4.8 TRANSPORTATION/TRAFFIC

4.8.1 Introduction

This section analyzes the existing and planned transportation/traffic and circulation conditions for the planning area, and identifies circulation impacts that may result during, or subsequent to, the implementation of the proposed General Plan Land Use and Urban Design Elements project (proposed project). The analysis contained in this section is based on the *Traffic Impact Analysis, General Plan Land Use and Urban Design Elements, City of Long Beach, California* (TIA) prepared by LSA Associates, Inc. (LSA) (May 2016) (Appendix E).

4.8.2 Methodology

The TIA prepared for the proposed project is consistent with the objectives and requirements of the City of Long Beach (City), the Los Angeles County (County) Congestion Management Program (CMP) (2010), and applicable provisions of the California Environmental Quality Act (CEQA), including disclosure of project impacts in both existing and cumulative horizon years.

Background Information: The Mobility Element. The City adopted its General Plan Mobility Element in October 2013. The Mobility Element analyzed existing and future (2035) traffic conditions. Future traffic conditions reflected growth in the City's population and employment, as well as growth in regional traffic. No changes to land use were presumed in future conditions.

The Mobility Element outlines goals for a transportation system that is more responsive to all travel modes, with a particular emphasis on the mobility of people. Some of these goals (e.g., increased abilities to walk, bike, and use transit) would be supported by the changes in the proposed Land Use Element (LUE). These goals would also be consistent with the intent of Senate Bill (SB) 375 and the Climate Protection Act of 2008, which mandates closer linkage between land use and transportation infrastructure.

Given that the Mobility Element places an emphasis on alternative modes of transportation, measuring the performance of the transportation system based solely on the convenience of travel for private automobiles will be replaced with other accessibility and mobility metrics. Consequently, the City's Mobility Element states the intent of the City to adopt a multimodal level of service (LOS) policy; however, at the present time, the vehicle LOS policy is still in place.

The Mobility Element included a vehicular LOS analysis of 88 intersections throughout the City. The locations of these intersections are illustrated on Figure 4.8.1, Study Intersections.

Project Study Area. The project study area includes the 88 intersections that were analyzed in the Mobility Element. The project study area was reviewed and approved by the City's Traffic Engineer.

Intersection Level of Service Methodology. As previously stated, while the City views mobility as the movement of people and desires to analyze the performance of the circulation system for all travel modes, a robust methodology for multimodal analysis is not currently available. Therefore, the

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LSA

LEGEND

City Boundary

2008 Intersections
(AM left side/PM right side)

Los A, B, C

Los D

Los E, F

0 0.625 1.25
Miles

SOURCE: Bing Maps (2013)

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FIGURE 4.8.1

Long Beach General Plan
Land Use and Urban Design Elements

Study Intersections

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current methodology, which focuses on the movement of automobiles, has been utilized for the purposes of this analysis. Because the movement of automobiles through a roadway network is metered by the performance of intersections along the network, the City's methodology requires the analysis of intersection performance. Specifically, the performance of intersections was examined during the busiest morning commute hour (a.m. peak hour) and the busiest afternoon commute hour (p.m. peak hour) using intersection capacity utilization (ICU methodology).

The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums up these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation. Typical intersection operations by LOS grade are described below in Table 4.8.A.

Table 4.8.A: LOS Descriptions

LOS	Description
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained no matter how great the demand.
F	This level describes forced-flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream.

Source: *Traffic Impact Analysis*, LSA Associates, Inc. (May 2016) (Appendix E).

The relationship between LOS and the ICU value (i.e., v/c ratio) is shown in Table 4.8.B.

Table 4.8.B: LOS/ICU Value Comparison

LOS	Volume-to-Capacity Ratio (ICU Methodology)
A	≤ 0.60
B	>0.60 and ≤ 0.70
C	>0.70 and ≤ 0.80
D	>0.80 and ≤ 0.90
E	>0.90 and ≤ 1.00
F	>1.00

Source: *Traffic Impact Analysis*, LSA Associates, Inc. (May 2016) (Appendix E).
ICU = Intersection Capacity Utilization
LOS = level of service

The City considers LOS D as the upper limit of satisfactory operations for total intersection operation. The City determines that a significant impact has occurred where project traffic causes an intersection to deteriorate from LOS D to LOS E or F, or if the project causes an increase in v/c ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline conditions.

