on the thresholds of significance, the addition of Project-generated trips is forecast to result in no significant impacts at the study intersections for forecast buildout year 2030 with Harborwide project weekend conditions (assuming Mitigation Measures identified for forecast buildout year 2030 with Commercial Core Project weekend conditions). Note that internal circulation along Dana Point Harbor Drive would also be improved by realigning the turnaround in Planning Area 5 to improve school bus and fire engine access to the Ocean Institute (refer to PDF 4.5-3).



## State Highway Impact Analysis

### Freeway Ramp Analysis

#### Forecast Buildout Year 2030 with Harborwide Buildout Weekday Conditions

Table 4.5-23 (State Highway Forecast Buildout Year 2030 with Harborwide Buildout Weekday Conditions AM/PM Peak-Hour Intersection LOS) summarizes forecast buildout year 2030 without Project weekday a.m. peak-hour and p.m. peak-hour LOS of the State Highway study intersections.

**Table 4.5-23**  
**STATE HIGHWAY FORECAST BUILDOUT YEAR 2030 WITH HARBORWIDE BUILDOUT WEEKDAY CONDITIONS AM/PM PEAK-HOUR INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekday Conditions		Forecast Buildout Year 2030 with Harborwide Project Weekday Conditions		Significant Impact?
	Delay (seconds) – LOS		Delay (seconds) – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
I-5 SB Off-Ramp/SR-1	9.7 – A	17.1 – B	8.9 – A	16.7 – A	No
I-5 NB Ramps/SR-1	10.8 – B	10.4 – B	11.2 – B	10.9 – A	No

As shown in Table 4.5-23, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better), according to Caltrans performance criteria for forecast buildout year 2030 without Project weekday conditions.

#### Forecast Buildout Year 2030 with Harborwide Buildout Weekday Conditions

Table 4.5-24 (State Highway Forecast Buildout Year 2030 with Harborwide Buildout Weekend Conditions Noon/PM Peak-Hour Intersection LOS) summarizes forecast buildout year 2030 without Project weekend noon and p.m. peak-hour LOS of the State Highway study intersections.

**Table 4.5-24**  
**STATE HIGHWAY FORECAST BUILDOUT YEAR 2030 WITH HARBORWIDE BUILDOUT WEEKEND CONDITIONS NOON/PM PEAK-HOUR INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekend Conditions		Forecast Buildout Year 2030 With Harborwide Project Weekend Conditions		Significant Impact?
	Delay (seconds) – LOS		Delay (seconds) – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
I-5 SB Off-Ramp/SR-1	12.9 – B	13.0 – B	12.4 – B	12.2 – B	No
I-5 NB Ramps/SR-1	10.4 – B	9.7 – A	10.8 – B	11.2 – B	No



As shown in Table 4.5-24, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast buildout year 2030 without Project weekday conditions.

#### Freeway Segment Analysis

This section evaluates the forecast impact of Project-generated trips at the following State Highway study segments:

- I-5 South of Pacific Coast Highway (SR-1);
- I-5 Between Pacific Coast Highway (SR-1) and Camino Capistrano On-Ramp; and
- I-5 North of Camino Capistrano On-Ramp.

Caltrans advocates the use of *Highway Capacity Manual* (HCM) analysis methodology to analyze the operation of freeway segments. HCM analysis methodology describes the operation of a basic freeway segment using a range of LOS from LOS A to LOS F, based on corresponding density (passenger cars/mile/lane) shown in Table 4.5-25 (Level of Service and Density Changes for Basic Freeway Segments). The Caltrans goal for basic freeway segment operation is LOS C or better.

**Table 4.5-25  
LEVEL OF SERVICE AND DENSITY RANGES  
FOR BASIC FREEWAY SEGMENTS**

LOS	Density (passenger cars/mile/lane)
A	≤ 11
B	11.01 – 18
C	18.01 – 26
D	26.01 – 35
E	35.01 – 45

#### Forecast Buildout Year 2030 with Harborwide Buildout Conditions

Forecast buildout year 2030 with Harborwide project freeway volumes were derived by adding trips generated by the entire Harborwide Project to forecast buildout year 2030 without Project freeway volumes. Table 4.5-25 (State Highway Forecast Buildout Year 2030 with Harborwide Project Conditions Peak-Hour Segment LOS) summarizes forecast buildout year 2030 with Harborwide Project peak-hour LOS of the State Highway freeway segments.

As shown in Table 4.5-26, with the addition of Project-generated trips, the State Highway freeway segments are forecast to continue to operate at a deficient LOS (LOS D or worse) for forecast buildout year 2030 with Harborwide Project conditions. Since Project-generated trips increase background freeway volumes by approximately less than one percent, the addition of Project-generated trips is



forecast to result in no significant impacts on the State Highway freeway segments for forecast buildout year 2030 with Harborwide Project conditions.

**Table 4.5-26**  
**STATE HIGHWAY FORECAST BUILDOUT YEAR 2030 WITH HARBORWIDE PROJECT**  
**CONDITIONS PEAK-HOUR SEGMENT LOS**

Study Freeway Segment	Forecast Buildout Year 2030 Without Project Conditions	Forecast Buildout Year 2030 With Harborwide Project Conditions	Significant Impact?
	Peak Hour	Peak Hour	
	Density – LOS	Density – LOS	
I-5 South of PCH (SR-1)	OVRFL – F	OVRFL – F	No
I-5 Between PCH (SR-1) and Camino Capistrano On-Ramp	OVRFL – F	OVRFL – F	No
I-5 North of Camino Capistrano On-Ramp	OVRFL – F	OVRFL – F	No
OVRFL = Density exceeds calculation of software program. Density = passenger cars per mile per lane; deficient segment operation is shown in bold.			

### Orange County Congestion Management Program Analysis

#### Forecast Buildout Year 2030 with Harborwide Buildout Weekday Conditions CMP Intersection Peak-Hour LOS

Table 4.5-27 (Forecast Buildout Year 2030 with Harborwide Buildout Weekday Conditions AM/PM Peak-Hour CMP Intersection LOS) summarizes the a.m. peak-hour and p.m. peak-hour LOS of the CMP study intersections.

**Table 4.5-27**  
**FORECAST BUILDOUT YEAR 2030 WITH HARBORWIDE BUILDOUT WEEKDAY**  
**CONDITIONS AM/PM PEAK-HOUR CMP INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekday Conditions		Forecast Buildout Year 2030 with Harborwide Project Weekday Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Street of the Golden Lantern/Pacific Coast Hwy	0.614 – N/A – B	0.681 – N/A – B	0.620 – N/A – B	0.689 – N/A – B	No
Street of the Golden Lantern/Del Prado Ave	0.410 – N/A – A	0.655 – N/A – B	0.417 – N/A – A	0.663 – N/A – B	No
N/A = Not Applicable.					



As shown in Table 4.5-27, based on the OCTA CMP-established thresholds of significance, the addition of Project-generated trips at the CMP study intersections is forecast to result in no significant impacts for forecast buildout year 2030 with Harborwide buildout weekday conditions.

**Forecast Buildout Year 2030 with Harborwide Buildout Weekend Conditions CMP Intersection Peak-Hour LOS**

Table 4.5-28 (Forecast Buildout Year 2030 with Harborwide Buildout Weekend Conditions Noon/PM Peak-Hour CMP Intersection LOS) summarizes the noon and p.m. peak-hour LOS of the CMP study intersections.

**Table 4.5-28  
FORECAST BUILDOUT YEAR 2030 WITH HARBORWIDE BUILDOUT WEEKEND  
CONDITIONS NOON/PM PEAK-HOUR CMP INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2030 Without Project Weekend Conditions		Forecast Buildout Year 2030 with Harborwide Project Weekend Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
Street of the Golden Lantern/Pacific Coast Hwy	0.680 – N/A – B	0.649 – N/A – B	0.687– N/A – B	0.660 – N/A – B	No
Street of the Golden Lantern/Del Prado Ave	0.764 – N/A – C	0.718 – N/A – C	0.770– N/A – C	0.726 – N/A – C	No
N/A = Not Applicable.					

As shown in Table 4.5-28, based on the OCTA CMP-established thresholds of significance, the addition of Project-generated trips at the CMP study intersections is forecast to result in no significant impacts for forecast buildout year 2030 with Harborwide buildout weekend conditions.

**COMMERCIAL CORE**

**Forecast Year 2012 Without Commercial Core Conditions**

**Intersection Capacity Utilization (ICU) Analysis**

The Commercial Core component of the proposed Project is planned to open in 2012. Forecast year 2012 without Project conditions are projected to provide a baseline for the analysis of Project created impacts. Forecast year 2012 peak-hour traffic volumes were determined by applying a one percent annual growth rate to existing traffic volumes. This is a conservative assumption, because the growth rate factor is applied to all vehicle movements at the study intersections. Additionally, trips forecast to be generated by the Headlands project assumed to be constructed and generating traffic by 2012 were added. Forecast buildout year 2012 without Project conditions assume the planned transportation improvements at the Camino Capistrano/Stonehill Drive intersection, as noted within the Harborwide discussion.



