Section 3.10
Transportation/Circulation

3.10.1 Introduction

This section summarizes the transportation/circulation impact analysis for the proposed Project. The analysis includes streets and intersections that would be used by truck and automobile traffic to gain access to and from the proposed Project site, and key freeway segments. In addition, an analysis of the proposed Project's potential rail traffic-related impacts is included for informational purpose only.

3.10.2 Environmental Setting

3.10.2.1 Regional and Local Access

The proposed Project site is generally bounded by Sepulveda Boulevard to the north, Pacific Coast Highway (PCH) to the south, Dominguez Channel and Alameda Street to the west and the Union Pacific San Pedro Subdivision railroad tracks and to the east are in progression: the Southern California Edison transmission line corridor, the San Pedro Branch rail line, and a parcel of land owned by the City of Long Beach and occupied by industrial land uses, and the Terminal Island Freeway (SR-103). The proposed project would be located in an area that currently supports port-related intermodal activities, and would construct an intermodal rail yard where cargo containers headed to and from the ports of Los Angeles and Long Beach are loaded and unloaded between trains and drayage trucks serving the port terminals.

Access to the proposed Project study area is provided by a network of freeways and arterial routes (Figure 3.10-1). The freeway network consists of the Harbor Freeway (I-110), the Long Beach Freeway (I-710), the San Diego Freeway (I-405), and the Terminal Island Freeway (SR-103/SR-47), while the arterial street network that serves the Project area includes Ocean Boulevard, Pacific Coast Highway, Harry Bridges Boulevard, Alameda Street, Anaheim Street, Santa Fe Avenue, Henry Ford Avenue and Sepulveda Boulevard/Willow Street.

The Harbor and Long Beach Freeways are north-south highways that extend from the port area to downtown City of Los Angeles, and the City Alhambra, respectively. They each have six lanes in the vicinity of the harbor and widen to eight lanes to the north. The San Diego Freeway is an eight-lane freeway that passes through the Los Angeles region generally parallel to the coastline. The Terminal Island Freeway is a short highway that extends from Terminal Island across the Heim Bridge and terminates at Willow Street approximately 245 meters (800 feet) east of the Union Pacific Railroad Intermodal Container Transfer Facility (ICTF). It is six lanes wide on the southern segment, narrowing to four lanes at Anaheim Street.

Pacific Coast Highway (State Route 1) is a four-lane east-west arterial highway that expands to six-lanes between the Terminal Island Freeway and the Dominguez Channel, which is the segment serving the proposed Project. Pacific Coast Highway has interchanges with the I-710 freeway, the Terminal Island Freeway (SR-47/103) and connects to Alameda Street via East "O" Street.

Anaheim Street is a four- to six-lane, east-west street in the study area. Anaheim Street has an interchange with the I-710 freeway, connects to the Terminal Island Freeway (SR-47/103) via East "I" Street, and intersects Alameda Street at grade.

Sepulveda Boulevard is a four-lane east-west street that passes through the City of Carson and then becomes Willow Street in the City of Long Beach.

Harry Bridges Boulevard is a four-lane east-west street that runs along the north side of the West Basin. It provides direct access to the container terminal at Berths 136-139 and provides access to Berths 142-147 via Neptune Avenue, which extends south from Harry Bridges Boulevard.

Alameda Street extends north from Harry Bridges Boulevard and serves as a key truck route between the harbor area and downtown Los Angeles. The roadway is striped as a four lane roadway south of Pacific Coast Highway and as a six-lane roadway north of Pacific Coast Highway. There are grade separations at all major intersections south of SR-91. It was improved as part of the Alameda Corridor Transportation Corridor project which eliminated at-grade rail crossings along the corridor.

Ocean Boulevard/Seaside Avenue is a four- to six lane street that bisects Terminal Island and connects San Pedro to Long Beach via the Vincent Thomas and Gerald Desmond bridges. Ocean Boulevard is designated State Route 710 between I-710 and the Terminal Island Freeway, and Seaside Avenue is designated State Route 47 between I-110 and the Terminal Island Freeway.

Santa Fe Avenue is a four-lane street in the City of Long Beach that extends north from West 9th Street to merge with Alameda Street north of the study area.

Henry Ford Avenue is a four- to six-lane street that extends north from the port area and merges with Alameda Street south of Pacific Coast Highway.

3.10.2.1.1 Study Intersections

The environmental setting for the proposed Project includes intersections that would be used by both automobile and truck traffic to gain access to and from the proposed Project, as well as those streets that would be used by construction traffic (i.e., equipment and commuting workers). Project-related traffic on streets farther away from the project site would experience less than the minimum number of trips that would require analysis per the City of Los Angeles Department of Transportation (LADOT), City of Long Beach, or City of Carson traffic impact guidelines. The 25 study intersections include the following (see Figure 3.10-1):

1. Ocean Boulevard Ramps (Westbound) / Terminal Island Freeway
2. Ocean Boulevard Ramps (Eastbound) / Terminal Island Freeway
3. Ocean Boulevard Ramps (Westbound) / Pier S Avenue
4. Ocean Boulevard Ramps (Eastbound) / Pier S Avenue
5. Seaside Avenue / Navy Way
6. Ferry Street (Seaside Avenue) / SR-47 Ramps

7. Pico Avenue / Pier B Street / 9th Street / I-710 Ramps
8. Anaheim Street / Harbor Avenue
9. Anaheim Street / Santa Fe Avenue
10. Anaheim Street / East I Street / West 9th Street
11. Anaheim Street / Farragut Avenue
12. Anaheim Street / Henry Ford Avenue
13. Anaheim Street / Alameda Street
14. Henry Ford Avenue / Pier A Way / SR-47/103 Ramps
15. Harry Bridges Boulevard / Broad Avenue
16. Harry Bridges Boulevard / Avalon Boulevard
17. Harry Bridges Boulevard / Fries Avenue
18. Harry Bridges Boulevard / Neptune Avenue
19. Harry Bridges Boulevard / Wilmington Boulevard
20. Harry Bridges Boulevard / Figueroa Street
21. Pacific Coast Highway / Alameda Street Ramp
22. Pacific Coast Highway / Site Entrance (studied as part of the state highway ramp analysis)
23. Pacific Coast Highway / Santa Fe Avenue
24. Pacific Coast Highway / Harbor Avenue
25. Sepulveda Boulevard / Alameda Street Ramp

Figure 3.10-1.Proposed Project Study Area and Study Intersections.

3.10.2.1.2 Congestion Management Program Study Locations

The Congestion Management Program (CMP) is the official source of data for regional coordination of traffic studies in the County of Los Angeles. It includes Traffic Impact Analysis Guidelines to analyze the significance of a proposed project on regional facilities based on the quantity of project traffic expected to use those facilities. The criteria for determining the study area for CMP arterial monitoring stations are:

- Where the Project would add 50 or more trips during either the A.M. or P.M. weekday peak hours to arterial monitoring intersections, including freeway on-ramp or off-ramp.
- Freeway segments where the proposed Project would add 150 or more trips during either the A.M. or P.M. weekday peak hours

The following CMP arterial monitoring stations are located within the study area:

- Pacific Coast Highway /Santa Fe Avenue (study intersection)
- Pacific Coast Highway/Alameda Street (study intersection)
- Pacific Coast Highway/Figueroa Street (not a study intersection)

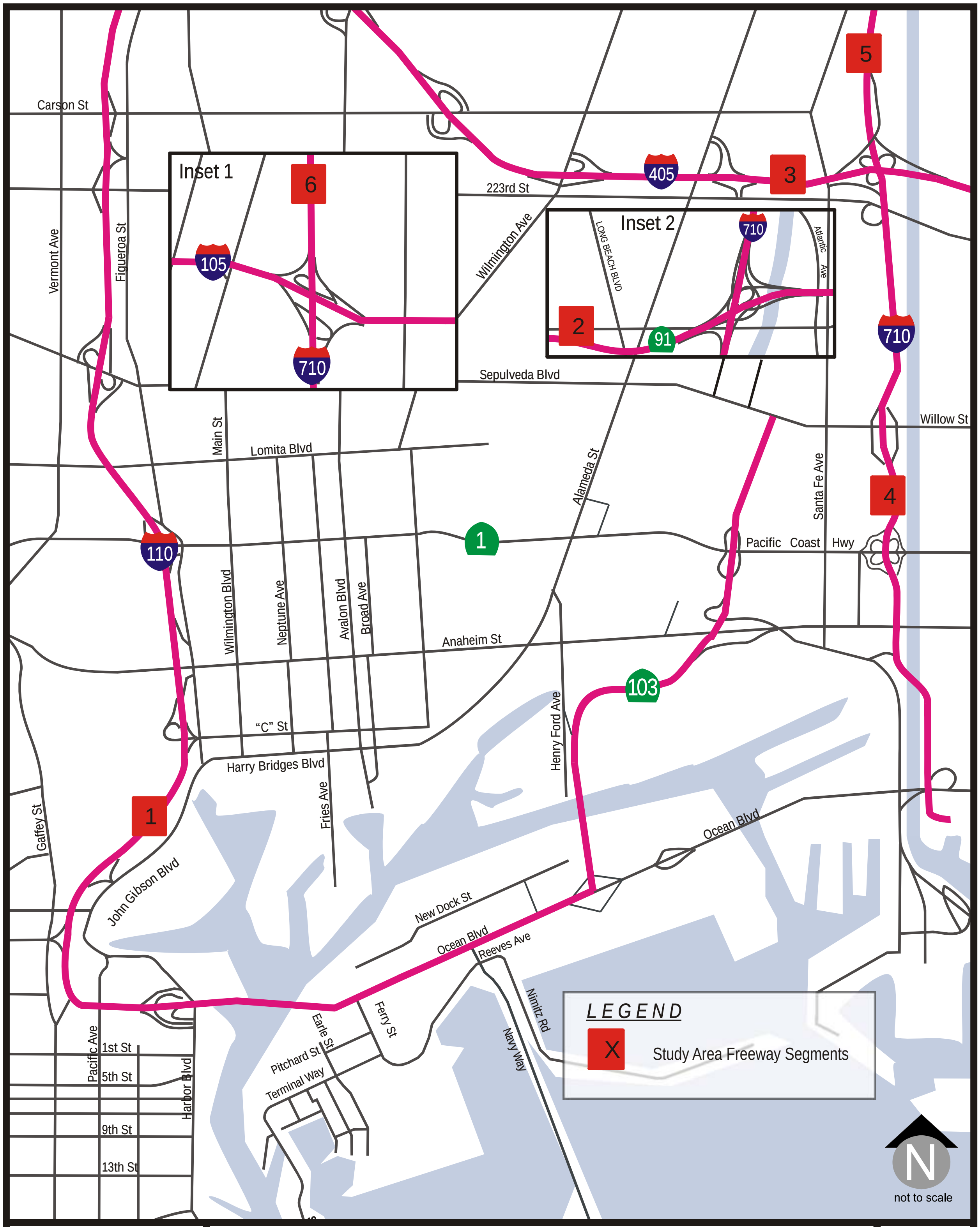
It is expected the proposed Project could add more than 50 trips in the A.M. and P.M. peak hours at two of the study area CMP intersections. The potential for significant intersection impacts at these locations was determined using locally defined intersection significance criteria that are either the same as or more stringent than the CMP significance criteria, as part of the intersection impact determination.

The following freeway monitoring stations (Figure 3.10-2) were used for regional analysis of the proposed Project and alternatives:

1. I-110 south of C Street (CMP Station 1045)
2. SR-91 east of Alameda Street and Santa Fe Avenue (CMP Station 1033)
3. I-405 at Santa Fe Avenue (CMP Station 1066)
4. I-710 between Pacific Coast Highway and Willow Street (CMP Station 1078)
5. I-710 between I-405 and Del Amo Boulevard (CMP Station 1079)
6. I-710 between I-105 and Firestone Boulevard (CMP Station 1080)

In addition to analysis of CMP monitoring stations, the analysis of the state highway facilities include the Pacific Coast Highway ramps at the proposed Project site egress/ingress and the SR-103 ramps at Pacific Coast Highway.

Figure 3.10-2. Proposed Project Study Area and Study Freeway Locations.



3.10.2.2 Existing Area Traffic Conditions

3.10.2.2.1 Methodology

Existing truck and automobile traffic along study roadways and intersections, including automobiles, port trucks, and other truck and regional traffic not related to the Port, was determined by taking vehicle turning movement classification counts (classification by size of vehicle) at 25 study locations. For all analysis locations, A.M. (6:00 – 9:00 A.M.), Mid-day (1:00 – 4:00 P.M.) and P.M. (4:00 – 6:00 P.M.) period traffic volumes were counted in February 2012 and are presented in Appendix G.

The peak hour of a period is determined by assessing the highest volume of total traffic occurring during one consecutive hour during the peak period at each location. Regional traffic occurring during the A.M. and P.M. peak hours is mainly due to commute trips, school trips and other background trips; while the peak hour for port related truck traffic generally occurs during the mid-day peak hour.

Traffic at each study intersection was counted during peak period as noted above. Then, the single highest peak hour of traffic flow at each location was used as the basis of the existing conditions analysis. Thus, the highest peak hour of traffic flow within the peak period was used for the analysis at each intersection. For example, if one morning intersection peak was found to occur at 7:30 to 8:30 AM and another at 7:45 to 8:45 AM, each of those unique peak hour flows was chosen as the existing traffic flow for purposes of the level of service calculations. This presents a very conservative analysis by choosing the highest flow at each location even though the traffic flow conditions in reality occur at different times.

For future condition analysis peak hour factors were applied to the peak period model results to convert peak period traffic projections to peak hour values representing the A.M. peak hour of 8:00 – 9:00 A.M., Mid-day peak hour of 2:00 – 3:00 P.M. and the P.M. peak hour of 4:00 – 5:00 P.M.

Intersection Level of Service Criteria

Level of service is a qualitative indication of an intersection's operating conditions as represented by intersection volume/capacity ratio. For signalized intersections, it is measured from level of service A (excellent conditions) to level of service F (very poor conditions), with level of service D (volume/capacity ratio of 0.90, fair conditions) typically considered to be the threshold of acceptability. The relationship between volume/capacity ratio and level of service for signalized intersections is shown in the following Table 3.10-1:

Table 3.10-1. Level of Service Criteria—Signalized Intersections.

V/C Ratio	LOS	Traffic Conditions
0 to 0.600	A	**Excellent. Little or no delay/congestion.** No vehicle waits longer than one red light, and no approach phase is fully used.
>0.601 to 0.700	B	**Very Good. Slight congestion/delay.** An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
>0.701 to 0.800	C	**Good. Moderate delay/congestion.** Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
>0.801 to 0.900	D	**Fair. Significant delay/congestion.** Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
>0.901 to 1.000	E	**Poor. Extreme congestion/delay.** Represents the most vehicles that the intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
> 1.000	F	**Failure. Intersection failure/gridlock.** Backups from nearby locations or cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: TRB, 1997

The study intersections are located in the City of Los Angeles, the City of Long Beach, and the City of Carson. Although the three cities have approved different methods to assess operating conditions in intersections, the methodologies are similar and usually yield the same results and conclusions.

For intersections in Los Angeles, the Los Angeles Department of Transportation (LADOT) used the Critical Movement Analysis method (LADOT, 2010) to assess levels of service. For signalized intersections, LOS values were determined by using Critical Movement Analysis methodology contained in the Transportation Research Board's Circular No. 212 – Interim Materials on Highway Capacity.

Level of Service analysis for the City of Carson intersections was conducted using intersection capacity-based methodology known as the "Intersection Capacity Utilization Methodology", as defined in the County of Los Angeles Traffic Impact Analysis Report Guidelines of the Los Angeles County Congestion Management Program.

Consistent with City of Long Beach guidelines for analyses, traffic conditions in the vicinity of the project and within the City of Long Beach jurisdiction were analyzed using the "Intersection Capacity Utilization Methodology" (the same methodology as the City of Carson intersections).

Freeway Level of Service Criteria

The CMP uses the demand-to-capacity ratio to determine level of service. The relationship between the demand-to-capacity ratio and level of service for freeway segments per the CMP is shown in the following Table 3.10-2.

Table 3.10-2. Freeway Level of Service Criteria.

Freeway Level of Service (LOS)	Demand/Capacity Ratio
A	0.01-0.35
B	0.36-0.54
C	0.55-0.77
D	0.78-0.93
E	0.94-1.00
F	>1.00

Source: Metro, 2010

Freeway Segment Mainline Analysis

Peak hour volumes along SR-103 and SR-1 mainlines are analyzed using the methodology contained in "Chapter 13 – Freeway Concepts" and "Chapter 23 – Basic Freeway Segments" of the *Highway Capacity Manual*, with analysis performed using the Highway Capacity Software (HCS Plus, Version 5.4) (TRB, 1997). The LOS thresholds for basic freeway segments are summarized in Table 3.10-3.

Table 3.10-3. LOS Criteria for Freeway Segments.

Level of Service	Density Range (pc/mi/ln)
A	0-11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	> 45

Source: TRB, 1997

Freeway Ramp (Merge/Diverge) Analysis

Peak hour ramp volumes are analyzed using the methodology contained in "Chapter 13 – Freeway Concepts" and "Chapter 25 – Ramps and Ramp Junctions" of HCM 2000, with calculations performed using Highway Capacity Software (HCS Plus, Version 5.4). This analysis examines the levels of service within the ramp influence areas of the freeway. The analysis of the on-ramps examines the impact of traffic merging onto SR-1 and SR-103, while the analysis of the off-ramps examines the impacts of the traffic diverging from SR-1 and SR-103. LOS criteria for ramp merge and diverge areas are listed in Table 3.10-4.