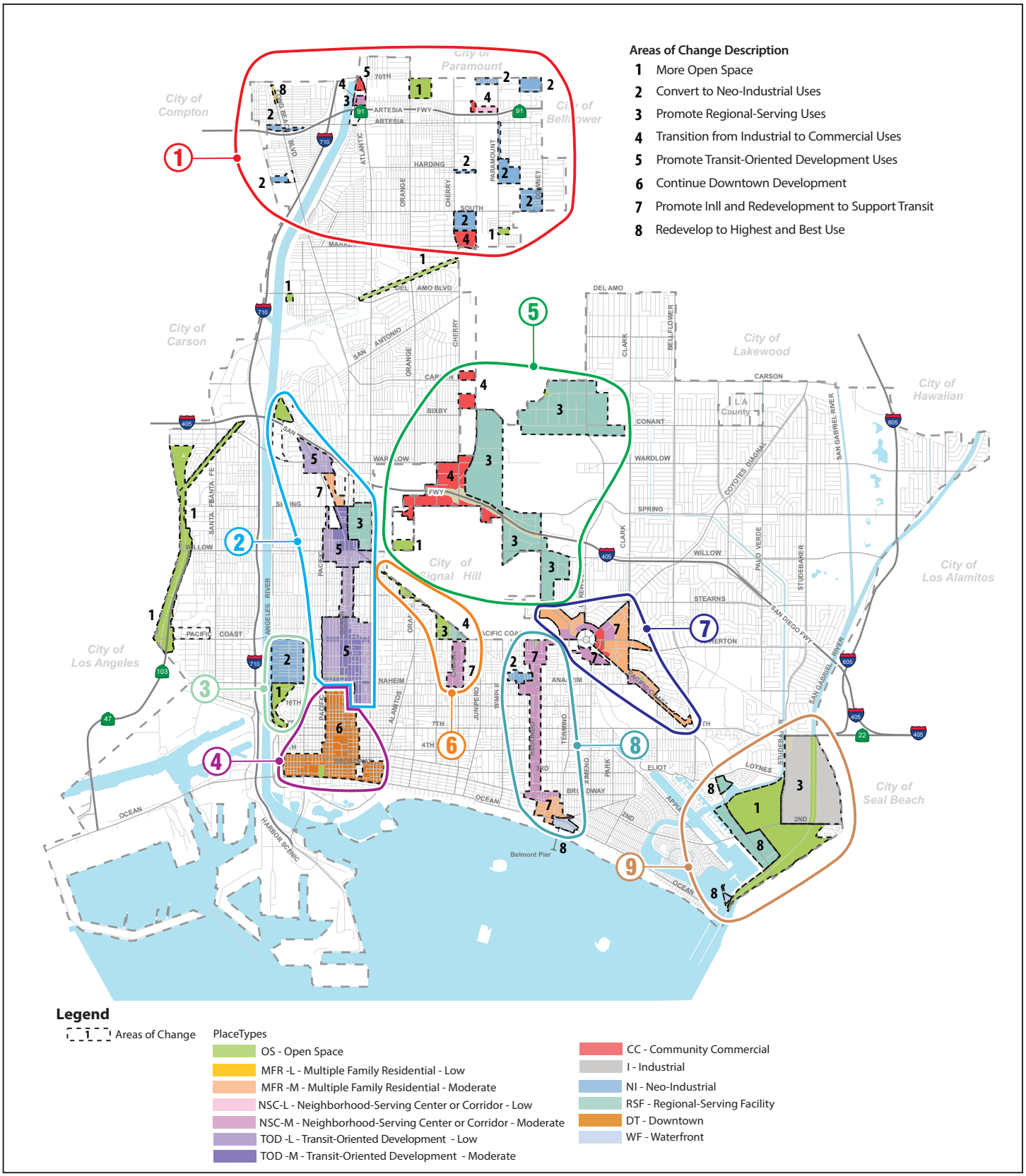
Trip Generation and Assignment. The LUE identifies eight Major Areas of Change throughout the City. These areas have been identified by the City as areas where changes associated with the proposed LUE would be focused. Specifically, these changes could result in changes to land use classification and/or increases in land use density that have the potential to increase the number of vehicle trips. The effects of increased traffic are felt most acutely near the area of change. The eight Major Areas of Change are listed below.