Exhibits 4.5-14 (Forecast Year 2012 Without Commercial Core Weekday AM/PM Peak-Hour Intersection Volumes) and 4.5-15 (Forecast Year 2012 Without Commercial Core Weekend Noon/PM Peak-Hour Intersection Volumes) show forecast buildout year 2012 without Project weekday a.m. peak-hour and p.m. peak-hour volumes and forecast buildout year 2012 without Project weekend noon peak-hour and p.m. peak-hour volumes at the study intersections.

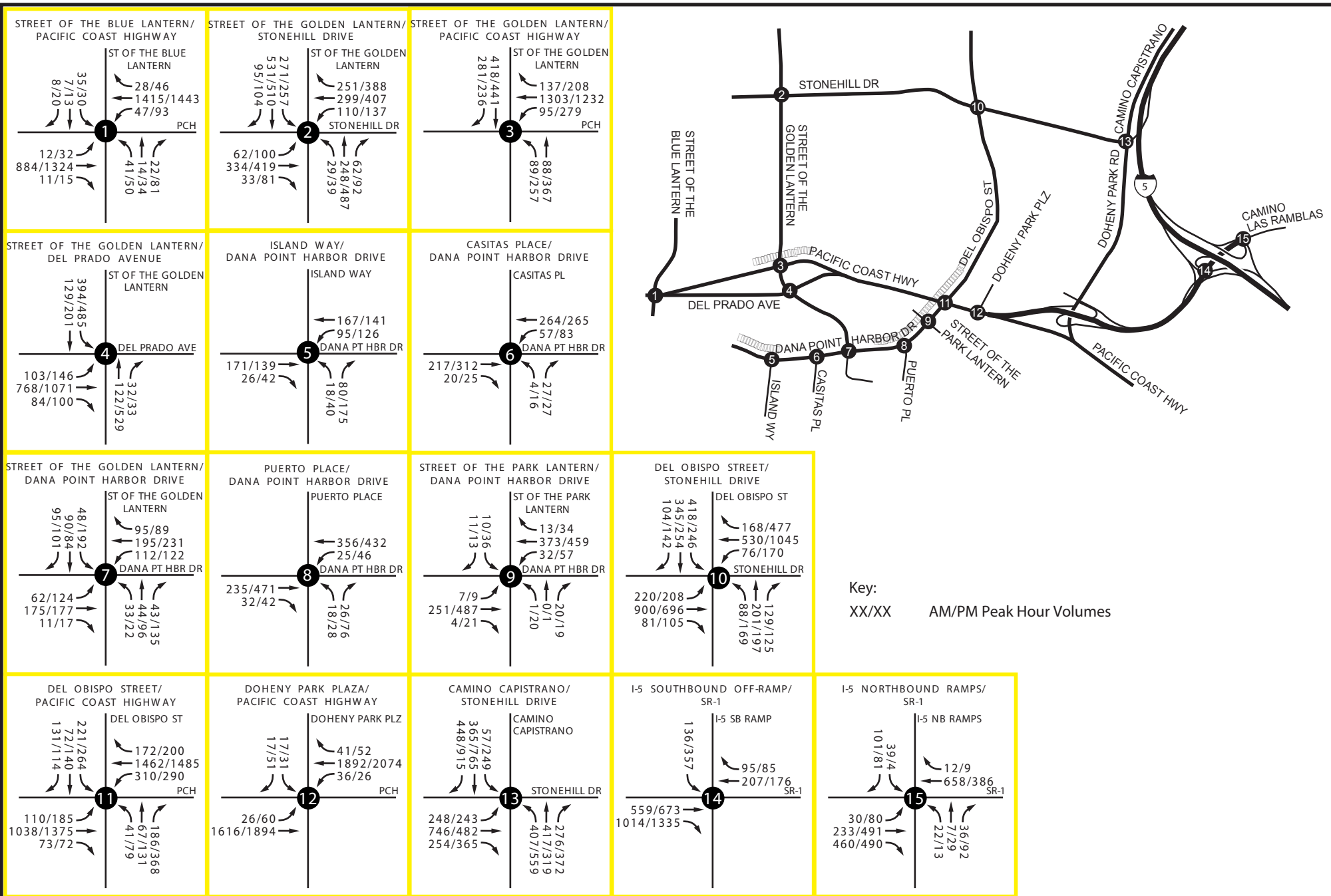
#### Forecast Year 2012 Weekday Without Commercial Core Peak-Hour LOS

Table 4.5-29 (Forecast Year 2012 Without Commercial Core Weekday Peak-Hour LOS), summarizes forecast year 2012 weekday without Project a.m. and p.m. peak-hour V/C and corresponding LOS of the study intersections.

**Table 4.5-29**  
**FORECAST YEAR 2012 WITHOUT COMMERCIAL CORE WEEKDAY PEAK-HOUR LOS**

Study Intersection	AM Peak Hour <sup>1</sup>			PM Peak Hour <sup>1</sup>		
	V/C	Delay (Seconds)	LOS	V/C	Delay (Seconds)	LOS
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.502	N/A	A	0.564	N/A	A
Street of the Golden Lantern/Stonehill Dr	0.467	N/A	A	0.631	N/A	B
Street of the Golden Lantern/Pacific Coast Hwy(*) (**)	0.523	N/A	A	0.582	N/A	A
Street of the Golden Lantern/Del Prado Ave(*)	0.352	N/A	A	0.558	N/A	A
Island Way/Dana Point Harbor Dr	N/A	10.2	B	N/A	11.1	B
Casitas Place/Dana Point Harbor Dr	N/A	9.9	A	N/A	11.7	B
Street of the Golden Lantern/Dana Point Harbor Dr	0.243	N/A	A	0.360	N/A	A
Puerto Place/Dana Point Harbor Dr	N/A	10.6	B	N/A	13.1	B
Street of the Park Lantern/Dana Point Harbor Dr	0.170	N/A	A	0.267	N/A	A
Del Obispo St/Stonehill Dr	0.703	N/A	C	0.719	N/A	B
Del Obispo St/Pacific Coast Hwy(**)	0.700	N/A	C	0.809	N/A	D
Doheny Park Plaza/Pacific Coast Hwy(**)	0.654	N/A	B	0.759	N/A	C
Camino Capistrano/Stonehill Dr	0.622	N/A	B	0.748	N/A	C
I-5 SB Off-Ramp/SR-1	0.254	N/A	A	0.353	N/A	A
I-5 NB Ramps/SR-1	0.271	N/A	A	0.250	N/A	A
V/C = volume-to-capacity ratio; LOS = level of service. (*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). N/A = Not Applicable; deficient intersection operation shown in bold.						
<sup>1</sup> Forecast buildout year 2012 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes.						

As shown in Table 4.5-29, the study intersections are forecast to operate at an acceptable LOS for forecast year 2012 without Project weekday conditions, according to the performance criteria.