Table 3.10-4. LOS Criteria for Merge and Diverge Areas.

Level of Service	Density (pc/mi/ln)
A	≤ 10.0
B	>10.0 and ≤ 20.0
C	>20.0 and ≤ 28.0
D	>28.0 and ≤ 35.0
E	>35.0 and ≤ 43.0
F	Demand exceeds capacity

Source: TRB, 1997

Weaving Area Analysis

Peak-hour weave segments are analyzed using the methodology contained in "Chapter 13 – Freeway Concepts" and "Chapter 24 – Freeway Weaving" of HCM 2000, with analysis performed using HCS (HCS Plus, Version 5.4). This analysis examines the levels of service within the weaving segment. LOS criteria for ramp weaving segments are listed in Table 3.10-5.

Table 3-10.5. LOS Criteria for Weave Areas.

Level of Service	Density (pc/mi/ln)	
	Freeway Weaving Segment	Multilane and Collector-Distributor Weaving Segments
A	≤ 10.0	≤ 12.0
B	>10.0 and ≤ 20.0	>10.0 and ≤ 24.0
C	>20.0 and ≤ 28.0	>24.0 and ≤ 32.0
D	>28.0 and ≤ 35.0	>32.0 and ≤ 36.0
E	>35.0 and ≤ 43.0	>36.0 and ≤ 40.0
F	>43.0	>40.0

Source: TRB, 1997

3.10.2.2.2 Existing Levels of Service

Existing Baseline Intersection Operating Conditions

Based on peak-hour traffic volumes and volume/capacity ratios, the corresponding LOS at study intersections has been determined and is summarized in Table 3.10-6. All of the study intersections operate at level of service C or better during the peak hours in the CEQA Baseline.

Table 3.10-6. Baseline Conditions Intersection Level of Service.

		Existing Conditions					
		AM Peak Hour		MD Peak Hour		PM Peak Hour	
#	Study Intersection	LOS	V/C	LOS	V/C	LOS	V/C
1	Ocean Blvd (WB) / Terminal Island Fwy [B]	A	0.335	A	0.398	A	0.375
2	Ocean Blvd (EB) / Terminal Island Fwy [B]	A	0.215	A	0.379	A	0.348
3	Ocean Blvd (WB) / Pier S Ave [B]	A	0.266	A	0.313	A	0.341
4	Ocean Blvd (EB) / Pier S Ave [B]	A	0.209	A	0.364	A	0.340
5	Seaside Ave / Navy Way [A]	A	0.527	A	0.416	B	0.641
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.212	A	0.344	A	0.242
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.435	A	0.519	A	0.499
8	Anaheim St / Harbor Ave [B]	A	0.453	A	0.455	A	0.560
9	Anaheim St / Santa Fe Ave [B]	A	0.473	A	0.508	A	0.578
10	Anaheim St / E I St / W 9th St [B]	A	0.501	A	0.525	A	0.529
11	Anaheim St / Farragut Ave [A]	A	0.377	A	0.328	A	0.386
12	Anaheim St / Henry Ford Ave [A]	A	0.400	A	0.516	B	0.660
13	Anaheim St / Alameda St [A]	A	0.461	A	0.425	A	0.568
14	Henry Ford Ave / Pier A Way / SR-47/103 Ramps [A]	A	0.178	A	0.225	A	0.267
15	Harry Bridges Blvd / Broad Ave [A]	A	0.243	A	0.215	A	0.318
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.255	A	0.182	A	0.338
17	Harry Bridges Blvd / Fries Ave [A]	A	0.223	A	0.227	A	0.303
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.153	A	0.128	A	0.227
19	Harry Bridges Blvd / King Ave [A]	A	0.219	A	0.177	A	0.302
20	Harry Bridges Blvd / Figueroa St [A]	A	0.335	A	0.337	A	0.392
21	Pacific Coast Hwy / Alameda St Ramp [A]	B	0.605	A	0.511	B	0.661
22	Pacific Coast Hwy / Site Entrance	**See State Highway Ramp Analysis**					
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.773	B	0.699	D	0.821
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.628	B	0.603	C	0.733
25	Sepulveda Blvd / Alameda St Ramp [C]	B	0.679	A	0.484	B	0.612

A City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B City of Long Beach intersection, analyzed using ICU methodology according to City standards.
C City of Carson intersection, analyzed using ICU methodology according to City standards.

Existing Freeway/State Highway Operating Conditions

Baseline traffic volumes at the Congestion Management Program monitoring stations in the study area were obtained from 2009 Caltrans traffic counts. As shown in Table 3.10-7, locations that operate at LOS C or better are the I-110 location for all directions and peak hours and the SR-91 station in the eastbound AM peak hour. The other analysis locations operate at level D or worse.

Table 3.10-7. Baseline Conditions Freeway Level of Service.

Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Southbound/Westbound					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Demand	D/C	LOS	Demand	D/C	LOS	Demand	D/C	LOS	Demand	D/C	LOS
I-110	2.77	Wilmington, s/o "C"St.	8,000	4,200	0.53	B	3,000	0.38	B	3,000	0.38	B	4,100	0.51	B
SR-91	10.62	e/o Alameda Street/Santa Fe Ave	12,000	7,400	0.62	C	15,200	1.27	F(1)	9,900	0.83	D	6,000	0.50	B
I-405	8.02	Santa Fe Ave.	10,000	11,500	1.15	F(0)	8,900	0.89	D	8,600	0.86	D	10,700	1.07	F(0)
I-710	7.60	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,500	0.92	D	5,100	0.85	D	5,400	0.90	D	5,100	0.85	D
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,900	0.99	E	7,800	0.98	E	8,400	1.05	F(0)	7,600	0.95	E
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,200	1.28	F(1)	10,800	1.35	F(1)	7,500	0.94	E	7,800	0.98	E

The existing ramp weave and merge conditions at the Pacific Coast Highway ramps at the proposed Project site egress/ingress and the SR-103 ramps at Pacific Coast Highway are shown in Tables 3.10-8 to 3.10-10. This analysis was previously conducted for the Traffic Operations Report prepared for the Pacific Coast Highway Bridge Replacement (#53-399) and SCIG Site Driveway Alternatives Project (see Appendix G1).

Table 3.10-8. Baseline Conditions Ramp Level of Service.

Ramp	CEQA Baseline			
	AM Peak Hour		PM Peak Hour	
	Density pc/hr/ln	LOS	Density pc/hr/ln	LOS
Eastbound SR-1(1)				
Eastbound SR-1 to Southbound SR-103 (D)	9.7	A	11.4	B
Northbound SR-103 to Eastbound SR-1 (M)	10.0	A	11.8	B
Westbound SR-1 (1)				
Southbound SR-103 to Westbound SR-1 (M)	10.1	B	10.6	B
Westbound SR-1 to Northbound SR-103 (D)	10.9	B	10.3	B
Northbound SR-103				
Northbound SR-103 to Eastbound SR-1 (D)	10.9	B	12.9	B
Westbound SR-1 to Northbound SR-103 (M)	12.1	B	14.8	B
Southbound SR-103				
Southbound SR-103 to Westbound SR-1 (D)	6.2	A	9.6	A
Eastbound SR-1 to Southbound SR-103 (M)	10.0	A	12.6	B

1) Merge and Diverge designations are with reference to SR-1
(D) = Diverge (M) = Merge

Table 3.10-9. Baseline Conditions Weaving Section Level of Service.

Weaving Section	CEQA Baseline			
	AM Peak Hour		PM Peak Hour	
	Density pc/hr/ln	LOS	Density pc/hr/ln	LOS
Eastbound SR-1(1)				
Site Egress Ramp-Eastbound SR-1& Eastbound SR-1-Southbound 103	N/A	N/A	N/A	N/A
Eastbound SR-1-Northbound103 & Southbound 103-Eastbound SR-1	11.9	A	15.3	B
Westbound SR-1 (1)				
Westbound SR-1-Southbound 103 & Northbound 103-Westbound SR-1	12.7	B	13.5	B
Northbound SR-103 (2)				
Northbound SR-103-Westbound SR-1 & Eastbound SR-1-Northbound SR-103	9.3	A	15.7	B
Southbound SR-103 (2)				
Southbound SR-103-Eastbound SR-1 & Westbound SR-1-Southbound SR-103	4.7	A	8.3	A

Eastbound and Westbound designations are with reference to SR-1
1. Analyzed as a Multilane Highway.
2. Analyzed as Freeway Segment

Table 3.10-10. Baseline Conditions Highway Segment Level of Service.

Segment	CEQA Baseline			
	AM Peak Hour		PM Peak Hour	
	Density pc/hr/ln	LOS	Density pc/hr/ln	LOS
Eastbound SR-1				
West of "E" Road	7.3	A	7.7	A
East of SR-103 NB Ramps	11.1	B	14.7	B
Westbound SR-1				
West of "E" Road	10.3	A	11.9	B
East of SR-103 NB Ramps	12.7	B	12.2	B
Northbound SR-103				
South of PCH Eastbound Off Ramp	8.1	A	11.8	B
North of PCH Westbound On Ramp	8.3	A	11.9	B
Southbound SR-103				
South of PCH Eastbound On Ramp	5.4	A	8.2	A
North of PCH WB Off Ramp	4.2	A	7.7	A

As shown in Tables 3.10-8 to 3.10-10 all state highway ramp, weaving section, and segments that would be utilized by the proposed project truck routes operate at LOS "B" or better in the CEQA baseline.

3.10.2.3 Existing Transit Service

Several transit agencies provide service in the vicinity of the proposed Project site, including the Metropolitan Transportation Authority (Metro), the Municipal Area Express (MAX), Long Beach Transit, Torrance Transit and LADOT. Together, these transit agencies operate 17 transit routes within and/or near the proposed Project (Table 3.10-11).

Table 3.10-11. Existing Transit Service.

Transit Agency	Line	Route Name	Days of Operation	Headways/Frequency	
Metro	Express 445	San Pedro–Artesia Transit Center–Patsaouras Transit Plaza/Union Station Express	Monday–Friday	A.M.	30–50 minutes
				P.M.	39–50 minutes
			Saturday Peak		60 minutes
	Express 446	San Pedro–Pacific Avenue–Wilmington–Carson–Patsaouras Transit Plaza/Union Station Express	Monday–Friday	A.M.	60 minutes
				P.M.	60–75 minutes
			Saturday Peak		60 minutes
	Express 447	San Pedro–7th Street–Wilmington–Carson–Patsaouras Transit Plaza/Union Station Express	Monday–Friday	A.M.	60 minutes
				P.M.	60–75 minutes
			Saturday Peak		60 minutes
	Local 202	Willowbrook–Compton–Wilmington	Monday–Friday	A.M.	60 minutes
				P.M.	60 minutes
			Saturday Peak		-
	Local 232	Long Beach – LAX via Sepulveda Boulevard	Monday–Friday	A.M.	20–40 minutes
				P.M.	20–40 minutes
			Saturday Peak		40 minutes

Transit Agency	Line	Route Name	Days of Operation		Headways/Frequency
	Metro Blue Line	Blue Line–Downtown Los Angeles to Downtown Long Beach	Monday–Friday	A.M.	5–6 minutes
				P.M.	5–6 minutes
			Saturday Peak		15 minutes
Torrance Transit	Express Line MX3X	San Pedro–El Segundo	Monday–Friday	A.M.	-
				P.M.	-
			Saturday Peak		-
	T3	Redondo Beach–Long Beach	Monday–Friday	A.M.	15 minutes
				P.M.	15 minutes
			Saturday Peak		60 minutes
Long Beach Transit	1	Downtown Long Beach–Wardlow Blue Line Station	Monday–Friday	A.M.	20 minutes
				P.M.	20 minutes
			Saturday Peak		40 minutes
	101/102/103	Willow Street–Carson Street–Spring Street–Lakewood Mall	Monday–Friday	A.M.	15 minutes
				P.M.	15 minutes
			Saturday Peak		30 minutes
	191/192/193	Downtown Long Beach–Del Amo Blvd (192: Los Cerritos Center)	Monday–Friday	A.M.	10–15 minutes
				P.M.	10–15 minutes
			Saturday Peak		40 minutes
LADOT Commuter Express	142	San Pedro–Terminal Island–Long Beach	Monday–Friday	A.M.	25 minutes
				P.M.	25 minutes
			Saturday Peak		30–60 minutes
LADOT Municipal Bus Line	LDWLM	Wilmington Area	Monday–Friday	A.M.	15 minutes
				P.M.	15 minutes
			Saturday Peak		15 minutes

- **Metro Express Line 445.** Line 445 provides express bus service from downtown Los Angeles to its final destination at Pacific and 21st Street in San Pedro.
- **Metro Express Line 446.** Line 446 provides express bus service from downtown Los Angeles to its final destination at the Korean Bell Site in San Pedro.
- **Metro Express Line 447.** Line 447 provides express bus service from downtown Los Angeles to its final destination at 7th Street and Patton Avenue in San Pedro.
- **Metro Local Line 202**. Line 202 is a north-south local service that travels from Wilmington to Willowbrook Avenue along Alameda Street. Line 202 is the closest transit route on the west side of the Project site. Route 202 also provides service from the Metro Blue Line, connecting at the Del Amo Boulevard Blue Line Station.
- **Metro Local 232.** Route 232 runs east-west along Anaheim Street, connecting to Metro Local Line 202 (service along Alameda Street), Metro Express Lines 445/446/447 and the Metro Blue Line in downtown Long Beach.
- The 22-mile **Metro Blue Line** light rail travels from downtown Los Angeles to downtown Long Beach, running along Long Beach Boulevard and Pacific Avenue within downtown Long Beach.
- **Torrance Transit T3** runs east-west along Pacific Coast Highway south of the Project site from the Redondo Beach Pier to downtown Long Beach via Main Street in Wilmington.

- **Municipal Area Express MX 3X.** Line 3X is a special freeway express route that operates directly from San Pedro to El Segundo, starting at Pacific Crest near the USAF housing and ending at South La Cienega Boulevard near the Airport Courthouse. A.M./P.M. peak hour headway does not apply because there is only one bus.
- **Long Beach Transit Line 1** runs north-south along Easy Street east of the Project area from downtown Long Beach to the Wardlow Street Metro Blue Line Station.
- **Long Beach Transit Lines 101/102/103** run from the Long Beach Towne Center and Lakewood Mall to the intersection of Willow Street and Santa Fe Avenue, which is the closest transit stop on the east side of the Project. The Santa Fe Avenue stop is approximately 2000 ft east of the ICTF administration building entrance. Long Beach Transit Line 101/102/103 also connects to the Metro Blue Line at the Willow Street Station.
- **Long Beach Transit Lines 191/192/193** run along Santa Fe Street in the Project area and provide the closest transit stops on the east side of the Project (along with Long Beach Transit Line 101/102/103).
- **LADOT Commuter Express 142** runs east-west along Ocean Boulevard from downtown Long Beach to San Pedro.
- **LADOT Dash Wilmington Line** provides local service in the Wilmington community of the City of Los Angeles. The closest stop to the Project site is at Pacific Coast Highway and Watson Avenue.

3.10.2.3.1 Other Modes – Bicycle and Pedestrian

Other modes of travel within the study area include pedestrian and bicycle. Because the proposed Project will use designated truck routes, trucks cannot use other streets. On the designated truck routes there are currently no on-street bicycle facilities. The City of Los Angeles Bicycle Master Plan identifies Pacific Coast Highway in the project vicinity as a Class II designated bikeway that will include bicycle lanes in the future. Other parallel roadways such as Lomita Boulevard and Anaheim Street are also designated as Class II bikeways, but do not currently have bicycle lanes in place. The five-year implementation plan does not include Pacific Coast Highway. However, Lomita Boulevard and Anaheim Street are included in the five-year implementation plan as Priority 2 (second highest funding priority).

Pedestrians are allowed to use the sidewalks and to cross intersections along the designated truck routes. The streets and intersections are designed by the Cities of Los Angeles and Long Beach to accommodate pedestrians. At intersections along the truck routes, all pedestrian crossing areas are marked with crosswalks.

3.10.2.4 Baseline Rail Setting

The Ports of Los Angles and Long Beach are served by two Class I railroads: Union Pacific Railroad (UP) and the Burlington Northern Santa Fe Railway (BNSF). Pacific Harbor Line, Inc. (PHL) provides rail transportation, maintenance and dispatching services within the harbor area.

North of the harbor area, the ports are served by the Alameda Corridor, which was completed in 2002. All harbor-related trains of the UP and the BNSF use the Alameda Corridor to access the railroad's mainlines, which begin near downtown Los Angeles. East of downtown Los Angeles, port-related trains use either the BNSF San Bernardino

Subdivision, the UP Los Angeles Subdivision, or the UP Alhambra Subdivision. Refer to Figure 3.10-3 for a map of freight railroad lines.

To transition from the Alameda Corridor to the Alhambra Subdivision, the UP utilizes trackage rights over Metrolink's East Bank Line, which runs parallel to the Los Angeles River on the east side of downtown Los Angeles. The UP Los Angeles Subdivision terminates at West Riverside Junction where it joins the BNSF San Bernardino Subdivision. The BNSF San Bernardino Subdivision continues north of Colton Crossing and transitions to the BNSF Cajon Subdivision. The Cajon line continues north to Barstow and Daggett, and then east toward Needles, CA and beyond. UP trains exercise trackage rights over the BNSF Subdivision from West Riverside Junction to San Bernardino and over the Cajon Subdivision from San Bernardino to Daggett, which is a short distance east of Barstow. The UP Alhambra Subdivision and the BNSF San Bernardino Subdivision cross at Colton Crossing in San Bernardino County. East of Colton Crossing, the UP Yuma Subdivision passes through the Palm Springs area, Indio, and to Arizona and beyond.