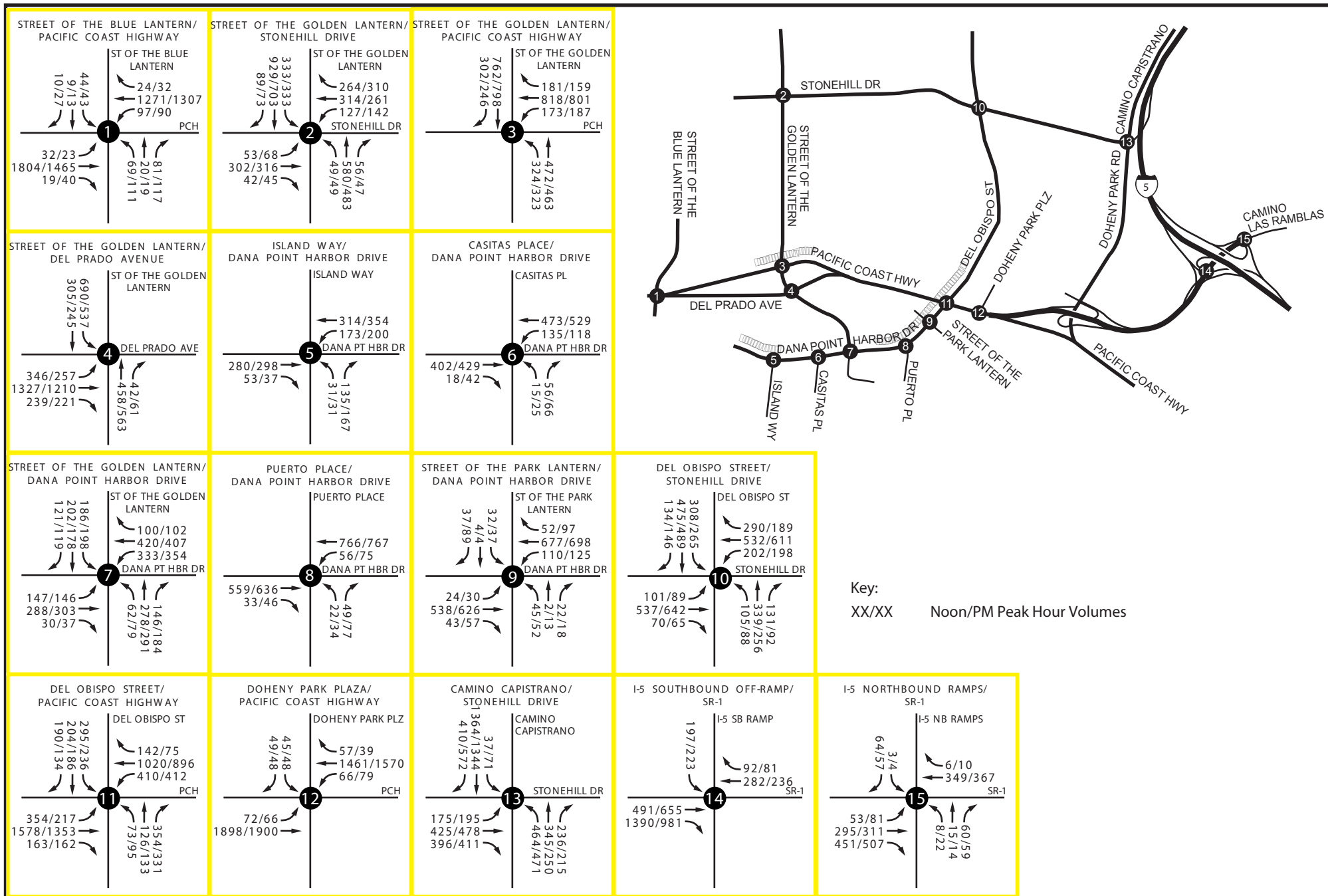


Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

## FORECAST YEAR 2012 WITHOUT COMMERCIAL CORE WEEKDAY

### AM/PM PEAK-HOUR INTERSECTION VOLUMES

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.



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## FORECAST YEAR 2012 WITHOUT COMMERCIAL CORE WEEKEND

### NOON/PM PEAK-HOUR INTERSECTION VOLUMES

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

### EXHIBIT 4.5-15





### Forecast Year 2012 Weekend Without Commercial Core Peak-Hour LOS

Table 4.5-30 (Forecast Year 2012 Without Commercial Core Weekend Peak-Hour LOS), summarizes forecast year 2012 weekday without Project noon and p.m. peak-hour V/C and corresponding LOS of the study intersections.

**Table 4.5-30  
FORECAST YEAR 2012 WITHOUT COMMERCIAL CORE WEEKEND PEAK-HOUR LOS**

Study Intersection	Noon <sup>1</sup>			PM Peak Hour <sup>1</sup>		
	V/C	Delay (seconds)	LOS	V/C	Delay (seconds)	LOS
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.717	N/A	C	0.639	N/A	B
Street of the Golden Lantern/Stonehill Dr	0.603	N/A	B	0.611	N/A	B
Street of the Golden Lantern/Pacific Coast Hwy(*)(**)	0.579	N/A	A	0.553	N/A	A
Street of the Golden Lantern/Del Prado Ave(*)	0.648	N/A	B	0.611	N/A	B
Island Way/Dana Point Harbor Dr	N/A	13.1	B	N/A	14.1	B
Casitas Place/Dana Point Harbor Dr	N/A	13.2	B	N/A	14.6	B
Street of the Golden Lantern/Dana Point Harbor Dr	0.603	N/A	B	0.635	N/A	B
Puerto Place/Dana Point Harbor Dr	N/A	15.8	C	N/A	19.9	C
Street of the Park Lantern/Dana Point Harbor Dr	0.343	N/A	A	0.415	N/A	A
Del Obispo St/Stonehill Dr	0.647	N/A	B	0.614	N/A	B
Del Obispo St/Pacific Coast Hwy(**)	0.796	N/A	C	0.735	N/A	C
Doheny Park Plaza/Pacific Coast Hwy(**)	0.703	N/A	C	0.712	N/A	C
Camino Capistrano/Stonehill Dr	0.922	N/A	E	0.899	N/A	D
I-5 SB Off-Ramp/SR-1	0.274	N/A	A	0.308	N/A	A
I-5 NB Ramps/SR-1	0.194	N/A	A	0.218	N/A	A
V/C = volume-to-capacity ratio; LOS = level of service. (*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). N/A = Not Applicable; deficient intersection operation shown in bold.						
<sup>1</sup> Forecast buildout year 2012 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes.						

As shown in Table 4.5-29, the Camino Capistrano/Stonehill Drive intersection is forecast to operate at a deficient LOS (LOS D or worse) for forecast year 2012 without Project weekend conditions, according to the performance criteria during both the noon peak hour and the p.m. peak hour.

### Forecast Year 2012 with Commercial Core Conditions

#### **Intersection Capacity Utilization Analysis**

Forecast year 2012 with Commercial Core project traffic volumes were derived by adding net trips generated by the Commercial Core component of the proposed Project to forecast year 2012 without Project traffic volumes. Exhibits 4.5-16



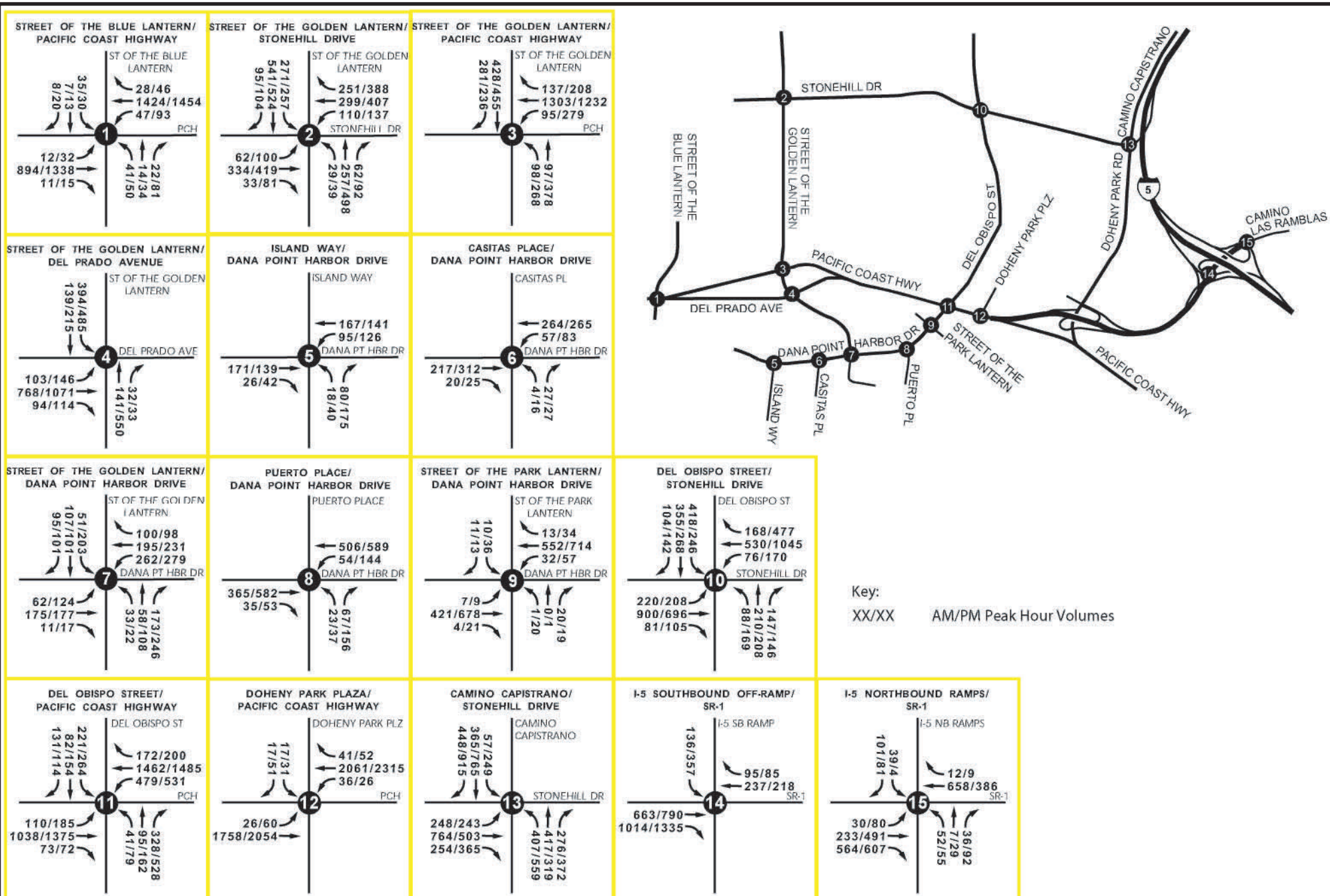
(Forecast Year 2012 with Commercial Core Weekday AM/PM Peak-Hour Intersection Volumes) and 4.5-17 (Forecast Year 2012 with Commercial Core Weekend Noon/PM Peak-Hour Intersection Volumes) show forecast year 2012 with Commercial Core Project weekday a.m. peak-hour and p.m. peak-hour volumes and forecast year 2012 with Commercial Core Project weekend noon peak-hour and p.m. peak-hour volumes at the study intersections, respectively. Forecast year 2012 with Commercial Core Project conditions assume City planned transportation improvements at the Camino Capistrano/Stonehill Drive intersection.

#### Forecast Year 2012 Weekday with Commercial Core Project Peak-Hour LOS

Table 4.5-31 (Forecast Year 2012 with Commercial Core Weekday Peak-Hour LOS), summarizes forecast year 2012 weekday with Project a.m. and p.m. peak-hour V/C and corresponding LOS of the study intersections.

**Table 4.5-31**  
**FORECAST YEAR 2012 WITH COMMERCIAL CORE WEEKDAY PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2012 Without Project Weekday Conditions <sup>1</sup>		Forecast Buildout Year 2012 with Commercial Core Project Weekday Conditions <sup>2</sup>		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.502 – N/A – A	0.564 – N/A – A	0.505 – N/A – A	0.568 – N/A – A	No
Street of the Golden Lantern/Stonehill Dr	0.467 – N/A – A	0.631 – N/A – B	0.469 – N/A – A	0.635 – N/A – B	No
Street of the Golden Lantern/Pacific Coast Hwy(*) (**)	0.523 – N/A – A	0.582 – N/A – A	0.528 – N/A – A	0.588 – N/A – A	No
Street of the Golden Lantern/Del Prado Ave(*)	0.352 – N/A – A	0.558 – N/A – A	0.358 – N/A – A	0.564 – N/A – A	No
Island Wy/Dana Point Harbor Dr	N/A – 10.2 – B	N/A – 11.1 – B	N/A – 10.2 – B	N/A – 11.1 – B	No
Casitas Pl/Dana Point Harbor Dr	N/A – 9.9 – A	N/A – 11.7 – B	N/A – 9.9 – A	N/A – 11.7 – B	No
Street of the Golden Lantern/Dana Point Harbor Dr	0.243 – N/A – A	0.360 – N/A – A	0.338 – N/A – A	0.449 – N/A – A	No
Puerto Pl/Dana Point Harbor Dr	N/A – 10.6 – B	N/A – 13.1 – B	N/A – 12.0 – B	N/A – 20.4 – C	No
Street of the Park Lantern/Dana Point Harbor Dr	0.170 – N/A – A	0.267 – N/A – A	0.223 – N/A – A	0.324 – N/A – A	No
Del Obispo St/Stonehill Dr	0.703 – N/A – C	0.719 – N/A – C	0.711 – N/A – C	0.728 – N/A – C	No
Del Obispo St/Pacific Coast Hwy(**)	0.700 – N/A – C	0.809 – N/A – D	0.717 – N/A – C	0.827 – N/A – D	No
Doheny Park Plaza/Pacific Coast Hwy(**)	0.654 – N/A – A	0.759 – N/A – C	0.703 – N/A – B	0.830 – N/A – C	No
Camino Capistrano/Stonehill Dr	0.622 – N/A – B	0.748 – N/A – C	0.627 – N/A – B	0.748 – N/A – C	No
I-5 SB Off-Ramp/SR-1	0.254 – N/A – A	0.353 – N/A – A	0.285 – N/A – A	0.388 – N/A – A	No
I-5 NB Ramps/SR-1	0.271 – N/A – A	0.250 – N/A – A	0.239 – N/A – A	0.275 – N/A – A	No
(*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). Deficient intersection operation is shown in <b>bold</b> .					
<sup>1</sup> Forecast buildout year 2012 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes. <sup>2</sup> The “with project” traffic volumes were derived by adding the Project generated trips for Planning Areas 1 and 2 (refer to Table 4.5-7) to the “with project” condition.					



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

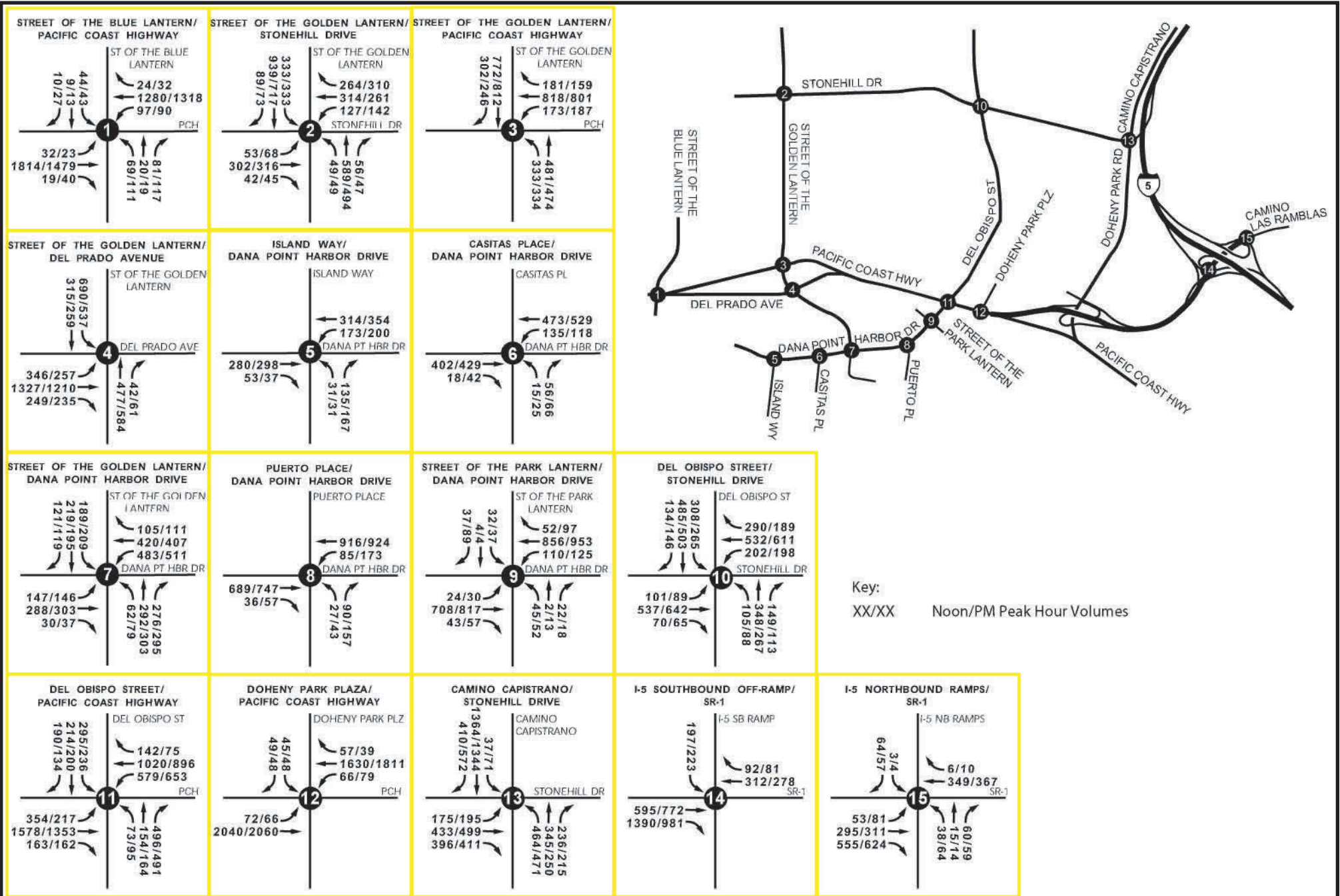


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## FORECAST YEAR 2012 WITH COMMERCIAL CORE WEEKDAY AM/PM PEAK-HOUR INTERSECTION VOLUMES

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

EXHIBIT 4.5-16



Scale: N.T.S.  
 Source: RBF Consulting, Dana Point Harbor Revitalization Project  
 Traffic & Parking Analysis.