The BNSF operates intermodal terminals for containers and trailers at Hobart-Commerce Yard (located in the City of Commerce with portions in the Cities of Los Angeles and Vernon) and at San Bernardino. The UP operates intermodal terminals at:

- East Los Angeles Yard (ELA) at the west end of the UP Los Angeles Subdivision,
- Los Angeles Transportation Center (LATC) at the west end of the UP Alhambra Subdivision,
- City of Industry (COI) on the UP Alhambra Subdivision, and the
- Intermodal Container Transfer Facility (ICTF) near the south end of the Alameda Corridor.

In addition, both UP and BNSF operate trains hauling marine containers that originate or terminate at on-dock terminals within the Ports of Los Angeles and Long Beach.

UP also has a large carload freight classification yard at West Colton (at the east end of the Alhambra Subdivision). A large auto unloading terminal is located at Mira Loma (mid-way between Pomona and West Riverside on the Los Angeles Subdivision).

The BNSF San Bernardino Subdivision has at least two main tracks. There are segments of triple track between Hobart/Commerce Yard and Fullerton. The BNSF recently completed a third main track from San Bernardino to the summit of the Cajon Pass.

The UP Alhambra Subdivision is mostly single-track, while the UP Los Angeles Subdivision has two main tracks west of Pomona and a mixture of one and two tracks east of Pomona.

North from West Colton, UP operates the single-track Mojave Subdivision to Northern California and Pacific Northwest points. This line closely parallels the BNSF Cajon Subdivision as the two lines climb the south slope of the Cajon Pass. Connections are afforded at Keenbrook and Silverwood to enable UP trains to enter/exit the main tracks of the BNSF Cajon Subdivision. Beyond Silverwood to Palmdale, the UP Mojave Subdivision has very little train traffic.

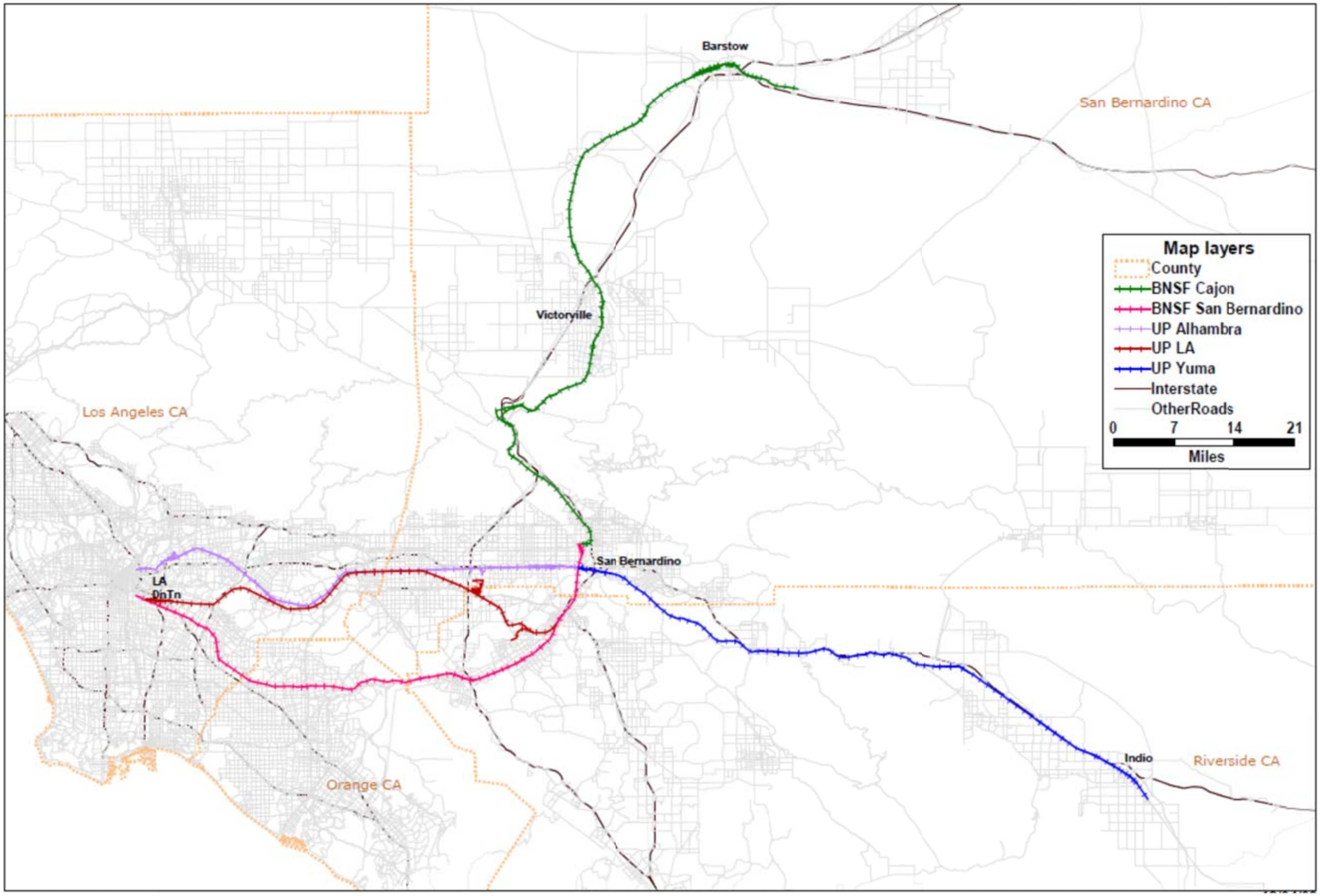
East from Colton Crossing to Indio, UP operates its transcontinental Sunset Route main line, also known as the UP Yuma Subdivision. The line now has two main tracks the entire distance to Indio. East of Indio, the Sunset Route still has stretches of single track, but construction of a second main track is underway.

3.10.2.4.1 Geographic Study Rail Lines and Grade Crossings

Although not required under CEQA because it is outside of the geographic area impacted by the project, an expanded discussion of rail traffic outside of the Port area is provided in this environmental document. The analysis is based on the rail methodology and threshold of significance established by the Ports of Los Angeles and Long Beach for assessing rail impacts under CEQA (POLA and POLB, 2011). See Appendix G for more detailed documentation. For the purpose of estimating at-grade crossing delays of the SCIG facility, the geographic study area includes those at-grade crossings that could potentially experience a "significant impact" due to the proposed Project. Because the SCIG facility will be used exclusively by the BNSF, the geographic study area includes only the BNSF San Bernardino Subdivision from Hobart-Commerce Yard to San Bernardino, and the BNSF Cajon Subdivision from San Bernardino to Barstow. Because some UP trains use portions of these lines, UP train traffic must be accounted for in the tabulation of background train traffic. BNSF crossings between Barstow and the Nevada border are located in rural areas with low traffic volumes (typically less than 5,000 average daily trips) and are thus not included in the geographic study area.

The Alameda Corridor eliminated all of the at-grade crossings between the Ports and the intermodal railyards located on Washington Boulevard in the Cities of Commerce, Los Angeles and Vernon. Therefore, potential impacts associated with rail crossing delays between SCIG and the downtown railyards is not included in this analysis because no at-grade crossings exist. On the UP and BNSF rail lines east of the Hobart/Commerce and ELA yards, many railway-roadway grade separations have been constructed, but about 170 at-grade crossings remain between downtown Los Angeles and Barstow and Indio. In 2010, along the BNSF San Bernardino Subdivision there were 57 at-grade crossings between Hobart/Commerce Yard and San Bernardino. Along the BNSF Cajon Subdivision between San Bernardino there were 14 at-grade crossings in 2010.

1 **Figure 3.10-3. Map of Southern California Freight Railroad Lines.**



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3.10.3 Vehicular Traffic and Rail Impacts and Mitigation Measures

3.10.3.1 Methodology for Traffic

Impacts were assessed by quantifying differences between CEQA Baseline conditions and CEQA Baseline conditions plus the proposed Project.

Port Area Travel Demand Model

The Port Area Travel Demand Model was used to forecast traffic related to the proposed Project. The Port Area Model was originally developed for the *Ports of Long Beach and Los Angeles Transportation Study* (POLB and POLA, 2001) and was subsequently revised and updated for several efforts including the *Port of Los Angeles Baseline Transportation Study***.** The model is a tool that is based on the Southern California Association of Governments' (SCAG) Regional Travel Demand Forecasting Model (the SCAG Regional Model), as well as elements of the SCAG Heavy Duty Truck (HDT) model. TransCAD is the software platform used for modeling. The Port Area Travel Demand Model uses four periods to forecast traffic over a full 24 hour period. These periods are the A.M. period (6:00 A.M. to 9:00 A.M.), the Mid-day period (9:00 A.M. to 3:00 P.M.), the P.M. period (3:00 P.M. to 7:00 P.M.) and the Night period (7:00 P.M. to 6:00 A.M.). The Port Area Travel Demand Model data is owned by the Ports of Los Angeles and Long Beach.

SCAG Regional Travel Demand Forecasting Model

The SCAG Regional Model is the basis and "parent" of most sub-regional models in the southern California six-county region, comprised of Ventura, Los Angeles, Orange, San Bernardino, Riverside and Imperial counties. At the regional level, this model has the most comprehensive and up to date regional data – for both existing and future conditions - on housing, population, employment, and other socio-economic input variables used to develop regional travel demand forecasts. The model has over 4,251 zones, including 90 zones in the port area, and a complete network of regional transportation infrastructure, including over 3,520 miles of freeways and over 18,650 miles of major, primary, and secondary arterials.

For purposes of sub-regional transportation analysis (such as in the port area), the SCAG Regional Model represents the most comprehensive and dynamic tool to forecast the magnitude of trips and distribution of travel patterns anywhere in the region. However, by virtue of its design and function, the SCAG Regional Model is not (and cannot be) very detailed and precise in any specific area of the region – for example, the Ports of Long Beach and Los Angeles focus area. Therefore, the Port Travel Demand Model has been comprehensively updated and detailed to focus on the Port area.

SCAG Regional Heavy Duty Truck Model

The SCAG Regional Heavy Duty Truck (HDT) Model was developed as an adjunct component to the SCAG Regional Travel Demand Model. The HDT Model develops explicit forecasts for heavy-duty vehicles with a gross vehicle weight (GVW) of 8,500 pounds and higher. The HDT Model includes trip generation, trip distribution, and network traffic assignment modules for heavy-duty trucks stratified by three weight classifications:

- Light-Heavy – 8,500 to 14,000 GVW
- Medium-Heavy – 14,000 to 30,000 GVW
- Heavy-Heavy – over 30,000 GVW

The HDT Model utilizes the SCAG Regional Model network for its traffic assignment process, but includes several network modifications, most notably the incorporation of truck/Passenger Car Equivalent (PCE) factors. These modifications were carried forward into the Port Travel Demand Model focus area. The presence of trucks in the traffic stream affects traffic flow in two ways: (1) trucks occupy more roadway space (and capacity) than individual passenger cars, (2) the operational characteristics of trucks, including acceleration, deceleration and maintenance of speed, are generally inferior to passenger cars and result in formation of large gaps in the traffic stream that reduce the roadway's capacity. On long, sustained grades and on segments with impaired capacities, where trucks operate considerably slower than automobiles, formation of these large gaps can have a profound impact on the traffic stream. The Port Travel Demand Model takes all of these factors into account. A passenger car equivalent factor of 1.1 was applied to tractors without an attached chassis or container (bobtails), a factor of 2.0 was applied to tractors with a chassis, and a factor of 2.0 was applied to tractors with an attached container for the LOS calculations. This means tractors are calculated as using ten percent more roadway capacity than autos and chassis and container trucks are calculated as using two times more roadway capacity than autos. These factors are consistent with factors applied in previous port studies including the *Port of Los Angeles Baseline Transportation Study* (MMA, 2004) and subsequent work conducted for various environmental studies in the Ports area.

The SCAG models were developed and are owned by SCAG, and are housed at SCAG offices, and they are widely used by agencies and consultants for sub-regional planning studies.

QuickTrip

QuickTrip is a spreadsheet truck trip generation model that was developed for the *Ports of Long Beach and Los Angeles Transportation Study*. QuickTrip estimates terminal truck flows by hour of the day based on TEU throughput and using assumed terminal operating parameters. The QuickTrip model was run and tested against the gate data (gate counts and historical gate data from the terminals). These data (TEU per container ratio, monthly TEU throughput, mode split, hours of operation, dual move percentage, worker shift splits and peaking factors) were input into QuickTrip for each terminal.

QuickTrip was validated by comparing estimates of gate activity to actual gate counts conducted in the field. The results of the validation exercise indicate that the QuickTrip model is able to estimate truck movements by day and peak hour within 2 to 10 percent of actual counts for all terminals, depending on which peak hour is modeled. QuickTrip was used to determine the single highest peak hour of Port trip generation within each peak period, both AM and PM.

3.10.3.2 Methodology for Rail

An expanded discussion of the rail transport of goods outside of the Port area is provided in this environmental document for informational purposes. The regional rail system in the Inland Empire is not located in the vicinity of the proposed Project and the analysis of impacts to this system is consistent with the opinion in the case, *City of Riverside vs. City of Los Angeles case*, (4th App Dist., Div 3, Case No. G043651 2011 WL 3527504 unpublished). In reviewing a Port of Los Angeles environmental impact report for a terminal project located within the Harbor District, the court held: "We conclude neither the City nor the County of Riverside is in the "vicinity" of the project. The Port did not abuse its discretion by failing to include in the recirculated draft EIR an analysis of rail-related impacts on the City and County of Riverside."

However, because rail has been, and continues to be, an important issue to many stakeholders, an analysis of such effects is provided for informational purposes only. The data and informational analysis, which is not required under CEQA, includes a methodology and evaluation criteria for assessing rail impacts. Other regional transportation plans should continue to examine the rail system and provide recommendations for future improvements as appropriate and necessary.

The Ports have developed a standard methodology for evaluating potential transportation impacts of port development projects on existing at-grade railroad crossings. Specifically, cargo terminal or railyard projects potentially generate additional freight train movements that could result in additional "gate down" time and motorist delays at existing at-grade crossings.

Impacts of the Project are analyzed in terms of average vehicle delay at the study area grade crossings. Average vehicle delay is calculated by dividing the total vehicle delay caused by trains passing a crossing during the peak commute hour by the number of vehicles passing the at-grade crossing in that hour. This is a universally-accepted approach for evaluating vehicle delay at signalized intersections consistent with methodologies contained in the *Highway Capacity Manual* (HCM). At-grade crossings operate similarly to traditional signalized intersections where some vehicles experience no delay (during a green phase or when the gate is up) and others are stopped for a certain period of time (during a red phase or when a train is crossing). While different approaches could be considered, the Level of Service (LOS) procedures for signalized intersections were identified as the most logical and consistent approach for assessing the significance of average vehicle delays at-grade crossings[1].

Per the HCM, LOS D includes delays of up to 55 seconds. LOS D is an acceptable level of service at signalized intersections in most urban areas in the Southern California region. Anything exceeding this threshold is generally considered unacceptable.

LOS is measured using peak hour average vehicle delay (PHAVD). PHAVD is based on the train and vehicular volumes and calculated using the following data:

- Peak hour vehicle arrival and departure rates (vehicles per minute per lane)
- Gate down time (function of speed and length of train, width of intersection, clearance distance, lead and lag times of gate operation)
- Total number of vehicles arriving per period

[1] Many jurisdictions in Southern California use HCM methodologies to evaluate impacts, including the California Department of Transportation (Caltrans), the Cities of Riverside and San Bernardino, and the County of Riverside.

The methodology for computing vehicular delay is based on Figure 3.10-4, which shows total vehicle arrivals and departures for an isolated grade crossing blockage. The yellow line represents vehicles arriving at an at-grade crossing, beginning at the time when the gates go down (point “O” in the figure). Total gate down time is depicted as “T_G”. The green line represents the vehicles departing the queue after the gate is lifted starting at time = T_G (point “A” in the figure). The queues are fully dissipated at time = t* (point “B” in the figure). The total vehicle delay is represented by the area of triangle OAB bounded by the yellow line, the green line, and the “X” axis. The length of line $S = (t_2 - t_1)$ represents the amount delay experienced by the nth vehicle. Calculating the value of this line for each vehicle arriving at the crossing and then adding those values up is equivalent to computing the area of triangle OAB. This calculation is performed for each train arriving at the crossing over the course of a day. Delay will vary by time of day, because there is more highway traffic during peak hours. Many of the vehicles arriving at the crossing will not be delayed by a train, but they are included in the calculation of average delay. This is the same way that average delay is computed for signalized intersections.