As shown in Table 4.5-31, with the addition of Project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS for forecast year 2012 with Commercial Core Project weekday conditions. As also shown in Table 4.5-30, the addition of Project-generated trips is forecast to result in no significant impacts at the study intersections for forecast year 2012 with Commercial Core Project weekday conditions.

#### Forecast Year 2012 Weekend Plus Commercial Core Project Peak-Hour LOS

Table 4.5-32 (Forecast Year 2012 Weekend plus Commercial Core Project Peak-Hour LOS) summarizes forecast year 2012 weekend plus Commercial Core Project noon and p.m. peak-hour V/C and corresponding LOS of the study intersections.

As shown in Table 4.5-32, the study intersections are forecast to operate at an acceptable LOS during a.m. and p.m. peak hour for forecast year 2012 weekend plus Commercial Core Project conditions, with the exception of the following two intersections:

- Puerto Place/Dana Point Harbor Drive (p.m. peak hour only); and
- Camino Capistrano/Stonehill Drive (both noon and p.m. peak hour).

As also shown in Table 4.5-32, the addition of Project-generated trips is forecast to result in a significant impact at the Puerto Place/Dana Point Harbor Drive intersection in the p.m. peak hour for forecast year 2012 with Commercial Core Project weekend conditions.

#### Forecast Year 2012 Weekend Plus Commercial Core Project Recommended Mitigation Measures

MM 4.5-6 would reduce impacts by requiring a performance study 6 months after the completion of the Commercial Core improvements to determine whether the Puerto Place/Dana Point Harbor Drive intersection would need to be signalized. All transportation related improvements would be required to place traffic signal conduits underground and provide adequate site distance (refer to SCAs 4.5-3 and 4.5-4). Note that PDF 4.5-2 also provides a seasonal watertaxi service to reduce internal vehicle trips within the Harbor during peak Harbor events.



**Table 4.5-32  
FORECAST YEAR 2012 WEEKEND PLUS  
COMMERCIAL CORE PROJECT PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2012 Without Project Weekend Conditions <sup>1</sup>		Forecast Buildout Year 2012 with Commercial Core Project Weekend Conditions <sup>2</sup>		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
Street of the Blue Lantern/Pacific Coast Hwy(**)	0.717 – N/A – C	0.639 – N/A – B	0.720 – N/A – C	0.644 – N/A – B	No
Street of the Golden Lantern/Stonehill Dr	0.603 – N/A – B	0.611 – N/A – B	0.606 – N/A – B	0.614 – N/A – B	No
Street of the Golden Lantern/Pacific Coast Hwy(*)/(**)	0.579 – N/A – A	0.553 – N/A – A	0.584 – N/A – A	0.563 – N/A – A	No
Street of the Golden Lantern/Del Prado Ave(*)	0.648 – N/A – B	0.611 – N/A – B	0.653 – N/A – B	0.617 – N/A – B	No
Island Wy/Dana Point Harbor Dr	N/A – 13.1 – B	N/A – 14.1 – B	N/A – 13.1 – B	N/A – 14.1 – B	No
Casitas Pl/Dana Point Harbor Dr	N/A – 13.2 – B	N/A – 14.6 – B	N/A – 13.2 – B	N/A – 14.6 – B	No
Street of the Golden Lantern/Dana Point Harbor Dr	0.603 – N/A – B	0.635 – N/A – B	0.702 – N/A – B	0.741 – N/A – C	No
Puerto Pl/Dana Point Harbor Dr	N/A – 15.8 – C	N/A – 19.9 – C	N/A – 20.8 – C	N/A – 53.4 –F	Yes
Street of the Park Lantern/Dana Point Harbor Dr	0.343 – N/A – A	0.415 – N/A – A	0.393 – N/A – A	0.471 – N/A – A	No
Del Obispo St/Stonehill Dr	0.647 – N/A – B	0.614 – N/A – B	0.655 – N/A – B	0.623 – N/A – B	No
Del Obispo St/Pacific Coast Hwy(**)	0.796 – N/A – C	0.735 – N/A – C	0.862 – N/A – D	0.814– N/A – D	No
Doheny Park Plaza/Pacific Coast Hwy(**)	0.703 – N/A – C	0.712 – N/A – C	0.744 – N/A – C	0.759 – N/A – C	No
Camino Capistrano/Stonehill Dr	0.922 – N/A – E	0.899 – N/A – D	0.922 – N/A – E	0.899 – N/A – D	No
I-5 SB Off-Ramp/SR-1	0.274 – N/A – A	0.308 – N/A – A	0.292 – N/A – A	0.343 – N/A – A	No
I-5 NB Ramps/SR-1	0.194 – N/A – A	0.218 – N/A – A	0.211 – N/A – A	0.243– N/A – A	No
(*) CMP Intersection (**) LOS D acceptable for Pacific Coast Highway (major arterial highway). Deficient intersection operation is shown in bold.					
<sup>1</sup> Forecast buildout year 2012 peak-hour traffic volumes were determined by applying a one-percent annual growth rate to existing traffic volumes. Additionally, trips forecast to be generated by the nearby Headlands Development were added to the forecast background condition traffic volumes.					
<sup>2</sup> The “with project” traffic volumes were derived by adding the Project generated trips for Planning Areas 1 and 2 (refer to Table 4.5-7) to the “with project” condition.					

Table 4.5-33 (Mitigated Forecast Year 2012 with Commercial Core Project Weekend Conditions Noon/PM Peak-Hour Intersection LOS) summarizes forecast year 2012 with Commercial Core Project weekend noon peak-hour and p.m. peak-hour LOS at the Puerto Place/Dana Point Harbor Drive intersection, assuming implementation of the recommended Mitigation Measure.



**Table 4.5-33**  
**MITIGATED FORECAST YEAR 2012 WEEKEND**  
**PLUS COMMERCIAL CORE PROJECT PEAK-HOUR LOS**

Study Intersection	Forecast Buildout Year 2030 with Commercial Core Project Weekend Conditions		Forecast Buildout Year 2030 with Commercial Core Project Weekend Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
Puerto Pl/Dana Point Harbor Dr	N/A – 20.8– C	N/A – 53.4 – F	0.389 – N/A – A	0.506 – N/A – A	No
Deficient intersection operation is shown in bold.					

As shown in Table 4.5-33, assuming implementation of the recommended Mitigation Measure, the intersection is forecast to operate at an acceptable LOS during the noon and p.m. peak hour for forecast year 2012 weekend with Commercial Core Project conditions.

*Forecast Year 2012 Weekend Plus Commercial Core Project Recommended Mitigation Measures*

Although the Street of the Golden Lantern/Dana Point Harbor Drive intersection is forecast to operate at an acceptable level of service for both weekday and weekend conditions, MM 4.5-10 would require a traffic intersection study to be performed at least 12 months following the completion of the Commercial Core improvements (Planning Areas 1 and 2). The study would take place during a typical summer weekday/weekend to determine if capacity improvements are required due to the ingress of vehicular traffic into the Commercial Core and proposed parking deck.

**Orange County Congestion Management Program Analysis**

*Forecast Buildout Year 2012 with Commercial Core Buildout Weekday Conditions  
CMP Intersection Peak-Hour LOS*

Table 4.5-34 (Forecast Buildout Year 2012 with Commercial Core Buildout Weekday Conditions AM/PM Peak-Hour CMP Intersection LOS) summarizes the a.m. peak-hour and p.m. peak-hour LOS of the CMP study intersections.



**Table 4.5-34**  
**FORECAST BUILDOUT YEAR 2012 WITH COMMERCIAL CORE BUILDOUT WEEKDAY**  
**CONDITIONS AM/PM PEAK-HOUR CMP INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2012 Without Project Weekday Conditions		Forecast Buildout Year 2012 with Commercial Core Project Weekday Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Street of the Golden Lantern/Pacific Coast Hwy	0.523 – N/A – A	0.582 – N/A – A	0.528 – N/A – A	0.588 – N/A – A	No
Street of the Golden Lantern/Del Prado Ave	0.352 – N/A – A	0.558 – N/A – A	0.358 – N/A – A	0.564 – N/A – A	No
N/A = Not Applicable.					

As shown in Table 4.5-34, based on the OCTA CMP-established thresholds of significance, the addition of project-generated trips at the CMP study intersections is forecast to result in no significant impacts for forecast buildout year 2012 with Commercial Core buildout weekday conditions.

Forecast Buildout Year 2012 with Commercial Core Buildout Weekend Conditions  
CMP Intersection Peak-Hour LOS

Table 4.5-35 (Forecast Buildout Year 2012 with Commercial Core Buildout Weekend Conditions Noon/PM Peak-Hour CMP Intersection LOS) summarizes the noon and p.m. peak-hour LOS of the CMP study intersections.

**Table 4.5-35**  
**FORECAST BUILDOUT YEAR 2012 WITH COMMERCIAL CORE BUILDOUT WEEKEND**  
**CONDITIONS NOON/PM PEAK-HOUR CMP INTERSECTION LOS**

Study Intersection	Forecast Buildout Year 2012 Without Project Weekend Conditions		Forecast Buildout Year 2012 with Commercial Core Project Weekend Conditions		Significant Impact?
	V/C – Delay – LOS		V/C – Delay – LOS		
	Noon	PM Peak Hour	Noon	PM Peak Hour	
Street of the Golden Lantern/Pacific Coast Hwy	0.579 – N/A – A	0.553 – N/A – A	0.584 – N/A – A	0.563 – N/A – A	No
Street of the Golden Lantern/Del Prado Ave	0.648 – N/A – B	0.611 – N/A – B	0.653 – N/A – B	0.617 – N/A – B	No
N/A = Not Applicable.					

As shown in Table 4.5-35, based on the OCTA CMP-established thresholds of significance, the addition of Project-generated trips at the CMP study intersections is forecast to result in no significant impacts for forecast buildout year 2012 with Commercial Core buildout weekend conditions.





## Traffic Signal Warrant Analysis

A *Manual on Uniform Traffic Control Devices* (MUTCD) signal warrant analysis was prepared to determine whether signalization is warranted at the Puerto Place/Dana Point Harbor Drive (refer to MM 4.5-6). Table 4.5-36 (Forecast Year 2012 with Commercial Core Project Weekend Conditions Puerto Place/Dana Point Harbor Drive Intersection Signal Warrant Analysis) summarizes the results of the traffic signal warrant analysis for the Puerto Place/Dana Point Harbor Drive intersection for forecast year 2012 with Commercial Core Project weekend conditions.

**Table 4.5-36**  
**FORECAST YEAR 2012 WITH COMMERCIAL CORE PROJECT**  
**WEEKEND CONDITIONS PUERTO PLACE/DANA POINT HARBOR DRIVE**  
**INTERSECTION SIGNAL WARRANT ANALYSIS**

Warrant Type	Warrant Required Dana Point Harbor Dr Daily Volume (2 directions)	Forecast Dana Point Harbor Dr Daily Volume (2 directions)	Dana Point Harbor Dr Warrant Satisfied? (% Satisfied)	Warrant Required Puerto Place Daily Volume (1 direction)	Forecast Puerto Place Daily Volume (1 direction)	Puerto Place Warrant Satisfied? (% Satisfied)	Signalization of Intersection Warranted?
Minimum Vehicular Traffic	6,720	18,135	Yes (100%)	1,680	1,590	No (95%)	No
Interruption of Continuous Traffic	10,080	18,135	Yes (100%)	850	1,590	Yes (100%)	Yes

As shown in Table 4.5-36, the Interruption of Continuous Traffic signal warrant is satisfied for the Puerto Place/Dana Point Harbor Drive intersection for forecast year 2012 with Commercial Core Project weekend conditions.

## Bikeways and Pedestrian Access

The Project will implement the *Dana Point Harbor Design Guidelines Circulation, Parking and Alternative Transportation Plans (2004)*. The Alternative Transportation Plan includes three bicycle routes within Planning Areas 1 and 2, to be located along Street of the Golden Lantern, and Casitas Place. The Alternative Transportation Plan will maintain the existing OCTA bus route to serve the Harbor. Additionally, the Alternative Transportation Plan will provide a network of pedestrian paths throughout the Harbor, as well as increase the minimum sidewalk widths in the Festival plaza to accommodate joggers and strollers in concert with pedestrians. Thus, the Alternative Transportation Plan will maintain and enhance bicycle and pedestrian use in the Harbor area.

## OFF-SITE AREAS

Selva Parking Lot – The Selva Parking Lot would be utilized as a temporary parking area should overflow parking be needed for storage of boats and employee vehicles during the construction of Harbor improvements as provided in the Construction Management Plan. Shuttles would be utilized to transport employees to the Harbor, via Pacific Coast Highway and Street of the Golden Lantern. Traffic associated with the Selva Parking Lot is anticipated to be less than significant, because the shuttle service would aggregate constituents and thus reduce both vehicle and pedestrian traffic.



SCWD Lot – The SCWD Lot would be utilized primarily for boat storage, accessed via Stonehill Drive or Pacific Coast Highway and Dana Point Harbor Drive. Due to the site's intended use for long-term storage (rather than frequent retrievals) and use of valet boat retrieval for efficiency, traffic is not anticipated to be substantial and would not result in significant impacts.

#### **4.5.4.3 PARKING**

4.5-3 *The proposed Project would generate additional parking demand. Conformance with Project Design Features and Mitigation Measure 4.5-5 would ensure that impacts would be less than significant.*

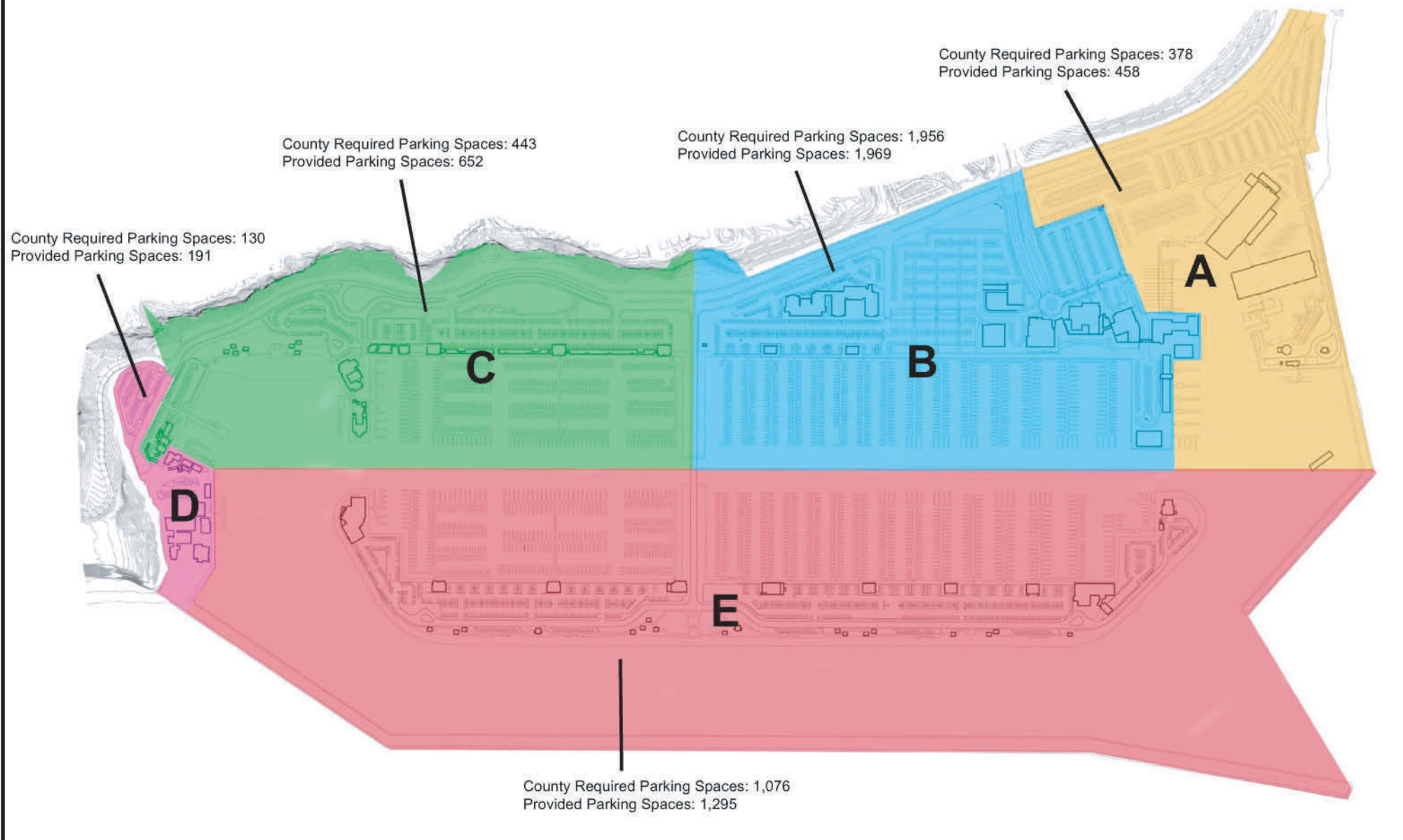
##### **HARBORWIDE**

For analysis purposes, the parking study area has been divided into parking zones and is illustrated in Exhibit 4.5-18 (Proposed Parking Spaces Required and Provided). Table 4.5-37 (Dana Point Harbor Proposed Project Parking) summarizes the parking required per the Orange County Municipal Code and the parking provided by the Dana Point Harbor Revitalization Plan.