The equation for total vehicle delay for an isolated blockage, V, is:

$$V = \left(\frac{1}{2}\right)\frac{q{T_G}^2}{(1 - q/d)}$$

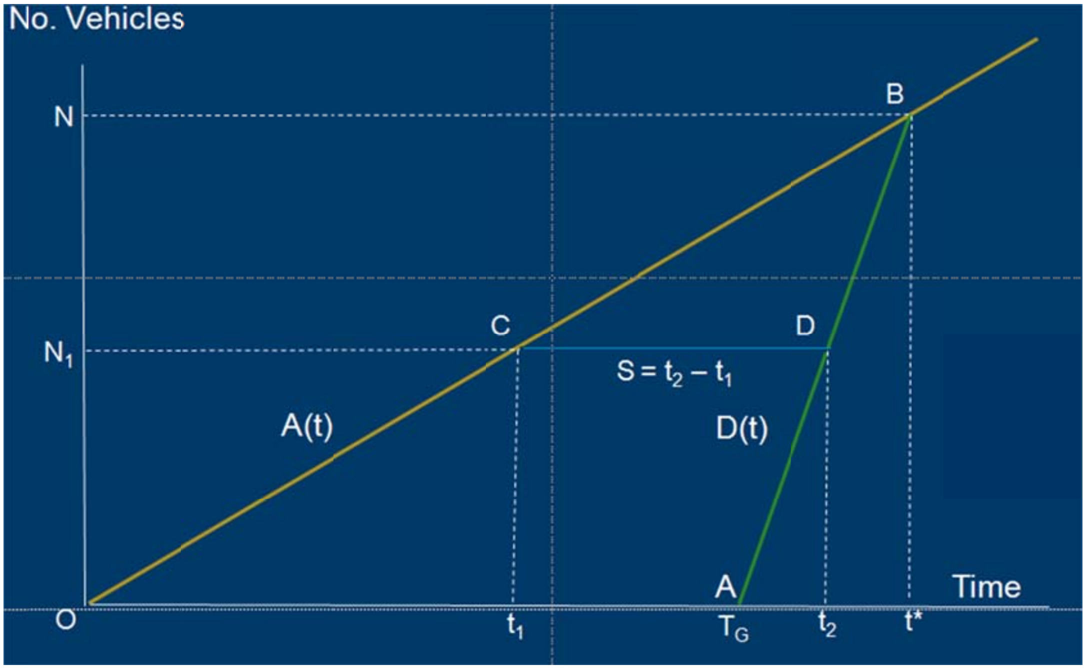
where T_G = gate down time, q = vehicle arrival rate, and d = vehicle departure rate. Note that delay is a function of the square of the gate down time. The mathematical derivation of the equation is shown in Appendix G.

Hourly average delay per vehicle is calculated by dividing total delay over one hour by the number of vehicles arriving at the crossing in the same hour.

The calculation of hourly average vehicle delay accounts for the following:

- Total vehicles arriving at the crossing in a one-hour period, whether the vehicles are delayed by a train or not.
- Total delay experienced by all vehicles in that hour.
- All trains passing through the crossing in that hour.

Figure 3.10-4. Total Arrivals and Departures for an Isolated Blockage.



Source: Leachman, 1984; and Powell, 1982.

The equation above relates to the effects of an isolated blockage; i.e., it is assumed that the vehicle queues are completely dissipated before the next train arrives at the crossing. However, where the rail corridor has more than one track, it is possible that a second train traveling in the opposite direction could arrive at the crossing before the queues from the first train have fully dissipated. More complex delay equations for these "multiple events" have been derived by Dr. Robert Leachman of U.C. Berkeley (Leachman, 1984). In an effort to compute these effects and how likely they are to occur, Dr. Leachman simulated railroad traffic for both 2010 and 2035 against streets with varying ADT per lane and recomputed vehicular delays including the impacts of multiple events. With higher train volumes, multiple events occur more often, and the severity of the impact is greater on streets with more vehicular traffic per lane. Based on a sample of Dr. Leachman's results for different train volumes and ADT per lane, Cambridge Systematics fitted a curve for the calculation of a "Bias Factor." This Bias Factor adjustment accounts for additional delay associated with multiple crossings that overlap in time. The fitted equation for the Bias Factor, BF, is as follows:

$$\boldsymbol{BF = exp\left(-0.52868 + (.000173) \times \left(\frac{ADT}{Lane}\right) + (0.01036) \times (Total\ Train\ Volume\ per\ Day)\right)}$$

The R-squared value for the fitted equation is 0.9322, indicating a very good correlation among the variables. Using this equation, a Bias Factor was computed for each grade crossing that has more than one track crossing the street. The Bias Factor is then multiplied by the unadjusted vehicle hours of delay for an isolated blockage to account for the effects of multiple events. For example, the average Bias Factor for all grade crossings on the BNSF San Bernardino Subdivision for 2035 is approximately 1.067, meaning that the unadjusted delay values are increased by an average of 6.7 percent.

The level of service definitions/ranges for the intersection operational methodology contained in the *Highway Capacity Manual* are applied to the PHAVD results.

3.10.3.3 Analysis Scenarios

3.10.3.3.1 CEQA Baseline: Existing Uses

The proposed Project site is currently occupied by container and truck maintenance, servicing; storage, rail service, and auto salvage activities. Existing uses have four access points: Pacific Coast Highway ramps and three driveways accessing Sepulveda Boulevard; a driveway west of Intermodal Way; a driveway south of the ICTF driveway; and a driveway at Middle Road.

Trip generation by the existing uses was determined by collecting traffic counts during the AM (6:00 – 9:00 AM) MD (1:00– 4:00 PM) and PM (4:00 – 6:00 PM) periods in February 2012 (see Appendix G for details of traffic count methodology). Table 3.10-12 summarizes CEQA Baseline peak hour trip generation for each business at each of the driveway access points.

Table 3.10-12. CEQA Baseline Existing Business Peak Hour Trip Generation (in Passenger Car Equivalents).

Entrance	Existing Businesses	AM Peak Hour			MD Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Pacific Coast Highway	Cal Cartage	250	110	360	145	170	315	180	170	350
	Fast Lane	80	35	115	50	60	110	60	55	115
	Subtotal	330	145	475	195	230	425	240	225	465
Sepulveda Driveways	Total Intermodal	65	60	125	70	70	140	55	70	125
	Three Rivers	25	15	40	25	25	50	30	50	80
	San Pedro Forklift	5	0	5	5	5	10	5	10	15
	LA Harbor Grain Terminal	20	10	30	20	20	40	20	30	50
	Subtotal	115	85	200	120	120	240	110	160	270
Alternate Sites		10	5	15	5	10	15	5	0	5
Total		455	235	690	320	360	680	355	385	740

3.10.3.3.2 Project-Related Trip Generation Forecast

The interrelation among the intermodal facilities related to the San Pedro Bay Ports results in the distribution of a set amount of loaded container trips to intermodal facilities. While the total number of off-dock intermodal loaded container trips is fixed in the analysis, the proposed Project would operate with fewer drayage trucks per intermodal lift as compared to the existing Hobart-Commerce Yard facility.

Under the proposed Project conditions, containers would be moved directly on and off bare chassis. These operations would minimize bobtail (tractors with no chassis) generation from the proposed Project site, which account for 0.826 truck trips per lift at existing intermodal sites, and therefore result in fewer overall truck trips per intermodal lift. As shown in Table 3.10-13, each intermodal lift at the baseline intermodal facilities generates 2.082 drayage truck trips, while the proposed Project would generate 1.320 truck trips per intermodal lift.

Because of its location approximately 4 miles from the Ports, the proposed Project would eliminate a portion (estimated at 95 percent) of existing and future intermodal truck trips between the Port and the BNSF's Hobart/Commerce Yard, which is located approximately 24 miles north of the Ports in the cities of Los Angeles and Commerce, by diverting them to the proposed SCIG facility. All truck trips between the Ports and the SCIG facility would be required to use designated truck routes to avoid local neighborhoods and sensitive receptors. Figure 3.10-5 illustrates the current primary local truck routes between Port facilities and the major transportation corridors leading to BNSF's Hobart/Commerce Yard (red/dashed line), and the designated routes between Port facilities and the proposed Project (green/dotted line). These changes in traffic patterns, which are evaluated in this EIR, are being proposed in order to shorten truck trips for movement of containers between ships and railcars, thereby easing traffic conditions on local freeways and reducing regional air quality impacts. On the I-710 freeway, which is the primary roadway facility that services current Hobart/Commerce Yard traffic, it is estimated that the project will reduce over 1.3 million truck trips per year between the SCIG project site and the BNSF Hobart/Commerce Yard. This is due to the fact that the trips will occur to SCIG rather than to Hobart/Commerce Yard, thus eliminating the trips on I-710. The proposed Project would provide direct access to the Alameda Corridor and enable the Alameda Corridor to reach its potential in terms of train capacity, thereby further realizing the significant benefits that already result from its use.

Table 3.10-13. Drayage Truck Trips per Intermodal Lift for Baseline Intermodal Facilities and the Proposed Project.

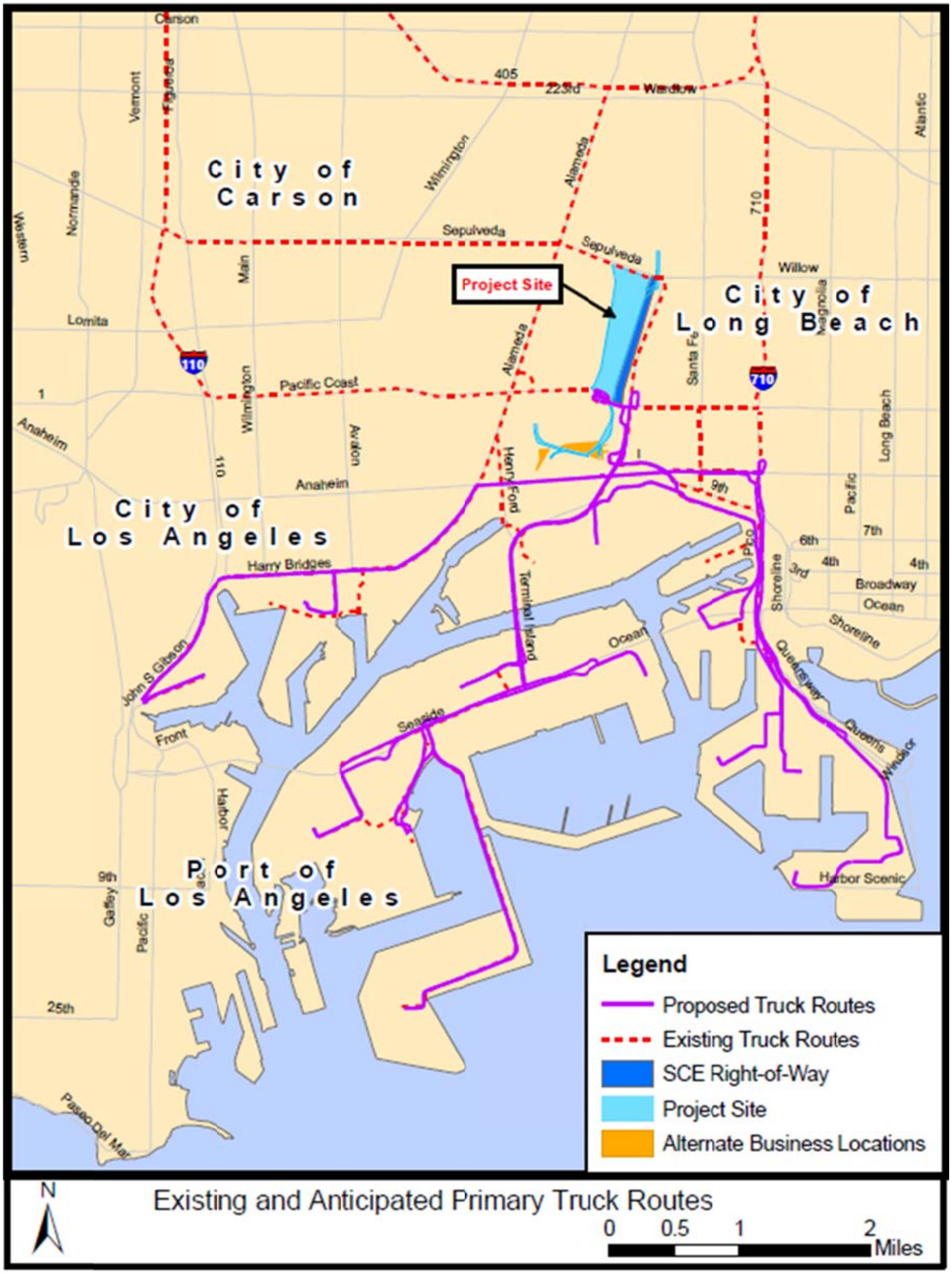
Trip Generation Conditions	In-Gate Load (Depart Port)	Out-Gate Load (Arrive Port)	Chassis (in and out)	Bobtails (in and out)	Total
Baseline Intermodal Facilities	0.610	0.390	0.220	0.862	2.082
Proposed Project	0.610	0.390	0.220	0.100	1.320

Project-related trip generation was developed using existing intermodal facility traffic counts, applicant-supplied information and the port's QuickTrip truck generation model. Traffic generated by the proposed Project was forecasted to determine potential impacts on study area roadways.

Trip Distribution

The distribution of drayage trips related to off-dock intermodal cargo is based on the projected demand of each port terminal. The proposed Project would include contracts with drayage companies that would require use of specified truck routes between the proposed Project and port terminals. Trucks would be equipped with GPS devices that would ensure driver compliance with the Project's specified truck routes. The designated truck routes are depicted in Figure 3.10-5 and described in more detail below.

Figure 3.10-5. SCIG Designated Truck Routes.



Designated Truck Route from Port of Los Angeles West Basin Terminals: Port terminal to Harry Bridges Boulevard to Alameda Street to Anaheim Street to East "I" Street to Terminal Island Freeway (SR-47) to Pacific Coast Highway to site driveway.

Designated Truck Route to Port of Los Angeles West Basin Terminals: Site driveway to Pacific Coast Highway to Terminal Island Freeway (SR-47) to East "I" Street to Anaheim Street to Alameda Street to Harry Bridges Boulevard to port terminal.

Designated Truck Route from Terminal Island: Port terminal to Ocean Boulevard to Terminal Island Freeway (SR-47) to Pacific Coast Highway to site driveway.

Designated Truck Route to Terminal Island: Site driveway to Pacific Coast Highway to Terminal Island Freeway (SR-47) to Ocean Boulevard to port terminal.

Designated Truck Route from Port of Long Beach: Port terminal to I-710 to Anaheim Street to East "I" Street to Terminal Island Freeway (SR-47) to Pacific Coast Highway to site driveway.

Designated Truck Route to Port of Long Beach: Site driveway to Pacific Coast Highway to Terminal Island Freeway (SR-47) to East "I" Street to Anaheim Street to I-710 southbound to port terminal, or East "I" Street to 9th Street to Pico Avenue to port terminal.

The assumed trip distribution percentages of proposed Project traffic were determined by Baseline port intermodal demand, and are shown in Figure 3.10-6. Drayage trips between the port terminals and the ICTF and intermodal facilities near downtown Los Angeles were also distributed through the roadway network by the Port Travel Demand Model, which included local roadway truck prohibitions.

For the purposes of this analysis, it was assumed that the employees of the Proposed Project would have similar residential distribution as terminal employees surveyed as part of the Longshore Worker place of residence data used to distribute port-related employee auto trips in the Port Travel Demand Model.

Trip distribution for existing businesses within the proposed Project site was based on data provided by the businesses which indicate approximately 50 percent of the trips serve the port terminals and the other 50 percent of trips are estimated to travel to downtown Los Angeles or outside of the region.

The net trip distribution of removing the existing proposed Project site trip generation and downtown Los Angeles drayage trips and adding traffic from the proposed Project and alternate business sites is shown in Appendix G1.

Port of Los Angeles Heavy Container Corridor Access

The City of Los Angeles, City of Long Beach, and the State of California Department of Public Works allow permits for overweight container loads in the port area. The Heavy Container Corridor, as designated in the Port of Los Angeles Heavy Container Corridor map[2] by POLA, reflects the appropriate overweight corridor route in the Port of Los Angeles and surrounding areas. The overweight corridor roadways include Pacific Coast Highway, Anaheim Street, the Terminal Island Freeway, Henry Ford Avenue and East "I" Street/9th Street. Access to the Heavy Container Corridor will be maintained by the proposed Project: via Pacific Coast Highway for the proposed Project Site and Pacific Coast Highway and/or Anaheim Street for the alternate business sites.

[2] http://www.portoflosangeles.org/DOC/HeavyContainerCorridorEnglish.pdf

Access could be provided across an at-grade crossing with the proposed rail line serving the proposed Project to E. Opp Street with another at-grade crossing and then to East “I” Street, which was analyzed. Alternative access to the 10-acre alternative site would either be from Pacific Coast Highway via the access road along Dominguez Channel that connects to E Road at the Pacific Coast Highway ramps.

The 4.5-acre alternative site is in two sections: 1) an eastern section bounded by East “I” Street/Southern Pacific Drive to the south, Farragut Avenue to the west, Grant Street to the North and the southbound SR-103 ramps to the east and 2) a western triangular shaped site bounded by railroad tracks and accessed by an at-grade rail crossing at E. Opp Street. The eastern section will continue to have full access to Farragut Avenue with direct access to SR-103 ramps and East “I” Street which connects to Anaheim Street. East “I” Street and Anaheim Street are part of the Port of Los Angeles Heavy Container Corridor and SR-103 is a California State Highway. The western section of the site would be completely bounded by rail tracks, as it is under current baseline conditions. Access would be from the at-grade crossing at E. Opp Street and potentially the current at grade crossing at Foote Avenue, north to the 10-acre alternative site.

Figure 3.10-6. Proposed Project Trip Distribution.

3.10.3.3.3 Proposed Project Scenario

The proposed Project would construct an intermodal transfer facility at a location approximately 4 miles from the Ports, the proposed Project would eliminate a portion (estimated at 95 percent) of existing and future intermodal truck trips between the Port and the BNSF's Hobart/Commerce Yard, which is located approximately 24 miles north of the Ports in the cities of Los Angeles and Commerce, by diverting them to the proposed SCIG facility. At full operation, the proposed Project would handle approximately 2.8 million TEUs per year, and it is anticipated it would reach its operational capacity in 2035. Some of the uses currently on the site may move to alternate sites south of the proposed Project site.