On-street parallel parking is provided on portions of Dana Point Harbor Drive. As part of the Revitalization Plan, a signage program will be developed that provides directs visitors to various Harbor attractions and provides methods to reduce pedestrian/vehicle conflicts (refer to PDF 4.5-7).

As shown in Table 4.5-37, the County Zoning Code requires the Harborwide Project area to include a total of 3,983 parking spaces. The Project proposes a total of 4,565 parking spaces, which is 582 spaces above the required number. Thus, the Harborwide condition would be in compliance with the County's off-street parking requirements. For the Commercial Core condition, there would be 1,761 spaces provided, while the County's off-street requirements call for 1,730 spaces. Thus, the Commercial Core would be providing 31 spaces more than the Code requirement. A major component to the increased parking is the proposed deck located adjacent to the Street of the Golden Lantern/Dana Point Harbor Drive intersection. Currently, the plans for the parking deck are schematic in nature, thus a queuing analysis has not been prepared for the ingress/egress points. Upon preparation of construction plans a queuing analysis will be prepared for all ingress/egress points to confirm the appropriate number of inbound/outbound lanes, lane storage requirements, and access controls (refer to Mitigation Measure 4.5-12).

Certain peak events (e.g., Festival of the Whales, Tallships Festival) and major holidays may experience greater parking demand than can be accommodated within the Harbor. A Traffic Management Plan (MM 4.5-7) will be prepared to address periodic special events and holidays where demand exceeds the amount of available parking provided in the Harbor. The Parking Management Plan would include provisions to utilize off-site locations (such as the Selva Lot) for remote parking and shuttle service during special events and/or peak days. In addition to the recommended mitigation, parking impacts would also be reduced through incorporation of convenient parking areas, enhanced parking lot lighting, and restriping existing parking to make it more efficient (refer to PDFs 4.5-1, 4.5-4 through 4.5-7 and SCA 4.5-1). Thus, a less than significant impact would result.



Scale: N.T.S.  
Source: RBF Consulting, Dana Point Harbor Revitalization Project  
Traffic & Parking Analysis.

## PROPOSED PARKING SPACES REQUIRED AND PROVIDED

DANA POINT HARBOR REVITALIZATION PROJECT  
PROGRAM ENVIRONMENTAL IMPACT REPORT

**EXHIBIT 4.5-18**



**Table 4.5-37  
DANA POINT HARBOR PROPOSED PROJECT PARKING**

Zone	Planning Area	Description	Land Use	Parking Requirement	Size	Required Spaces	Provided Spaces <sup>1</sup>
A	1	Surface Boat Storage	Boat Use <sup>2</sup>	0.25 per boat	93 boat spaces	23	458
	1	Dry Stack Boat Storage	Boat Use <sup>5</sup>	0.33 per boat	800 boat spaces	264	
	1	Offices/Boater Lounge	Office	1 per 250 s.f. of gfa	5,600 s.f.	22	
	1	New Marine Retail Store	Retail	1 per 200 s.f. of gfa	9,100 s.f.	46	
			Motor Vehicle Sales & Auto Repair				
	1	Shipyard Building	Auto Repair	1 per 400 s.f. of gfa	2,500 s.f.	6	
	1	Lighthouse Facility – Museum	Library	1 per 300 s.f. of gfa	2,500 s.f.	8	
	11	Recreational Boat Slips (from PA 11)	Boat Use <sup>5</sup>	0.6 per boat slip	15 slips	9	
TOTAL						378	458
B	2	BSB 1	Office	1 per 250 s.f. of gfa	6,800 s.f.	27	1,969
	2	Catalina Terminal Building <sup>4</sup>		Measured Use	1,000 s.f.	160	
	2	Retail/Restaurant – Retail Component	Retail	1 per 200 s.f. of gfa	32,800 s.f.	164	
	2	Retail/Restaurant – Restaurant Component	Restaurant	1 per 100 s.f. up to 4,000 s.f. plus 1 per each 80 s.f. above 4,000 s.f.	91,000 s.f.	1,010	
	3	Hotel	Hotel	1 per guest unit	220 rooms	220	
	3	Hotel Restaurant	Restaurant	1 per 100 s.f. up to 4,000 s.f. plus 1 per each 80 s.f. above 4,000 s.f.	2,750 s.f.	28	
	3	BSB 3	Office	1 per 250 s.f. of gfa	3,300 s.f.	13	
	3	BSB 4	Office	1 per 250 s.f. of gfa	3,500 s.f.	14	
	10	Recreational Boat Slips (from PA 10)	Boat Use <sup>5</sup>	0.6 per boat slip	534 slips	320	
TOTAL						1,956	1,969
C	5	Recreational Boat Slips (from PA 9)	Boat Use <sup>5</sup>	0.6 per boat slip	305 slips	183	652
	5	Youth and Group Facility	Union Halls, Lodges, Clubs	1 per 75 s.f. of gfa	17,000 s.f.	227	
	5	BSB A	Office	1 per 250 s.f. of gfa	2,800 s.f.	11	
	5	BSB B	Office	1 per 250 s.f. of gfa	2,800 s.f.	11	
	5	BSB C	Office	1 per 250 s.f. of gfa	2,800 s.f.	11	
TOTAL						443	652
D	6	Ocean Institute <sup>3</sup>				130	191
	TOTAL					130	
E	9 & 10	Recreational Boat Slips (from PA 9 & 10)	Boat Use <sup>5</sup>	0.6 per boat slip	1,061 slips	637	
	9 & 10	Recreational Boat Slips – Channel Side Ties (from PA 9 & 10)	Boat Use <sup>5</sup>	0.6 per boat slip	58 slips (from 2,300 ft)	21	
	9 & 10	Commercial Boat Slips	Boat Use <sup>5</sup>	2 per boat slip	15 slips	30	
	4	Harbor Patrol Building	Office	1 per 250 s.f. of gfa	7,500	30	



**Table 4.5-36 [continued]**  
**DANA POINT HARBOR PROPOSED PROJECT PARKING**

Zone	Planning Area	Description	Land Use	Parking Requirement	Size	Required Spaces	Provided Spaces <sup>1</sup>
E (Cont.)	4	Beach House Restaurant	Restaurant	1 per 100 s.f. up to 4,000 s.f., plus 1 per each 80 s.f. above 4,000 s.f.	15,000 s.f.	178	
	4	BSB D – Dana West Yacht Club	Yacht Club & Storage <sup>2</sup>	4 per 1,000 s.f.	8,600 s.f.	34	
	4	BSB E	Office	1 per 250 s.f. of gfa	2,800 s.f.	11	
	4	BSB F	Office	1 per 250 s.f. of gfa	2,800 s.f.	11	
	4	BSB 5	Office	1 per 250 s.f. of gfa	3,300 s.f.	13	
	4	BSB 6	Office	1 per 250 s.f. of gfa	3,300 s.f.	13	
	4	BSB 7	Office	1 per 250 s.f. of gfa	3,300 s.f.	13	
	4	BSB 8	Office	1 per 250 s.f. of gfa	3,300 s.f.	13	
	4	Dana Point Yacht Club	Yacht Club & Storage <sup>2</sup>	4 per 1,000 s.f.	18,000 s.f.	72	
	TOTAL						1,076
BSB = Boater Service Building; s.f. = square feet; gfa = gross floor area; PA = Planning Area.							
<sup>1</sup> This total does not include the car with trailer spaces provided for the boat launch ramp, or the on-street parking along a portion of Dana Point Harbor Drive.							
<sup>2</sup> Rates are based on City of Los Angeles Planning and Zoning Code, Section 12.21, 9/13/2000 revision, and California Department of Boating and Waterways standards.							
<sup>3</sup> Total number of parking spaces required, based on <i>Traffic and Parking Study for the Orange County Marine Institute Expansion</i> (January 27, 2000).							
<sup>4</sup> Current summertime peak-hour operations							
<sup>5</sup> Rates are based on California Department of Boating and Waterways standards.							
<sup>6</sup> The parking requirement is calculated on a restaurant-by-restaurant basis, not an aggregate total. The restaurant square footage includes outdoor patio/dining areas.							

## COMMERCIAL CORE

Refer to the Harborwide discussion above.

## OFF-SITE AREAS

Selva Parking Lot – The Selva Parking Lot would be utilized as a temporary parking for employees and temporary storage of boats and vehicles. Therefore, the Selva Parking Lot would provide additional parking opportunities and impacts in this regard would be less than significant. Additionally, the County will prepare a Parking Management Plan to ensure that public access to the Selva Lot is retained to an adequate capacity.

SCWD Lot – The SCWD Lot would be utilized primarily for boat storage. The storage use associated with this site would provide additional parking within the Harbor, resulting in less than significant impacts in this regard.