All truck trips between the Ports and the SCIG facility would be required to use designated truck routes to avoid local neighborhoods and sensitive receptors. Figure 3.10-5 illustrates the current primary local truck routes between Port facilities and the major transportation corridors leading to BNSF's Hobart/Commerce Yard, and the designated routes between Port facilities and the proposed Project. The primary site access for the proposed Project will be from the Pacific Coast Highway ramps. The Sepulveda Boulevard access will be retained for emergency access.

The proposed Project would provide direct access to the Alameda Corridor and enable the Alameda Corridor to reach its potential in terms of train capacity.

3.10.3.3.4 Rail Baseline

Baseline (Year 2010) Rail Volumes, Roadway Crossing Volumes, and Roadway Delays

Year 2010 traffic volumes were developed using traffic counts and the SCAG Regional Transportation Plan (RTP) plan. Daily highway traffic was then allocated to four different time periods of the day, based on the results from the SCAG RTP model and traffic counts as shown in Table 3.10-14.

Table 3.10-14. Hourly Factors Applied to Average Daily Traffic (ADT), by County.

Period	Time of Day	San Bernardino County	Riverside	Orange County	Los Angeles County
AM Peak (3 hours)	6 AM – 9 AM	0.0687	0.0661	0.0693	0.0686
Midday (6 hours)	9 AM – 3 PM	0.0450	0.0492	0.0461	0.0462
PM Peak (4 hours)	3 PM – 7 PM	0.1054	0.0873	0.0929	0.0945
Night (11 hours)	7 PM – 6 AM	0.0093	0.0143	0.0131	0.0126

Year 2010 rail volumes were developed using:

- Detailed lift and railcar data for all railyards and the Ports on-dock railyards.
- Rail data and projections being developed for the 2012 Regional Transportation Plan (RTP).
- Railroad mainline data where available.

For the Port on-dock and off-dock intermodal rail volumes, peak month volumes were utilized for baseline conditions. Off-dock rail volumes are broken down by:

- Direct intermodal containers from the ports (intact containers that are not transloaded).

- Transloaded containers (cargo that has been first taken out of 40-foot containers at a warehouse and then placed into 53-foot domestic containers before arriving at the rail yard).
- "Pure" domestic cargo in either domestic 53-foot containers or trailers (cargo that has not passed through the ports).

In addition, data on non-intermodal railroad traffic volumes are tabulated, including bulk, automobiles, and carload traffic. The parameters for estimating intermodal (containerized) rail volumes and train lengths include:

- Annual TEUs handled by individual yards.
- Monthly peaking factor.
- Average rail car length (depends on the mix of cars of varying lengths that make up the trains).
- Locomotive length.
- Number of locomotives per train for different train lengths.
- Number of rail cars per train for different train lengths.
- Slot utilization (percentage of rail car capacity actually used by containers). For example, a five-well rail car has the capacity for 10 double-stacked containers. If only nine containers are loaded onto the car, then the slot utilization is 90%.
- Distribution of trains by length (percentage of trains that are 6,000 feet, 8,000 feet, 10,000 feet, and 12,000 feet long, including locomotives).

For each railyard and each type of service (direct intermodal, transload, pure domestic, and non-intermodal), train volumes per day were estimated. Train volumes were then allocated to specific railroad tracks from downtown Los Angeles to Indio and Barstow. For BNSF, 100 percent of the train volumes were assigned to the BNSF San Bernardino and Cajon Subdivisions. For UP, 50 percent of trains were assigned to the Alhambra Subdivision and 50 percent to the Los Angeles Subdivision. Exceptions to that rule are UP trains loaded at City of Industry yard, which must use the UP Alhambra Subdivision and automobile trains loaded at the Mira Loma Yard, which must use the UP Los Angeles Subdivision. UP trains on the Los Angeles Subdivision also use the BNSF San Bernardino Subdivision between West Riverside and Colton Crossing. Beyond the Colton Crossing, it was assumed that 85 percent of the UP trains use the Yuma Subdivision to the east and 15 percent would use the BNSF Cajon Subdivision to the north between Barstow and Keenbrook. Approximately 10 percent of the UP volumes would use the BNSF Cajon Subdivision between Keenbrook and San Bernardino, and 5 percent would use the UP Mojave Subdivision between Keenbrook and West Colton.

Freight train volumes were uniformly distributed over 24 hours and assigned to four different time periods of the day, as shown in Table 3.10-15. For example, the A.M. peak period consists of 3 hours, or 12.5 percent of a 24-hour day. 12.5 percent of the daily estimated freight trains were assigned to the A.M. peak period. Passenger train volumes were allocated to time periods according to actual MetroLink and Amtrak schedules. To validate the assumption that freight trains are uniformly distributed over 24 hours, actual train volumes by time of day were acquired from the Alameda Corridor Transportation Authority (ACTA) and from the BNSF Railway. The results are shown in Tables 3.10-16 and 3.10-17. The actual distribution by time period is reasonably close to the uniform distribution shown in Table 3.10-16. Thus, a uniform distribution of freight train volumes for 2010 and 2035 was considered to be a reasonable assumption.

Table 3.10-15. Time Periods of the Day.

	Time of Day	No. of Hours	% of 24 Hours (uniform distribution)
A.M. Peak Period	6:00 A.M. to 9:00 A.M.	3	12.5%
Midday	9:00 A.M. to 3:00 P.M.	6	25.0%
P.M. Peak Period	3:00 P.M. to 7:00 P.M.	4	16.7%
Night	7:00 P.M. to 6:00 A.M.	7	45.8%
Total Daily		24	100.0%

Table 3.10-16. Alameda Corridor Train Volume by Time of Day, 2010.

	Time of Day	Average No. of Trains per Period*	% of Total Daily
A.M. Peak Period	6:00 A.M. to 9:00 A.M.	5.0	12.9%
Midday	9:00 A.M. to 3:00 P.M.	8.2	21.3%
P.M. Peak Period	3:00 P.M. to 7:00 P.M.	5.5	14.4%
Night	7:00 P.M. to 6:00 A.M.	19.9	51.5%
Total Daily		38.6	100.0%

* Daily average for last week of each quarter in 2010.
Source: ACTA, 2010

Table 3.10-17. BNSF Train Volume at Highgrove in Riverside County by Time of Day, 2010.

	Time of Day	Average No. of Trains per Period*	% of Total Daily
A.M. Peak Period	6:00 A.M. to 9:00 A.M.	10	14.1%
Midday	9:00 A.M. to 3:00 P.M.	16	22.2%
P.M. Peak Period	3:00 P.M. to 7:00 P.M.	10	14.3%
Night	7:00 P.M. to 6:00 A.M.	35	49.4%
Total		71	100.0%

*Measured over 62 days (July 1-31, 2008 and August 1-31, 2010)
Source: BNSF, 2011

For the baseline year 2010, all BNSF off-dock marine containers to and from Hobart/Commerce Yard amounted to 448,455 marine container lifts, or 807,219 TEUS (at 1.8 TEUs per lift).

Tables 3.10-18 and 3.10-19 list the delay at all crossings for 2010 baseline conditions. As can be seen, none of the locations experienced an average peak delay greater than 55 seconds.

1 **Table 3.10-18. BNSF San Bernardino Subdivision, from Hobart/Commerce Yard to San Bernardino, 2010.**

Boundary/Junction – Street	# of Lanes	Baseline Average Daily Traffic (Vehicles/Day)	Baseline Average Daily Train Volume (Trains/Day)	Baseline Daily Total Gate Down Time (Minutes/Day)	Baseline Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	Baseline PM Peak Average Delay per Vehicle (Seconds/Vehicle)
San Bernardino MP 0.0						
Laurel St	2	2,180	59.6	114.5	3.4	5.9
Olive St	2	2,600	59.6	114.5	4.1	6.0
E St	2	680	59.6	114.5	1.0	5.5
H St	2	1,370	59.6	114.5	2.1	5.7
Valley Bl	2	10,260	59.6	114.5	21.0	8.6
Colton Crossing MP 3.2						
Highgrove Junction MP 6.1 (Connection to Perris via MetroLink)						
Main St	2	2,500	71.6	144.0	5.1	7.7
Riverside-San Bernardino County Line MP 6.41						
Center St	4	6,020	71.6	144.4	12.4	7.7
Iowa Av	4	22,200	71.6	144.4	57.2	10.6
Palmyrita Av	2	3,640	71.6	144.0	7.6	7.8
Columbia Av*	4	16,920	71.6	144.4	40.2	9.4
Chicago Av	4	13,140	71.6	144.4	29.7	8.8
Spruce St	4	7,020	71.6	144.4	14.7	7.8
3rd St	4	10,560	71.6	144.4	23.0	8.3
Mission Inn (7th St)	4	5,170	71.6	144.4	10.6	7.6
Riverside Yard and Amtrak Station MP 10.02-10.16						
Cridge St	2	3,650	98.6	163.8	8.2	8.7
West Riverside Junction MP 10.6 (Connection to UP Los Angeles Sub)						
Jane St	2	2,100	65.5	106.2	2.9	5.2
Mary St	4	11,570	65.5	106.6	17.5	5.9
Washington St	2	8,040	65.5	106.2	12.9	6.4
Madison St	4	15,230	65.5	106.6	24.2	6.4
Jefferson St	2	7,940	65.5	106.2	12.7	6.4
Adams St	4	16,970	65.5	106.6	27.7	6.6
Jackson St	4	7,570	65.5	106.6	10.9	5.5

Boundary/Junction – Street	# of Lanes	Baseline Average Daily Traffic (Vehicles/Day)	Baseline Average Daily Train Volume (Trains/Day)	Baseline Daily Total Gate Down Time (Minutes/Day)	Baseline Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	Baseline PM Peak Average Delay per Vehicle (Seconds/Vehicle)
Gibson St	2	820	65.5	106.2	1.1	5.0
Harrison St	2	6,450	65.5	106.2	9.9	6.0
Tyler St	4	15,140	65.5	106.6	24.1	6.3
Pierce St	2	10,830	65.5	106.2	18.9	7.2
Buchanan St	2	9,270	65.5	106.2	15.4	6.8
Magnolia Av Eb	2	8,520	65.5	106.2	13.8	6.6
Magnolia Av Wb	2	8,520	65.5	106.2	13.8	6.6
Mckinley St	4	34,420	65.5	106.6	76.6	10.2
Radio Rd	2	4,170	65.5	106.2	6.0	5.6
Joy St	2	7,050	65.5	106.2	11.0	6.2
Sheridan St	2	2,290	65.5	106.2	3.2	5.2
Cota St	4	5,850	65.5	106.6	8.3	5.4
Railroad St	4	9,370	65.5	106.6	13.8	5.7
Smith St	4	13,270	65.5	106.6	20.6	6.1
Auto Center Dr	2	11,210	65.5	106.2	19.8	7.4
Riverside-Orange County Line						
Kellogg Dr	4	6,780	65.5	106.6	9.7	5.5
Lakeview Av	3	18,630	65.5	106.4	35.2	8.1
Richfield Rd	4	9,360	65.5	106.6	13.9	5.8
Atwood Junction MP 40.6 (Connection to Old Olive Sub)						
Van Buren St	2	6,680	47.4	89.0	9.3	5.5
Jefferson St	3	6,270	47.4	89.1	8.2	5.0
Tustin Av (Rose Dr)	4	28,810	47.4	89.3	52.5	8.0
Orangethorpe Av	4	27,980	47.4	89.3	50.1	7.8
Kraemer Bl	4	19,540	47.4	89.3	30.1	6.3
Placentia Av	4	14,320	47.4	89.3	20.3	5.6
State College Bl	4	23,290	47.4	89.3	38.2	6.9
Acacia Av	4	6,650	47.4	89.3	8.5	4.8
Raymond Av	4	20,770	47.4	89.3	32.6	6.5

Boundary/Junction – Street	# of Lanes	Baseline Average Daily Traffic (Vehicles/Day)	Baseline Average Daily Train Volume (Trains/Day)	Baseline Daily Total Gate Down Time (Minutes/Day)	Baseline Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	Baseline PM Peak Average Delay per Vehicle (Seconds/Vehicle)
Fullerton Junction MP 45.5 = MP 165.5						
Orange-LA County Line						
Valley View Av	4	23,930	90.4	123.8	49.0	8.9
Rosecrans/Marquardt Av	4	22,600	90.4	123.8	45.1	8.6
Lakeland Rd	2	6,370	90.4	123.3	10.7	6.8
Los Nietos Rd	4	19,950	90.4	123.8	38.0	8.0
Norwalk Bl	4	25,560	90.4	123.8	54.1	9.3
Pioneer Bl	4	14,910	90.4	123.8	26.1	7.1
Passons Bl	4	12,370	90.4	123.8	20.8	6.8
Serapis Av	2	6,110	90.4	123.3	10.2	6.7
Commerce Yard MP 148.5						
Hobart Yard MP 146.0						
OVERALL						
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)					**1,168.1**	
PM Peak Average Delay per Vehicle (Seconds/Vehicle)						**7.5**

*As of the analysis year of 2011, grade separation project for this street is completed.

Table 3.10-19. BNSF Cajon Subdivision, from San Bernardino to Barstow, 2010.

Boundary/Junction – Street	# of Lanes	Baseline Average Daily Traffic (Vehicles/Day)	Baseline Average Daily Train Volume (Trains/Day)	Baseline Daily Total Gate Down Time (Minutes/Day)	Baseline Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	Baseline PM Peak Average Delay per Vehicle (Seconds/Vehicle)
Barstow MP 0						
Lenwood Rd	2	4,340	64.8	113.5	5.8	4.9
Hinkley Rd	2	460	64.8	113.5	0.6	4.4
Indian Trail Rd	2	520	64.8	113.5	0.6	4.4
Vista Rd	2	2,680	64.8	113.5	3.4	4.7
Turner Rd	2	30	64.8	113.5	0.0	4.3
North Bryman Rd	2	150	64.8	113.5	0.2	4.4
South Bryman Rd	2	1,870	64.8	113.5	2.3	4.6
Robinson Ranch Rd	2	110	64.8	113.5	0.1	4.4
1st St	2	670	64.8	133.8	1.1	6.2
6th St	4	3,490	64.8	155.2	8.3	8.6
Silverwood Junction MP 56.6						
Keenbrook Junction MP 69.4						
Swarthout Canyon Rd	2	170	76.8	220.7	0.7	14.1
Devore Rd / Glen Helen Pkwy	4	6,080	76.8	221.3	25.5	15.4
Dike Junction						
Palm Av	2	11,490	57.6	167.7	45.8	16.0
State College Pkwy*	2	17,040	57.6	167.7	81.4	20.7
San Bernardino MP 81.4						
OVERALL						
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)					**175.9**	
PM Peak Average Delay per Vehicle (Seconds/Vehicle)						**14.5**

*As of the analysis year of 2011, grade separation project for this street is completed.

3.10.3.4 Thresholds of Significance

The Port of Los Angeles considers a project to have a significant transportation/circulation impact if the project would result in one or more of the following occurrences. These criteria were excerpted from the *Draft City of Los Angeles CEQA Thresholds Guide* (City of Los Angeles, 2006) and other criteria applied to Port projects.

The Port is using the threshold of significance shown in Table 3.10-20 to evaluate the significance of vehicle delay impacts at at-grade crossings consistent with the rail methodology.

Table 3.10-20. Threshold of Significance for Rail Impacts.

Level of Service (LOS) with Project	Change in Average Delay per Vehicle
A – D	Not Significant
E (55 – 80 seconds of average delay per vehicle)	2 seconds
F (over 80 seconds of average delay per vehicle)	1 second

TRANS-1 Short-term construction traffic significantly impact at least one study location volume/capacity ratio or level of service

In the absence of specific criteria from LADOT for estimating construction impacts on nearby roadways, the same significant impact thresholds for intersections during operations are also applied for the construction period. Study intersections fall within the City of Long Beach, City of Los Angeles and the City of Carson.

The cities of Long Beach and Carson consider level of service D to be the minimum acceptable level of service. A significant effect is considered to be a project-related change in volume to capacity ratio of 0.02 or greater if the final level of service is E or F.

In the City of Los Angeles, level of service D is also the minimum acceptable threshold; however, the City has a sliding scale of acceptable effects for service levels C, D, E and F. For example a greater effect is allowed under level of service C than level of service D before being considered significant. Thus, a project would have a significant impact under CEQA on transportation/circulation during construction if it would increase an intersection's volume to capacity ratio in accordance with the following guidelines:

- V/C ratio increase greater than or equal to 0.040 if final level of service is C,
- V/C ratio increase greater than or equal to 0.020 if final level of service is D, or
- V/C ratio increase greater than or equal to 0.010 if final level of service is E or F.

TRANS-2 Long-term vehicular traffic associated with the operation of the proposed Project may significantly adverse impact at least one study location volume/capacity ratio or level of service.

Similar to TRANS-1, the cities of Long Beach and Carson consider level of service D to be the minimum acceptable level of service.

Therefore, a significant effect is considered to be a project-related change in volume to capacity ratio of 0.02 or greater if the final LOS is E or F.

In the City of Los Angeles, LOS D is also the minimum acceptable threshold; however, the City has a sliding scale of acceptable effects for service levels C, D, E and F. For example a greater effect is allowed under level of service C than level of service D before being considered significant. Thus, a project would have a significant impact under CEQA on transportation/circulation during the construction period if it would increase an intersection's volume to capacity ratio in accordance with the following guidelines:

- V/C ratio increase greater than or equal to 0.040 if final level of service is C,
- V/C ratio increase greater than or equal to 0.020 if final level of service is D, or
- V/C ratio increase greater than or equal to 0.010 if final level of service is E or F.

TRANS-3 An increase in on-site employees due to proposed Project operations may result in a significant increase in related public transit use.