## 4.5.5 CUMULATIVE IMPACTS

With respect to Traffic And Circulation, it should be noted that Year 2012 and Year 2030 background traffic volumes were derived by applying an annual growth rate factor of 1.0 percent per year over existing traffic volumes to account for ambient traffic growth. Note that the anticipated traffic volumes from the *Headlands Traffic*



*Study* were added to the 1.0 percent growth rate as well.<sup>1</sup> Thus, with the application of the Headlands traffic volumes and annual growth rate, the analysis contained within Impact Statement 4.5.4.2 (Trip Generation, Distribution and Assignment) represents both a project and cumulative level analysis.

#### **4.5.6 PROJECT DESIGN FEATURES**

The proposed Project includes features that reduce or eliminate potential impacts to environmental resources. The following Project Design Features (PDFs) are specified to be implemented.

- PDF 4.5-1 The construction phasing plan for the Commercial Core includes early construction of the parking deck and ramp, augmenting parking for Harbor visitors and boaters.
- PDF 4.5-2 A seasonal water taxi service may be incorporated throughout the Harbor to reduce average daily trips (ADTs) during peak Harbor usage periods.
- PDF 4.5-3 Dana Point Harbor Drive at the west end of the Harbor in front of Youth & Group Facility may be realigned in the future providing improved road circulation.
- PDF 4.5-4 Dedicated boater drop-off areas and parking are provided in the Commercial Core.
- PDF 4.5-5 Enhanced lighting for streets, parking lots, and pedestrian will be implemented with Revitalization Plan improvements.
- PDF 4.5-6 Existing surface parking may be restriped to improve efficiencies in parking stall configuration.
- PDF 4.5-7 The Dana Point Harbor Revitalization Signage Plan includes recommendations on signage throughout the Harbor to reduce pedestrian/vehicle conflicts (i.e., no crossing signs).

#### **4.5.7 STANDARD CONDITIONS OF APPROVAL**

Controls are imposed on new developments through the permitting process via the adoption of conditions of approval or through enforcement of existing ordinances and regulations. The County has developed extensive guidelines for development that will be implemented as the proposed Project is carried out. Existing applicable County of Orange Standard Conditions of Approval (SCAs) are identified below.

- SCA 4.5-1 Prior to the approval of any grading permit, the County of Orange Dana Point Harbor Department shall prepare a Parking Management Plan (PMP) that ensures public access to the Selva Lot will be retained.

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<sup>1</sup> RK Engineering Group, *Headlands Traffic Study*, September 14, 2001.



- SCA 4.5-2 The County of Orange Dana Point Harbor Department shall prepare and process an encroachment permit for any Project work (e.g., street widening, emergency access improvements, storm drain construction, street connections, etc.) occurring in any City of Dana Point right-of-way.
- SCA 4.5-3 Prior to the issuance of any grading permits, the County shall provide adequate sight distance per Standard Plan 1117 at all street intersections, in a manner meeting the approval of the Manager, RDMD/Subdivision and Grading. The County shall make all necessary revisions to the plan to meet the sight distance requirement such as removing slopes or other encroachments from the limited use area in a manner meeting the approval of the Manager, RDMD/Subdivision and Grading Services.
- SCA 4.5-4 The County shall install all underground traffic signal conduits (e.g., signals, phones, power, loop detectors, etc.) and other appurtenances (e.g., pull boxes, etc.) needed for future traffic signal construction, and for future interconnection with adjacent intersections, all in accordance with plans and specifications meeting the approval of the Manager, RDMD/Subdivision and Grading.

## **4.5.8 MITIGATION MEASURES**

### **4.5.8.1 HARBORWIDE**

#### **SHORT-TERM (CONSTRUCTION) TRAFFIC AND PARKING CONDITIONS**

- MM 4.5-1 The County of Orange Dana Point Harbor Department shall prepare and process encroachment permits as required for all street and infrastructure improvements needed within the City of Dana Point public rights-of-way.
- MM 4.5-2 The County of Orange Dana Point Harbor Department shall provide a construction sign program to direct Harbor visitors and boaters to available parking.
- MM 4.5-3 The County of Orange Dana Point Harbor Department shall prepare a Construction Management Plan that includes the locations for shuttle drop-off areas, the relocations of public transit facilities and provisions for valet service (in the event construction activities do not allow for convenient parking adjacent to existing businesses). The Construction Management Plan shall also establish access locations for construction equipment, separate from those used by the general public.

#### **TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT**

- MM 4.5-4 *Del Obispo Street/Pacific Coast Highway* – Prior to issuance of the first building permit in Planning Areas 3 through 12 (subsequent to



development of the Commercial Core), the County of Orange Dana Point Harbor Department shall enter into an agreement to conduct a study to and potentially fund (on a fair share basis) the re-striping of the eastbound Pacific Coast Highway approach from one left-turn lane, two through lanes, and one de-facto right-turn lane to consist of one left-turn lane, two through lanes, and one shared through/right-turn lane; to widen the westbound Pacific Coast Highway approach from two left-turn lanes, one through lane, and one shared through/right-turn lane to consist of two left-turn lanes, two through lanes, and one shared through/right-turn lane.

MM 4.5-5      *Doheny Park Plaza/Pacific Coast Highway* – Prior to issuance of the first building permit in Planning Areas 3 through 12 (subsequent to development of the Commercial Core), the County of Orange Dana Point Harbor Department shall enter into an agreement to conduct a study to and potentially fund (on a fair share basis) the widening of the eastbound Pacific Coast Highway approach from one left-turn lane and two through lanes to consist of one left-turn lane and three through lanes; and to widen the westbound Pacific Coast Highway approach from one left-turn lane, one through lane, and one shared through/right-turn lane to consist of one left-turn lane, two through lanes, and one shared through/right-turn lane.

MM 4.5-6      *Puerto Place/Dana Point Harbor Drive* – Six months following completion of the Commercial Core improvements (Planning Areas 1 and 2), the County of Orange Dana Point Harbor Department will initiate a traffic intersection study to determine if a traffic signal and/or other capacity improvements are needed at the intersection of Puerto Place and Dana Point Harbor Drive. If a traffic signal or capacity improvements are warranted, the County of Orange will be responsible for installing the signal or capacity improvements in a manner meeting the approval of the Manager, RDMD/Subdivision and Grading in consultation with the City of Dana Point Public Works Director.

## **PARKING**

MM 4.5-7      The County of Orange Dana Point Harbor Department shall prepare a Traffic Management Plan (TMP) to include a provision for use of off-site locations for parking for peak Harbor use periods.

### **4.5.8.2 COMMERCIAL CORE**

#### **SHORT-TERM (CONSTRUCTION) TRAFFIC AND PARKING CONDITIONS**

MM 4.5-8      Refer to Mitigation Measures 4.5-1 through 4.5-3.

#### **TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT**

MM 4.5-9      Refer to Mitigation Measure 4.5-6.





- MM 4.5-10 Street of the Golden Lantern/Dana Point Harbor Drive – During a typical summer weekday/weekend (at least 12 months following completion of the Commercial Core improvements [Planning Areas 1 and 2]), the County or Orange Dana Point Harbor Department will initiate a traffic intersection study to determine if capacity improvements are needed at the intersection of Street of the Golden Lantern and Dana Point Harbor Drive. The study shall investigate whether adequate queuing storage lengths are provided (i.e., ensure that vehicles entering into a left turn movement do not spill out onto the through traffic lanes). If capacity improvements are warranted, the County of Orange Dana Point Harbor Department will be responsible for implementing the improvements in a manner meeting the approval of the Manager, RDMD Road Divisions in consultation with the City of Dana Point Public Works Director.

#### **PARKING**

- MM 4.5-11 Refer to Mitigation Measure 4.5-7.
- MM 4.5-12 Upon final design of the Commercial Core improvements, the County of Orange Dana Point Harbor Department shall prepare a queuing analysis for the parking deck located at Street of the Golden Lantern and Dana Point Harbor Drive. The queuing analysis shall be based on the Crommelin Methodology and analyze all ingress/egress points to recommend the appropriate number of inbound/outbound lanes, lane storage requirements, and access controls

### **4.5.8.3 OFF-SITE AREAS**

#### **SHORT-TERM (CONSTRUCTION) TRAFFIC AND PARKING CONDITIONS**

No mitigation is required.

#### **TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT**

No mitigation is required.

#### **PARKING**

No mitigation is required.

### **4.5.9 LEVEL OF SIGNIFICANT IMPACTS AFTER MITIGATION**

Implementation of the Project Design Features (PDFs) and recommended Mitigation Measures and compliance with Standard Conditions of Approval (SCAs) would reduce any potential traffic, circulation impacts, and parking to a less than significant level. No significant and unavoidable impacts would occur.