Additional demand on local transit services is evaluated for project operation. However, LADOT does not have any established thresholds to determine significance of transit system impacts. The project would have an impact on local transit services if it would increase demand beyond the supply of such services anticipated at Project Build-out.

TRANS-4 Proposed Project operations may result in increases considered significant related to highway congestion.

According to the Los Angeles County CMP, Traffic Impact Analysis Guidelines, an increase of 0.02 or more in the demand-to-capacity ratio with a resulting level of service F at a CMP arterial monitoring station is deemed a significant impact. This applies only if the project meets the minimum CMP threshold for analysis, which are 50 trips at a Congestion Management Program intersection and 150 trips on a freeway segment.

TRANS-5 Proposed Project operations may cause an increase in rail activity and/or delays in regional traffic.

An increase in rail activity could cause delays to motorists at the affected at-grade crossings where additional project trains would cross and/or where the project would result in additional vehicular traffic flow.

The Port is using the threshold of significance shown in Table 3.10-20 to evaluate the significance of vehicle delay impacts at at-grade crossings consistent with the rail methodology.

Table 3.10-20. Threshold of Significance for Rail Impacts.

Level of Service (LOS) with Project	Change in Average Delay per Vehicle
A – D	Not Significant
E (55 – 80 seconds of average delay per vehicle)	2 seconds
F (over 80 seconds of average delay per vehicle)	1 second

The project is considered to have a significant impact at the affected at-grade crossings if the average vehicle delay (of Project plus baseline) in the peak hour is greater than 55 seconds and exceeds the following thresholds of significance:

- LOS E (greater than 55 seconds to 80 seconds): adds 2 seconds or more delay per vehicle
- LOS F (greater than 80 seconds): adds 1 second or more delay

TRANS-6 Proposed Project would substantially increase transportation hazards due to a design feature.

The project is considered to have a significant impact if it creates a transportation hazard, such as creating sharp turns in roadways or dangerous intersections, as a design feature of the project.

TRANS-7 Proposed Project would result in inadequate emergency access.

The project is considered to have a significant impact if its design would result in inadequate access by emergency services, such as police and fire departments, to the Project site in the event of an emergency.

TRANS-8 Proposed Project would conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The project is considered to have a significant impact if its design would conflict with policies in place regarding public transit access or usage, or with planned or adopted policies for use of public roadways by bicycles and pedestrians.

3.10.3.5 Impacts and Mitigation

3.10.3.5.1 Proposed Project Traffic Conditions

The proposed Project trip generation was determined by using the proposed Project lifts (container trips) from the average weekday of the peak month of port operation at port buildout, the QuickTrip outputs, and adjustments for bobtail and container trips based on the rates shown in Table 3.10-21. The resultant proposed Project trip generation is shown in Table 3.10-21.

Table 3.10-21. Proposed Project Daily Trip Generation.

Scenario	Annual Lifts	Average Weekday of Port Peak Month					
		Daily Lifts	Truck Trips			Auto Trips	Daily Trips
			Containers	Chassis	Bobtails		
Proposed Project	1,500,000	5,495	5,495	1,210	550	900	8,155

Peak-hour trip generation was based on the proposed Project's share of intermodal demand in the peak hours. The proposed Project would operate with three eight-hour shifts beginning at 6 A.M., 2 P.M., and 10 P.M. A.M. and P.M. employee trips were not included in the peak hours because the employee shifts would end and begin at off-peak times, mid-day peak hour employee trips are included in the mid-day analysis. Table 3.10-22 shows the proposed Project trip generation and the net change in trip generation from CEQA Baseline at the Project site.

Table 3.10-22. Proposed Project and Net Change in Pacific Coast Highway Entrance Peak Hour Trip Generation (in Passenger Car Equivalents).

Scenario	AM Peak Hour			MD Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
CEQA Baseline	330	145	475	195	230	425	240	225	465
Proposed Project	410	450	860	570	550	1120	365	295	660
Net Change	80	305	385	375	320	695	125	70	195

Change in Trip Generation of Other Uses Due to Proposed Project

The proposed Project site is currently occupied by container and truck maintenance and servicing; storage; rail service; and auto salvage activities. For the proposed Project, some of the existing uses would remain on the site, some businesses would move to alternate sites south of the proposed Project site, and other displaced businesses would move to unknown sites as part of their own business plan.

Table 3.10-23 summarizes existing businesses trip generation under proposed Project conditions and the net change in trip generation from the Sepulveda driveways and the alternate business sites with the operation of the proposed Project, which represents an incremental change over the Baseline conditions.

Table 3.10-23. Proposed Project Site (Sepulveda Driveways) and Alternate Business Site Peak Hour Trip Generation (in Passenger Car Equivalents).

Entrance	Scenario	Business	AM			MD			PM		
			In	Out	Total	In	Out	Total	In	Out	Total
Sepulveda Driveways	CEQA Baseline	Total	115	85	200	120	120	240	110	160	270
	Proposed Project	Cal Cartage	50	20	70	30	30	60	35	35	70
	Net Change		(65)	(65)	(130)	(90)	(90)	(180)	(75)	(125)	(200)
Alternative Site	CEQA Baseline	Total	10	5	15	5	10	15	5	0	5
	Proposed Project	Cal Cartage	25	10	35	15	15	30	20	15	35
		Fast Lane	100	40	140	55	65	120	70	65	135
		Total	125	50	175	70	80	150	90	80	170
	Net Change		115	45	160	65	70	135	85	80	165

1. * Values in parenthesis indicate a reduction in trips from the proposed Project conditions to the baseline conditions.

The Baseline intermodal demand handled by the Hobart/Commerce Yard would be handled by the proposed Project. In order to be conservative, some international container trips are assumed to be handled by the Hobart/Commerce Yard under proposed Project conditions—five percent of the baseline operations, amounting to 5 percent of BNSF's marine container volume total for SCIG and Hobart/Commerce Yard in 2035 (i.e., 1,500,000/0.95-1,500,000=78,950).

Impact TRANS-1: Construction would result in a short-term, temporary increase in truck and auto traffic.

Construction activities would generate vehicular traffic associated with construction workers' vehicles and trucks delivering equipment and fill material to the site. This site-generated traffic would potentially result in increased traffic volumes on the study area roadways during the three-year duration of construction (2013 – 2015). The hours of construction would be 7:00 A.M. to 7:00 P.M. Monday through Saturday. The construction of the proposed Project, on average would generate 200 auto (worker) trips per day. These trips would occur outside of the peak hours and are not analyzed as part of the peak hour analysis. The peak of on-road truck trip generation during the construction period would occur in May 2014, when 990 daily truck trips would be generated by proposed Project construction.

Impact Determination

Sites for equipment laydown, material storage, construction management, and worker parking and staging would be located on the proposed Project site, Sepulveda Boulevard bridge site, and adjacent to the PCH, Dominguez Channel, and the alternate business sites. Storage yards and staging areas would be on sites that have already been improved, with access to large commercial streets to allow easy movement of personnel and equipment. It is anticipated that the majority of materials would be brought in during off-peak traffic hours, with the primary exception being concrete, which must be mixed and delivered within a limited window of time.

Site-generated traffic from the construction of the various project components would result in increased traffic volumes on the study area roadways for the duration of the construction period. Given the construction schedule, the construction worker trips would occur outside of the A.M. and P.M. peak hours while some construction-related truck trips would occur during peak hours, the number of construction truck trips during any single peak hour would be less than 30. That number of trips in an hour falls below the Los Angeles Department of Transportation threshold for conducting any type of traffic impact analysis.

For the purposes of construction period analysis, the construction period peak month is analyzed: 990 daily proposed Project site construction truck trips. In the analysis 100 inbound and 100 outbound construction trips occur in each peak hour, a 20 percent incidence during each peak hour--the 990 daily construction trips averaged over the course of the 12-hour construction work day would be about 80 trips per hour. All construction truck trips for the alternate business sites are assumed to occur in the peak hours. The construction period analysis consists of the following:

- 100 inbound and 100 outbound construction truck trips at the proposed Project site with regional access from Pacific Coast Highway to I-710
- 10 inbound and 10 outbound truck trips at the alternate business sites with regional access from Anaheim Street to I-710
- Existing site activity is unchanged from the CEQA baseline levels of activity

The proposed Project includes the signalization of the intersection of 1^{st} Street (Project Driveway) and SR-1. Based on the analysis results, the SR-1/site entrance intersection is projected to operate at LOS A in peak hours during the peak of the construction period as shown in Table 3.10-24. Accordingly, there would be no significant impact on study-area intersection V/C ratios or levels of service.

Table 3.10-24. Intersection Level of Service Analysis – CEQA Baseline vs. Construction of the Proposed Project.

#	Study Intersection	CEQA Baseline						CEQA Baseline Plus Construction Trips						Change in V/C			Sig. Imp.		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [b]	A	0.335	A	0.398	A	0.375	A	0.335	A	0.398	A	0.375	0.000	0.000	0.000	No	No	No
2	Ocean Blvd (EB) / Terminal Island Fwy [b]	A	0.215	A	0.379	A	0.348	A	0.215	A	0.379	A	0.348	0.000	0.000	0.000	No	No	No
3	Ocean Blvd (WB) / Pier S Ave [b]	A	0.266	A	0.313	A	0.341	A	0.266	A	0.313	A	0.341	0.000	0.000	0.000	No	No	No
4	Ocean Blvd (EB) / Pier S Ave [b]	A	0.209	A	0.364	A	0.340	A	0.209	A	0.364	A	0.34	0.000	0.000	0.000	No	No	No
5	Seaside Ave / Navy Wy [A]	A	0.527	A	0.416	B	0.641	A	0.527	A	0.416	B	0.641	0.000	0.000	0.000	No	No	No
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.212	A	0.344	A	0.242	A	0.212	A	0.344	A	0.242	0.000	0.000	0.000	No	No	No
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.435	A	0.519	A	0.499	A	0.435	A	0.519	A	0.499	0.000	0.000	0.000	No	No	No
8	Anaheim St / Harbor Ave [B]	A	0.453	A	0.455	A	0.560	A	0.455	A	0.458	A	0.562	0.002	0.003	0.002	No	No	No
9	Anaheim St / Santa Fe Ave [B]	A	0.473	A	0.508	A	0.578	A	0.475	A	0.51	A	0.58	0.002	0.002	0.002	No	No	No
10	Anaheim St / E I St / W 9th St [B]	A	0.501	A	0.525	A	0.529	A	0.501	A	0.531	A	0.529	0.000	0.006	0.000	No	No	No
11	Anaheim St / Farragut Ave [A]	A	0.377	A	0.328	A	0.386	A	0.377	A	0.328	A	0.386	0.000	0.000	0.000	No	No	No
12	Anaheim St / Henry Ford Ave [A]	A	0.400	A	0.516	B	0.660	A	0.4	A	0.516	B	0.66	0.000	0.000	0.000	No	No	No
13	Anaheim St / Alameda St [A]	A	0.461	A	0.425	A	0.568	A	0.461	A	0.425	A	0.568	0.000	0.000	0.000	No	No	No
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.178	A	0.225	A	0.267	A	0.178	A	0.225	A	0.267	0.000	0.000	0.000	No	No	No
15	Harry Bridges Blvd / Broad Ave [A]	A	0.243	A	0.215	A	0.318	A	0.243	A	0.215	A	0.318	0.000	0.000	0.000	No	No	No
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.255	A	0.182	A	0.338	A	0.255	A	0.182	A	0.338	0.000	0.000	0.000	No	No	No
17	Harry Bridges Blvd / Fries Ave [A]	A	0.223	A	0.227	A	0.303	A	0.223	A	0.227	A	0.303	0.000	0.000	0.000	No	No	No
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.153	A	0.128	A	0.227	A	0.153	A	0.128	A	0.227	0.000	0.000	0.000	No	No	No
19	Harry Bridges Blvd / Wilmington Blvd [A]	A	0.219	A	0.177	A	0.302	A	0.219	A	0.177	A	0.302	0.000	0.000	0.000	No	No	No
20	Harry Bridges Blvd / Figueroa St [A]	A	0.335	A	0.337	A	0.392	A	0.335	A	0.337	A	0.392	0.000	0.000	0.000	No	No	No
21	Pacific Coast Hwy / Alameda St Ramp [A]	B	0.605	A	0.511	B	0.661	B	0.605	A	0.511	B	0.661	0.000	0.000	0.000	No	No	No
22	Pacific Coast Hwy / Site Entrance [A]	A	0.315	A	0.268	A	0.396	A	0.315	A	0.268	A	0.396	0.000	0.000	0.000	No	No	No
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.773	B	0.699	D	0.821	D	0.804	C	0.731	D	0.853	0.031	0.032	0.032	No	No	No
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.628	B	0.603	C	0.733	B	0.649	B	0.624	C	0.754	0.021	0.021	0.021	No	No	No
25	Sepulveda Blvd / Alameda St Ramp [C]	B	0.679	A	0.484	B	0.612	B	0.679	A	0.484	B	0.612	0.000	0.000	0.000	No	No	No

a) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
b) City of Long Beach intersection analyzed using ICU methodology according to City standards.
c) City of Carson intersection analyzed using ICU methodology according to City standards.

As a standard practice, the POLA requires contractors to prepare a detailed traffic management plan for Port projects. A traffic management plan would be required as part of the proposed Project prior to initiating any construction.

Traffic Management Plan

A traffic management plan containing traffic control measures conforming to the requirements and guidance of the Los Angeles Department of Transportation (LADOT), Caltrans, and the cities of Carson and Long Beach, would be required at the time construction permits are obtained. At a minimum, the traffic management plan shall contain the following:

- Detour plans
- Coordination with emergency services and transit providers
- Coordination during the entire construction period with surrounding property owners, businesses, residences, and tenants through the establishment of a community construction liaison and public noticing within at least a one mile radius of the project site (in English, Spanish, and other languages if necessary) via brochures, mailings, community meetings, and a project website
- Advanced notification of temporary bus stop loss and/or bus line relocation
- Identification of temporary alternative bus routes
- Advanced notice of temporary parking loss
- Identification of temporary parking replacement or alternative adjacent parking within a reasonable walking distance
- Use of designated haul routes, use of truck staging areas
- Observance of hours of operations restrictions and appropriate signing for construction activities.

The traffic management plan would be implemented for all construction work directly related to the SCIG facility and the PCH grade separation by BNSF and may be required, in whole or in part as deemed necessary by LADOT, for overlapping construction activities at the alternate business sites.

Based on the fact that all worker trips fall outside of the peak hours and the construction truck trips would be less than 30 during any peak hour, and the standard construction practices required by POLA, the construction traffic would not cause a study intersection to exceed the thresholds for a significant impact and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Less than significant impact.

Impact TRANS-2: Vehicular traffic associated with operation of the proposed Project would not have a significant adverse impact on at least one study intersection's volume/capacity ratios or level of service.

Traffic conditions with the proposed Project were estimated by adding traffic resulting from the proposed Project to the Baseline traffic conditions. Traffic generated by the Proposed Project was estimated to determine potential impacts of the Project on study area roadways. Appendix G contains all of the traffic forecasts and LOS calculation worksheets.

As shown in Table 3.10-25, none of the 25 intersections would exceed the Threshold of Significance criteria with the proposed Project. The amount of Project-related traffic that would be added at all other study locations would not be of sufficient magnitude to meet or exceed any of the thresholds of significance.

The analysis indicates that the proposed project would result in a reduction in the volume/capacity ratio (an improvement in intersection performance) at a number of study locations. This is due to several factors:

- The proposed SCIG project would operate more efficiently than the existing intermodal facilities, thus producing fewer total truck trips than would have been generated without the project
- Changes in land uses would shift the majority of existing trips related to businesses operating at the alternate sites to Anaheim Street from Pacific Coast Highway and Sepulveda Boulevard.
- Proposed Project truck trip routing would limit trucks to designated truck routes.

Table 3.10-25. Intersection Level of Service Analysis – Baseline vs. Proposed Project.

#	Study Intersection	Baseline						Baseline Plus Project						Change in V/C			Sig. Imp.		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [b]	A	0.335	A	0.398	A	0.375	A	0.392	A	0.455	A	0.408	0.057	0.057	0.033	No	No	No
2	Ocean Blvd (EB) / Terminal Island Fwy [b]	A	0.215	A	0.379	A	0.348	A	0.287	A	0.452	A	0.390	0.072	0.073	0.042	No	No	No
3	Ocean Blvd (WB) / Pier S Ave [b]	A	0.266	A	0.313	A	0.341	A	0.317	A	0.366	A	0.366	0.051	0.053	0.025	No	No	No
4	Ocean Blvd (EB) / Pier S Ave [b]	A	0.209	A	0.364	A	0.340	A	0.262	A	0.420	A	0.372	0.053	0.056	0.032	No	No	No
5	Seaside Ave / Navy Wy [A]	A	0.527	A	0.416	B	0.641	A	0.543	A	0.430	B	0.648	0.016	0.014	0.007	No	No	No
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.212	A	0.344	A	0.242	A	0.237	A	0.382	A	0.263	0.025	0.038	0.021	No	No	No
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.435	A	0.519	A	0.499	A	0.439	A	0.488	A	0.471	0.004	-0.031	-0.028	No	No	No
8	Anaheim St / Harbor Ave [B]	A	0.453	A	0.455	A	0.560	A	0.476	A	0.488	A	0.571	0.023	0.033	0.011	No	No	No
9	Anaheim St / Santa Fe Ave [B]	A	0.473	A	0.508	A	0.578	A	0.496	A	0.536	A	0.589	0.023	0.028	0.011	No	No	No
10	Anaheim St / E I St / W 9th St [B]	A	0.501	A	0.525	A	0.529	B	0.623	B	0.690	A	0.586	0.122	0.165	0.057	No	No	No
11	Anaheim St / Farragut Ave [A]	A	0.377	A	0.328	A	0.386	A	0.416	A	0.374	A	0.412	0.039	0.046	0.026	No	No	No
12	Anaheim St / Henry Ford Ave [A]	A	0.400	A	0.516	B	0.660	A	0.430	A	0.565	B	0.688	0.030	0.049	0.028	No	No	No
13	Anaheim St / Alameda St [A]	A	0.461	A	0.425	A	0.568	A	0.491	A	0.458	A	0.565	0.030	0.033	-0.003	No	No	No
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.178	A	0.225	A	0.267	A	0.189	A	0.222	A	0.262	0.011	-0.003	-0.005	No	No	No
15	Harry Bridges Blvd / Broad Ave [A]	A	0.243	A	0.215	A	0.318	A	0.272	A	0.233	A	0.327	0.029	0.018	0.009	No	No	No
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.255	A	0.182	A	0.338	A	0.283	A	0.200	A	0.347	0.028	0.018	0.009	No	No	No
17	Harry Bridges Blvd / Fries Ave [A]	A	0.223	A	0.227	A	0.303	A	0.255	A	0.270	A	0.322	0.032	0.043	0.019	No	No	No
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.153	A	0.128	A	0.227	A	0.167	A	0.140	A	0.230	0.014	0.012	0.003	No	No	No
19	Harry Bridges Blvd / Wilmington Blvd [A]	A	0.219	A	0.177	A	0.302	A	0.238	A	0.192	A	0.306	0.019	0.015	0.004	No	No	No
20	Harry Bridges Blvd / Figueroa St [A]	A	0.335	A	0.337	A	0.392	A	0.335	A	0.323	A	0.390	0.000	-0.014	-0.002	No	No	No
21	Pacific Coast Hwy / Alameda St Ramp [A]	B	0.605	A	0.511	B	0.661	A	0.599	A	0.504	B	0.655	-0.006	-0.007	-0.006	No	No	No
22	Pacific Coast Hwy / Site Entrance [A]	**See State Highway Ramp Analysis**																	
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.773	B	0.699	D	0.821	C	0.746	B	0.687	C	0.790	-0.027	-0.012	-0.031	No	No	No
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.628	B	0.603	C	0.733	B	0.610	A	0.597	C	0.714	-0.018	-0.006	-0.019	No	No	No
25	Sepulveda Blvd / Alameda St Ramp [C]	B	0.679	A	0.484	B	0.612	B	0.673	A	0.448	A	0.587	-0.006	-0.036	-0.025	No	No	No

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using ICU methodology according to City standards.

Accordingly, there would be no impact on study-area intersection V/C ratios or levels of service.

The proposed Project includes the signalization of the intersection of 1st Street (Project Driveway) and SR-1. Based on the analysis results, the SR-1/site entrance intersection is projected to operate at LOS A during the AM Peak Hour and PM peak hour as shown in Table 3.10-26. This analysis was previously conducted for the Traffic Operations Report prepared for the Pacific Coast Highway Bridge Replacement (#53-399) and SCIG Site Driveway Alternatives Project (see Appendix G1).

Table 3.10-26. Intersection Level of Service Analysis – Baseline Plus Proposed Project.

Signalized Intersection	AM Peak Hour			PM Peak Hour		
	V/C	Delay (Sec)	LOS	V/C	Delay (Sec)	LOS
SCIG Site Driveway/SR-1	0.260	2.7	A	0.350	2.8	A

Impact Determination

Because no study intersections would exceed the thresholds of significance, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Less than significant impact.

Impact TRANS-3: An increase in on-site employees due to proposed Project operations would result in a less than significant increase in public transit use.

Although the Project would result in additional on-site employees, the increase in work-related trips using public transit would be negligible. Intermodal facilities generate extremely low transit demand for several reasons. The primary reason that proposed Project workers generally would not use public transit is their work shift schedule. Most workers prefer to use a personal automobile to facilitate timely commuting, and in any case would live throughout the Southern California region and not have access to the few bus routes that serve the Port. Finally, parking at proposed Project would be readily available and free for employees, which would encourage workers to drive to work. Therefore, it is expected that fewer than ten work trips per day would be made on public transit, which could easily be accommodated by existing transit services and would not result in a demand for transit services which would exceed the supply of such services. Observations of transit usage in the area for bus routes that serve the project area (Metro routes 220 and Long Beach Transit Route 191, 192 and 193) revealed that the buses are currently not operating at levels close to capacity and would be able to accommodate the estimated increase in demand.

Impact Determination

Given the small numbers of workers expected to use any one transit line, impacts due to additional demand on local transit services would be less than significant.

Mitigation Measures

No mitigation required.

Residual Impacts

Less than significant impact.

Impact TRANS-4: Proposed Project operations would result in a less than significant increase in highway congestion.

The freeway monitoring stations expected to be affected by the proposed Project are:

- I-110 south of C Street (CMP Station 1045)
- SR-91 east of Alameda Street and Santa Fe Avenue (CMP Station 1033)
- I-405 at Santa Fe Avenue (CMP Station 1066)
- I-710 between Pacific Coast Highway and Willow Street (CMP Station 1078)
- I-710 between I-405 and Del Amo Boulevard (CMP Station 1079)
- I-710 between I-105 and Firestone Boulevard (CMP Station 1080).

The proposed Project would result in fewer truck trips on the surrounding freeway system, as drayage operations currently serving the Hobart/Commerce Yard near downtown Los Angeles utilizing I-110 and I-710 north of Pacific Coast Highway would be switched to the proposed Project site utilizing the proposed Project truck routes. Thus, the existing longer-distance regional freeway system trips from the ports to downtown railyards would be replaced by shorter-distance trips to/from the proposed Project along local port-area roadways. The proposed Project would reduce freeway traffic volumes at CMP study locations and therefore not exceed the minimum CMP threshold for analysis of 150 trips on a freeway segment, as shown in Table 3.10-27. The resultant freeway intersection study location LOS values are shown in Table 3.10-28.

Table 3.10-27. CEQA Baseline Plus Proposed Project Freeway Contribution.

Fwy.	Location	Baseline				Baseline Plus Proposed Project				Difference			
		NB/EB		SB/WB		NB/EB		SB/WB		NB/EB		SB/WB	
		AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH
I-110	Wilmington, s/o "C"St.	4,200	3,000	3,000	4,100	4,180	2,985	3,000	4,100	(20)	(15)	-	-
SR-91	e/o Alameda Street/Santa Fe Ave	7,400	15,200	9,900	6,000	7,380	15,185	9,895	5,990	(20)	(15)	(5)	(10)
I-405	Santa Fe Ave.	11,500	8,900	8,600	10,700	11,495	8,900	8,590	10,685	(5)	-	(10)	(15)
I-710	n/o Jct Rte 1 (PCH), Willow St.	5,500	5,100	5,400	5,100	5,330	4,995	5,295	4,965	(170)	(105)	(105)	(135)
I-710	n/o Jct Rte 405, s/o Del Amo	7,900	7,800	8,400	7,600	7,715	7,685	8,280	7,440	(185)	(115)	(120)	(160)
I-710	n/o Rte 105, n/o Firestone	10,200	10,800	7,500	7,800	9,990	10,670	7,375	7,635	(210)	(130)	(125)	(165)

Note: ( ) denotes negative value

Table 3.10-28. CEQA Baseline Plus Proposed Project Freeway Level of Service Analysis.

AM Peak Hour

Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Baseline			Baseline Plus Proposed Project			Δ D/C	Sig. Imp	Baseline			Baseline Plus Proposed Project			Δ D/C	Sig. Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,200	0.53	B	4,180	0.52	B	0.00	No	3,000	0.38	B	3,000	0.38	B	0.00	No
SR-91	10.62	e/o Alameda St/Santa Fe Ave	12,000	7,400	0.62	C	7,380	0.62	C	0.00	No	9,900	0.83	D	9,895	0.82	D	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	11,500	1.15	F(0)	11,495	1.15	F(0)	0.00	No	8,600	0.86	D	8,590	0.86	D	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,500	0.92	D	5,330	0.89	D	-0.03	No	5,400	0.90	D	5,295	0.88	D	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,900	0.99	E	7,715	0.96	E	-0.02	No	8,400	1.05	F(0)	8,280	1.04	F(0)	-0.02	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,200	1.28	F(1)	9,990	1.25	F(0)	-0.03	No	7,500	0.94	E	7,375	0.92	D	-0.02	No

PM Peak Hour

Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Baseline			Baseline Plus Proposed Project			Δ D/C	Sig. Imp	Baseline			Baseline Plus Proposed Project			Δ D/C	Sig. Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,000	0.38	B	2,985	0.37	B	0.00	No	4,100	0.51	B	4,100	0.51	B	0.00	No
SR-91	10.62	e/o Alameda St/Santa Fe Ave	12,000	15,200	1.27	F(1)	15,185	1.27	F(1)	0.00	No	6,000	0.50	C	5,990	0.50	B	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	8,900	0.89	D	8,900	0.89	D	0.00	No	10,700	1.07	F(0)	10,685	1.07	F(0)	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,100	0.85	D	4,995	0.83	D	-0.02	No	5,100	0.85	E	4,965	0.83	D	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,800	0.98	E	7,685	0.96	E	-0.01	No	7,600	0.95	D	7,440	0.93	D	-0.02	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,800	1.35	F(1)	10,670	1.33	F(1)	-0.02	No	7,800	0.98	F(0)	7,635	0.95	E	-0.02	No

The ramp weave and merge conditions at the Pacific Coast Highway ramps at the proposed Project site egress/ingress and the SR-103 ramps at Pacific Coast Highway with the proposed Project conditions are shown in Tables 3.10-29 to 3.10-31. The applicant will fund a bridge replacement and modification of the project site entrance as part of the proposed Project.

Table 3.10-29. CEQA Baseline Plus Proposed Project Conditions Ramp Level of Service.

Ramp	Baseline Plus Proposed Project			
	AM Peak Hour		PM Peak Hour	
	Density pc/hr/ln	LOS	Density pc/hr/ln	LOS
Eastbound SR-1[(1)]				
Eastbound SR-1 to Southbound SR-103 (D) [(2)]	N/A	N/A	N/A	N/A
Northbound SR-103 to Eastbound SR-1 (M)	15.5	B	18.8	B
Westbound SR-1 [(1)]				
Southbound SR-103 to Westbound SR-1 (M)	9.8	A	11.4	B
Westbound SR-1 to Northbound SR-103 (D)	9.5	A	10.6	B
Northbound SR-103				
Northbound SR-103 to Eastbound SR-1 (D)	10.2	B	15.5	B
Westbound SR-1 to Northbound SR-103 (M)	10.2	B	13.8	B
Southbound SR-103				
Southbound SR-103 to Westbound SR-1 (D)	7.6	A	10.6	B
Eastbound SR-1 to Southbound SR-103 (M)	12.6	B	15.6	B

1) Merge and Diverge designations are with reference to SR-1
2) Ramp is not considered to be a part of a ramp configuration, because it is in a weaving configuration and is analyzed as a weaving segment.
(D) = Diverge (M) = Merge

Table 3.10-30. CEQA Baseline Plus Proposed Project Conditions Weaving Section Level of Service.

Weaving Section	Baseline Plus Proposed Project			
	AM Peak Hour		PM Peak Hour	
	Density pc/hr/ln	LOS	Density pc/hr/ln	LOS
Eastbound SR-1[(1) (2)]				
Site Egress Ramp-Eastbound SR-1& Eastbound SR-1-Southbound 103	7.2	A	9.5	A
Eastbound SR-1-Northbound103 & Southbound 103-Eastbound SR-1	7.9	A	11.0	A
Westbound SR-1 [(1) (2)]				
Westbound SR-1-Southbound 103 & Northbound 103-Westbound SR-1	11.0	A	15.6	B
Northbound SR-103 [(3)]				
Northbound SR-103-Westbound SR-1 & Eastbound SR-1-Northbound SR-103	9.2	A	16.8	B
Southbound SR-103 [(3)]				
Southbound SR-103-Eastbound SR-1 & Westbound SR-1-Southbound SR-103	7.5	A	11.1	B

1) Eastbound and Westbound designations are with reference to SR-1
2) Analyzed as a Multilane Highway.
3) Analyzed as Freeway Segment

Table 3.10-31. CEQA Baseline Plus Proposed Project Conditions Highway Segment Level of Service.

Segment	Baseline Plus Proposed Project			
	AM Peak Hour		PM Peak Hour	
	Density pc/hr/ln	LOS	Density pc/hr/ln	LOS
Eastbound SR-1				
West of "E" Road	7.5	A	10.0	A
East of SR-103 NB Ramps	13.8	B	17.9	B
Westbound SR-1				
West of "E" Road	7.2	A	8.4	A
East of SR-103 NB Ramps	11.3	B	13.3	B
Northbound SR-103				
South of PCH Eastbound Off Ramp	10.6	A	16.2	B
North of PCH Westbound On Ramp	6.8	A	10.8	A
Southbound SR-103				
South of PCH Eastbound On Ramp	8.7	A	12.1	B
North of PCH WB Off Ramp	6.0	A	9.0	A

As shown in Tables 3.10-29 to 3.10-31 all state highway ramp, weaving section, and segments that would be utilized by the proposed project truck routes would operate at LOS “B” or better with the operation of the proposed Project.

Impact Determination

None of the Congestion Management Program (CMP) intersections located in the study area are along the proposed Project truck routes. Accordingly, the proposed Project would add fewer than 50 trips to any CMP intersection in the study area, and congestion-related impacts would be less than significant.

Since the proposed Project would add fewer than 150 trips to any CMP segment, traffic impacts on the freeway system would be less than significant.

Mitigation Measures

No mitigation required.

Residual Impacts

Less than significant impact.

Impact TRANS-5: Proposed Project operations would not cause a significant increase in rail activity and/or delays in regional rail traffic.

Vehicular delays resulting from rail trips associated with the proposed SCIG Project trains were developed using the baseline trains and baseline plus SCIG Project trains (i.e., using the capacity of the facility and the various aforementioned parameters). The number of Project trains in the base year (2010) is based on the difference between the maximum number of TEUs projected to be handled by the SCIG facility in 2035 and the actual marine TEUs to and from the Hobart/Commerce Yard in 2010. The SCIG facility is projected to handle a maximum of 1,500,000 lifts (or 2,775,000 TEUs at 1.85 TEU per lift) in 2035. This corresponds to 16 8,000-foot trains per day (eight in each direction). It was assumed that only 8,000-foot trains would be handled at SCIG based on the railyard configuration as described in Chapter 2. The Hobart/Commerce Yard handled 448,455 lifts, or 807,219 TEUs, of marine containers in 2010. The difference between the SCIG volume in 2035 and the Hobart/Commerce Yard 2010 volume is therefore 1,967,781 TEUs. The number of trains associated with this difference in TEUs is 11.5 trains per day assuming the SCIG facility will be generating 8,000-foot trains. These trains were then added to background train volumes for 2010 to assess grade crossing delays in the base year (2010).

This computation is derived from the “with Project” case for 2010 which accounts for marine container volume at Hobart/Commerce Yard and a corresponding mix of 10,000 (30 percent), 8,000 (40 percent), and 6,000 (30 percent) foot trains shifting to SCIG. The SCIG volume of 1,500,000 lifts (corresponding to sixteen 8,000-foot trains per day) was then added except for a portion assumed to be handled by Hobart/Commerce Yard, amounting to 5 percent of BNSF’s marine container volume total for SCIG and Hobart/Commerce Yard in 2035. The train split by length for this remaining Hobart/Commerce Yard marine container volume was assumed to be 67 percent 8,000 feet and 33 percent 10,000 feet. Compared to 2010 baseline conditions, the “with Project” case involves a net increase in 8,000-foot trains and a net reduction in 6,000-foot and 10,000-foot trains. The estimated changes in train volumes with the Project in 2010 are net increase of 14.4 8,000-foot trains per day, a decrease of 1.3 10,000-foot trains per day, and a decrease of 1.6 6,000-foot trains per day as shown in Table 3.10-32.

Table 3.10-32. Train Volumes, Baseline 2010 and Proposed Project 2035.

Train Length	10K Feet	8K Feet	6K Feet	Total
2010 Hobart/Commerce Yard Marine Stack Train Distribution by Length and Change in Daily Train Volume (448,455 marine container lifts per year)	30% -1.6	40% -2.2	30% -1.6	100% -5.4
2035 SCIG Marine Stack Train Distribution by Length and Change in Daily Train Volume (1,500,000 marine container lifts per year)	0% +0.0	100% +16.0	0% +0.0	100% +16.0
2035 Hobart/Commerce Yard Marine Stack Train Distribution by Length and Change in Daily Train Volume (78,947 marine container lifts per year)	33% +0.3	67% +0.6	0% +0.0	100% +0.9
Net Change in Daily Marine Stack Train Volume for CEQA 2010 Baseline	-1.3	+14.4	-1.6	+11.5

Compared to the baseline condition, the proposed Project would not affect vehicular delays on the Alameda Corridor, as it is fully grade separated.

Tables 3.10-33 and 3.10-34 list the delay at at-grade crossings for the Baseline Plus Project. As can be seen, none of the locations experienced an average peak delay greater than 55 seconds.

Table 3.10-33. BNSF San Bernardino Subdivision, from Hobart/Commerce Yard to San Bernardino, Baseline Plus Proposed Project.

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/ Day)	Average Daily Train Volume (Trains/Day)			Daily Total Gate Down Time (Minutes/Day)			Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)			PM Peak Average Delay per Vehicle (Seconds/Vehicle)			Project Impacts Significant?
			W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	
San Bernardino MP 0.0															
Laurel St	2	2,180	71.1	59.6	11.5	142.7	114.5	28.2	4.4	3.4	0.9	7.4	5.9	1.6	**NO**
Olive St	2	2,600	71.1	59.6	11.5	142.7	114.5	28.2	5.3	4.1	1.1	7.6	6.0	1.6	**NO**
E St	2	680	71.1	59.6	11.5	142.7	114.5	28.2	1.3	1.0	0.3	7.0	5.5	1.5	**NO**
H St	2	1,370	71.1	59.6	11.5	142.7	114.5	28.2	2.7	2.1	0.6	7.2	5.7	1.5	**NO**
Valley Bl	2	10,260	71.1	59.6	11.5	142.7	114.5	28.2	26.7	21.0	5.7	10.9	8.6	2.3	**NO**
Colton Crossing MP 3.2															
Highgrove Junction MP 6.1 (Connection to Perris via MetroLink)															
Main St	2	2,500	83.1	71.6	11.5	172.2	144.0	28.2	6.2	5.1	1.1	9.3	7.7	1.6	**NO**
Riverside-San Bernardino County Line MP 6.41															
Center St	4	6,020	83.1	71.6	11.5	172.6	144.4	28.2	15.0	12.4	2.6	9.3	7.7	1.6	**NO**
Iowa Av	4	22,200	83.1	71.6	11.5	172.6	144.4	28.2	69.2	57.2	11.9	12.8	10.6	2.2	**NO**
Palmyrita Av	2	3,640	83.1	71.6	11.5	172.2	144.0	28.2	9.2	7.6	1.6	9.5	7.8	1.6	**NO**
Columbia Av*	4	16,920	83.1	71.6	11.5	172.6	144.4	28.2	48.6	40.2	8.4	11.4	9.4	2.0	**NO**
Chicago Av	4	13,140	83.1	71.6	11.5	172.6	144.4	28.2	35.9	29.7	6.2	10.6	8.8	1.8	**NO**
Spruce St	4	7,020	83.1	71.6	11.5	172.6	144.4	28.2	17.7	14.7	3.1	9.5	7.8	1.6	**NO**
3rd St	4	10,560	83.1	71.6	11.5	172.6	144.4	28.2	27.9	23.0	4.8	10.1	8.3	1.7	**NO**
Mission Inn (7th St)	4	5,170	83.1	71.6	11.5	172.6	144.4	28.2	12.8	10.6	2.2	9.2	7.6	1.6	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/ Day)	Average Daily Train Volume (Trains/Day)			Daily Total Gate Down Time (Minutes/Day)			Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)			PM Peak Average Delay per Vehicle (Seconds/Vehicle)			Project Impacts Significant?
			W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	
Riverside Yard and Amtrak Station MP 10.02-10.16															
Cridge St	2	3,650	110.1	98.6	11.5	192.0	163.8	28.2	9.8	8.2	1.6	10.3	8.7	1.6	**NO**
West Riverside Junction MP 10.6 (Connection to UP Los Angeles Sub)															
Jane St	2	2,100	77.0	65.5	11.5	134.4	106.2	28.2	3.8	2.9	0.9	6.7	5.2	1.5	**NO**
Mary St	4	11,570	77.0	65.5	11.5	134.8	106.6	28.2	22.9	17.5	5.3	7.7	5.9	1.8	**NO**
Washington St	2	8,040	77.0	65.5	11.5	134.4	106.2	28.2	16.8	12.9	3.9	8.3	6.4	1.9	**NO**
Madison St	4	15,230	77.0	65.5	11.5	134.8	106.6	28.2	31.6	24.2	7.4	8.2	6.4	1.9	**NO**
Jefferson St	2	7,940	77.0	65.5	11.5	134.4	106.2	28.2	16.5	12.7	3.9	8.3	6.4	1.9	**NO**
Adams St	4	16,970	77.0	65.5	11.5	134.8	106.6	28.2	36.1	27.7	8.4	8.5	6.6	2.0	**NO**
Jackson St	4	7,570	77.0	65.5	11.5	134.8	106.6	28.2	14.2	10.9	3.3	7.2	5.5	1.6	**NO**
Gibson St	2	820	77.0	65.5	11.5	134.4	106.2	28.2	1.4	1.1	0.3	6.5	5.0	1.5	**NO**
Harrison St	2	6,450	77.0	65.5	11.5	134.4	106.2	28.2	12.9	9.9	3.0	7.8	6.0	1.8	**NO**
Tyler St	4	15,140	77.0	65.5	11.5	134.8	106.6	28.2	31.4	24.1	7.3	8.2	6.3	1.9	**NO**
Pierce St	2	10,830	77.0	65.5	11.5	134.4	106.2	28.2	24.6	18.9	5.7	9.4	7.2	2.2	**NO**
Buchanan St	2	9,270	77.0	65.5	11.5	134.4	106.2	28.2	20.1	15.4	4.7	8.8	6.8	2.0	**NO**
Magnolia Av EB	2	8,520	77.0	65.5	11.5	134.4	106.2	28.2	18.0	13.8	4.2	8.5	6.6	1.9	**NO**
Magnolia Av WB	2	8,520	77.0	65.5	11.5	134.4	106.2	28.2	18.0	13.8	4.2	8.5	6.6	1.9	**NO**
Mckinley St	4	34,420	77.0	65.5	11.5	134.8	106.6	28.2	99.8	76.6	23.2	13.3	10.2	3.0	**NO**
Radio Rd	2	4,170	77.0	65.5	11.5	134.4	106.2	28.2	7.9	6.0	1.8	7.2	5.6	1.7	**NO**
Joy St	2	7,050	77.0	65.5	11.5	134.4	106.2	28.2	14.3	11.0	3.3	8.0	6.2	1.8	**NO**
Sheridan St	2	2,290	77.0	65.5	11.5	134.4	106.2	28.2	4.1	3.2	1.0	6.8	5.2	1.6	**NO**
Cota St	4	5,850	77.0	65.5	11.5	134.8	106.6	28.2	10.8	8.3	2.5	7.0	5.4	1.6	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/ Day)	Average Daily Train Volume (Trains/Day)			Daily Total Gate Down Time (Minutes/Day)			Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)			PM Peak Average Delay per Vehicle (Seconds/Vehicle)			Project Impacts Significant?
			W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	
Railroad St	4	9,370	77.0	65.5	11.5	134.8	106.6	28.2	18.0	13.8	4.2	7.4	5.7	1.7	**NO**
Smith St	4	13,270	77.0	65.5	11.5	134.8	106.6	28.2	26.8	20.6	6.3	7.9	6.1	1.8	**NO**
Auto Center Dr	2	11,210	77.0	65.5	11.5	134.4	106.2	28.2	25.8	19.8	6.0	9.6	7.4	2.2	**NO**
Riverside-Orange County Line															
Kellogg Dr	4	6,780	77.0	65.5	11.5	134.8	106.6	28.2	12.7	9.7	3.0	7.1	5.5	1.6	**NO**
Lakeview Av	3	18,630	77.0	65.5	11.5	134.6	106.4	28.2	45.9	35.2	10.7	10.5	8.1	2.4	**NO**
Richfield Rd	4	9,360	77.0	65.5	11.5	134.8	106.6	28.2	18.1	13.9	4.2	7.5	5.8	1.7	**NO**
Atwood Junction MP 40.6 (Connection to Old Olive Sub)															
Van Buren St	2	6,680	58.9	47.4	11.5	117.2	89.0	28.2	12.5	9.3	3.2	7.3	5.5	1.8	**NO**
Jefferson St	3	6,270	58.9	47.4	11.5	117.3	89.1	28.2	11.0	8.2	2.8	6.6	5.0	1.7	**NO**
Tustin Av (Rose Dr)	4	28,810	58.9	47.4	11.5	117.5	89.3	28.2	70.2	52.5	17.7	10.7	8.0	2.7	**NO**
Orangethorpe Av	4	27,980	58.9	47.4	11.5	117.5	89.3	28.2	67.1	50.1	16.9	10.5	7.8	2.6	**NO**
Kraemer Bl	4	19,540	58.9	47.4	11.5	117.5	89.3	28.2	40.2	30.1	10.2	8.4	6.3	2.1	**NO**
Placentia Av	4	14,320	58.9	47.4	11.5	117.5	89.3	28.2	27.2	20.3	6.9	7.5	5.6	1.9	**NO**
State College Bl	4	23,290	58.9	47.4	11.5	117.5	89.3	28.2	51.1	38.2	12.9	9.2	6.9	2.3	**NO**
Acacia Av	4	6,650	58.9	47.4	11.5	117.5	89.3	28.2	11.4	8.5	2.9	6.5	4.8	1.6	**NO**
Raymond Av	4	20,770	58.9	47.4	11.5	117.5	89.3	28.2	43.6	32.6	11.0	8.6	6.5	2.2	**NO**
Fullerton Junction MP 45.5 = MP 165.5															
Orange-LA County Line															
Valley View Av	4	23,930	101.9	90.4	11.5	152.0	123.8	28.2	62.7	49.0	13.7	11.3	8.9	2.4	**NO**
Rosecrans/Marquardt Av	4	22,600	101.9	90.4	11.5	152.0	123.8	28.2	57.8	45.1	12.6	10.9	8.6	2.3	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/ Day)	Average Daily Train Volume (Trains/Day)			Daily Total Gate Down Time (Minutes/Day)			Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)			PM Peak Average Delay per Vehicle (Seconds/Vehicle)			Project Impacts Significant?
			W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	
Lakeland Rd	2	6,370	101.9	90.4	11.5	151.5	123.3	28.2	13.7	10.7	3.0	8.6	6.8	1.8	**NO**
Los Nietos Rd	4	19,950	101.9	90.4	11.5	152.0	123.8	28.2	48.6	38.0	10.6	10.2	8.0	2.2	**NO**
Norwalk Bl	4	25,560	101.9	90.4	11.5	152.0	123.8	28.2	69.2	54.1	15.1	11.8	9.3	2.5	**NO**
Pioneer Bl	4	14,910	101.9	90.4	11.5	152.0	123.8	28.2	33.4	26.1	7.3	9.1	7.1	1.9	**NO**
Passons Bl	4	12,370	101.9	90.4	11.5	152.0	123.8	28.2	26.7	20.8	5.9	8.6	6.8	1.8	**NO**
Serapis Av	2	6,110	101.9	90.4	11.5	151.5	123.3	28.2	13.1	10.2	2.9	8.5	6.7	1.8	**NO**
Commerce Yard MP 148.5															
Hobart/Commerce Yard MP 146.0															
OVERALL															**NONE SIGNIFICANT**
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)									**1,504.7**	**1,168.1**	**336.6**				
PM Peak Average Delay per Vehicle (Seconds/Vehicle)												**9.6**	**7.5**	**2.1**	

*As of the analysis year of 2011, grade separation project for this street is completed.

Table 3.10-34. BNSF Cajon Subdivision, from San Bernardino to Barstow, Baseline Plus Proposed Project.

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/ Day)	Average Daily Train Volume (Trains/Day)			Daily Total Gate Down Time (Minutes/Day)			Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)			PM Peak Average Delay per Vehicle (Seconds/Vehicle)			Project Impacts Significant?
			W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/ Proj	W/O Proj	Change	
Barstow MP 0															
Lenwood Rd	2	4,340	76.3	64.8	11.5	135.6	113.5	22.1	6.9	5.8	1.2	5.9	4.9	1.0	**NO**
Hinkley Rd	2	460	76.3	64.8	11.5	135.6	113.5	22.1	0.7	0.6	0.1	5.3	4.4	0.9	**NO**
Indian Trail Rd	2	520	76.3	64.8	11.5	135.6	113.5	22.1	0.8	0.6	0.1	5.3	4.4	0.9	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/ Day)	Average Daily Train Volume (Trains/Day)			Daily Total Gate Down Time (Minutes/Day)			Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)			PM Peak Average Delay per Vehicle (Seconds/Vehicle)			Project Impacts Significant?
			W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/Proj	W/O Proj	Change	W/ Proj	W/O Proj	Change	
Vista Rd	2	2,680	76.3	64.8	11.5	135.6	113.5	22.1	4.1	3.4	0.7	5.6	4.7	1.0	**NO**
Turner Rd	2	30	76.3	64.8	11.5	135.6	113.5	22.1	0.0	0.0	0.0	5.2	4.3	0.9	**NO**
North Bryman Rd	2	150	76.3	64.8	11.5	135.6	113.5	22.1	0.2	0.2	0.0	5.3	4.4	0.9	**NO**
South Bryman Rd	2	1,870	76.3	64.8	11.5	135.6	113.5	22.1	2.8	2.3	0.5	5.5	4.6	0.9	**NO**
Robinson Ranch Rd	2	110	76.3	64.8	11.5	135.6	113.5	22.1	0.2	0.1	0.0	5.2	4.4	0.9	**NO**
1st St	2	670	76.3	64.8	11.5	160.0	133.8	26.2	1.4	1.1	0.2	7.5	6.2	1.3	**NO**
6th St	4	3,490	76.3	64.8	11.5	185.8	155.2	30.6	10.0	8.3	1.7	10.4	8.6	1.8	**NO**
Silverwood Junction MP 56.6															
Keenbrook Junction MP 69.4															
Swarthout Canyon Rd	2	170	88.3	76.8	11.5	258.0	220.7	37.3	0.8	0.7	0.1	16.7	14.1	2.5	**NO**
Devore Rd/Glen Helen Pkwy	4	6,080	88.3	76.8	11.5	258.7	221.3	37.4	30.0	25.5	4.6	18.2	15.4	2.8	**NO**
Dike Junction															
Palm Av	2	11,490	69.1	57.6	11.5	204.9	167.7	37.3	56.3	45.8	10.6	19.7	16.0	3.7	**NO**
State College Pkwy*	2	17,040	69.1	57.6	11.5	204.9	167.7	37.3	100.2	81.4	18.8	25.4	20.7	4.8	**NO**
San Bernardino MP 81.4															
OVERALL															**NONE SIGNIFICANT**
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)									**214.5**	**175.9**	**38.7**				
PM Peak Average Delay per Vehicle (Seconds/Vehicle)												**17.8**	**14.5**	**3.2**	

*As of the analysis year of 2011, grade separation project for this street is completed.

Impact Determination

Based on the calculations of the SCIG Project trains, delay impacts at at-grade crossings would be less than significant.

Mitigation Measures

No mitigation would be necessary.

Residual Impacts

Less than significant impact.

Impact TRANS-6: Proposed Project operations would not substantially increase hazards due to a design feature.

The proposed project site does not include any public roadways, therefore no increased hazards due to design features would occur. The improvements made to the PCH grade separation at the southern end of the Project site would be designed in accordance with Caltrans's highway standards, which would improve traffic flow into and out of the facility and thus would also not pose any additional hazards.

Impact Determination

No impact.

Mitigation Measures

No mitigation would be required.

Residual Impacts

No impact.

Impact TRANS-7: Proposed Project operations would not result in inadequate emergency access.

The proposed project site has primary access through the main entrance gate at the south end of the Project site from Pacific Coast Highway, but will also provide an emergency access gate at the north end of the Project site from Sepulveda Boulevard, where an underpass would meet requirements for emergency access. Therefore adequate emergency access will be provided to the Project site.

No public through traffic is currently permitted on the Project site between Pacific Coast Highway and Sepulveda Boulevard, which would not change due to the proposed Project, therefore offsite emergency access will not be affected by the proposed Project.

Emergency access to alternate business sites would be from Farragut Avenue (E. "I" Street) and/or Pacific Coast Highway.

Impact Determination

No impact.

Mitigation Measures

No mitigation would be required.

Residual Impacts

No impact.

Impact TRANS-8: Proposed Project operations would not conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Implementation of the Project will not conflict with policies, plans or programs regarding alternative transportation. Transit access will continue to occur on area roadways, the proposed bicycle facilities in the local area will remain the same, and no pedestrian facilities will be removed as part of the design or operations of the Project.

Impact Determination

No impact.

Mitigation Measures

No mitigation would be required.

Residual Impacts

No impact.

3.10.3.5.2 Summary of Impact Determinations

Table 3.10-35 summarizes the impact determinations of the proposed Project related to Transportation and Circulation. Identified potential impacts may be based on Federal, State, or City of Los Angeles significance criteria, Port criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.10-35. Summary Matrix of Potential Impacts and Mitigation Measures for Transportation and Circulation Associated with the Proposed Project.

Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
TRANS-1: Construction would result in a short-term, temporary increase in truck and auto traffic.	Less than significant impact	Mitigation not required.	Less than significant impact
TRANS-2: Long-term vehicular traffic associated with the proposed Project would not significantly impact any study intersections' volume/capacity ratios, or level of service.	Less than significant impact	Mitigation not required	Less than significant impact
TRANS-3: An increase in on-site employees due to proposed Project operations would result in a less than significant increase in related public transit use.	Less than significant impact	Mitigation not required	Less than significant impact
TRANS-4: Proposed Project operations would result in a less than significant increase in freeway congestion.	Less than significant impact	Mitigation not required	Less than significant impact
TRANS-5: Project operations would not cause a significant increase in rail activity and/or delays in regional rail traffic.	Less than significant impact	Mitigation not required	Less than significant impact
TRANS-6: Project operations would not substantially increase hazards due to a design feature.	No impact	Mitigation not required	No impact
TRANS-7: Project operations would not result in inadequate emergency access.	No impact	Mitigation not required	No impact
TRANS-8: Project operations would not conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities	No impact	Mitigation not required	No impact

3.10.3.6 Mitigation Monitoring

No mitigation is required.

3.10.4 Significant Unavoidable Impacts

There would be no significant, unavoidable transportation/circulation impacts as a result of the proposed Project.