Major Areas of Change:

1. More Open Space
2. Convert to Neo-Industrial Uses
3. Promote Regional Serving Uses
4. Transition from Industrial to Commercial Uses
5. Promote Transit-Oriented Development Uses
6. Continue Downtown Development
7. Promote Infill and Redevelopment to Support Transit
8. Redevelop to Highest and Best Use

Because the proposed project includes the potential to alter land use classifications and increase land use density within these Major Areas of Change, these eight areas have been grouped together in specific City districts. Figure 4.8.2, Districts of Change, illustrates these groupings and the districts where they occur. To ease reference to these districts, they are labeled as North Long Beach, Mid-City, Riverside, Downtown, Airport, Pacific Coast Highway (PCH), Traffic Circle, Redondo, and Southeast Area Development Improvement Plan (SEADIP). Although traffic volumes would increase throughout the City in the General Plan horizon year (2040), traffic volume increases as a result of the proposed LE would be concentrated within these districts. As such, this analysis focuses on the increase in traffic within these districts.

Traffic volume projections for the future (2040) conditions for the proposed project were based on projections established in the Mobility Element. The Mobility Element established future traffic volume projections (2035) based on conditions established by the Southern California Association of Governments (SCAG) traffic model. The SCAG model uses socioeconomic data (e.g., housing, population, and employment) to calculate travel demand. The SCAG model does not reflect the proposed changes to the City's General Plan LUE and was not available to reexamine traffic conditions for the 2040 horizon, as proposed by the project. However, comparisons have been made between the socioeconomic data for future (2035) conditions and socioeconomic data associated with the proposed project (2040). For example, if socioeconomic factors for population and employment are anticipated to increase by 10 percent within a Major Area of Change, then traffic to and from that Major Area of Change could also be anticipated to increase by 10 percent.



LSA

LEGEND

1. North Long Beach
2. Mid City
3. Riverside
4. Downtown
5. Airport
6. PCH
7. Traffic Circle
8. Redondo
9. SEADIP

N

FIGURE 4.8.2

Long Beach General Plan
Land Use and Urban Design Elements
Districts of Change

SOURCE: Proposed Land Use Element, City of Long Beach, June 2015

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Socioeconomic projections were available for purposes of forecasting the total new housing, population, and employment growth attributable to each of the Major Areas of Change. These socioeconomic factors were allocated to each Major Area of Change based on the size (percentage) of each Major Area of Change. For example, if one Major Area of Change that called for the conversion of Neo-Industrial uses was 10 percent of the total area targeted for the conversion of existing uses to Neo-Industrial uses, then it was allocated 10 percent of the socioeconomic growth attributable to the total area targeted for the conversion of uses to Neo-Industrial uses. One hundred percent of all socioeconomic growth anticipated for each Major Area of Change was allocated in this manner to ensure that growth in socioeconomic factors for each City district was captured and then compared to baseline socioeconomic factors.

Baseline socioeconomic factors and traffic volumes were queried from the SCAG traffic model. Data for socioeconomic factor input and traffic volume output were available for reach traffic analysis zone (TAZ) within the City. A TAZ is the unit of analysis within a traffic model. Traffic models examining a focused area could have smaller TAZs, whereas traffic models analyzing a larger area (like the SCAG regional traffic model) have larger TAZs by necessity. Socioeconomic data associated with each SCAG-level TAZ was then utilized to generate trips that were then distributed within the roadway network. TAZ-level socioeconomic factors and traffic volume were allocated to the areas affected by change based on a proportionate size of the Major Area of Change compared to the SCAG-level TAZ. For example, if a Major Area of Change was 15 percent of the size of the TAZ, it was allocated 15 percent of the socioeconomic factors and traffic of the TAZ.

Growth in socioeconomic factors was then compared and used to project traffic volumes, assuming the relationship between socioeconomic factors and traffic remained constant. For example, in the Mid-City area, socioeconomic factors were estimated to increase by 23.3 percent in the Major Areas of Change. Therefore, traffic volume to and from the Major Areas of Change was estimated to increase by 23.3 percent. In the Mid-City area, this meant approximately 1,700 more trips in the a.m. peak hour and approximately 2,300 more trips in the p.m. peak hour. Based on the total traffic volume for all the TAZs within the district, traffic volumes would increase by 11 percent within the Mid-City area.

For the purposes of this analysis, it was presumed that the general increase in traffic volume within a City district would affect intersections within that district equally. If traffic volumes were believed to be increasing by 11 percent, then the v/c ratio at intersections could be estimated to increase by 0.11. This procedure was applied to all 88 study intersections.

4.8.3 Existing Environmental Setting

Existing Circulation System. The project study area includes the 88 intersections analyzed in the Mobility Element. As illustrated by Figure 4.8.1, Study Intersections, these intersections are located throughout the City.

Existing Baseline. The Mobility Element disclosed the existing (2008) v/c and LOS at the 88 intersections. Table 4.8.C, Mobility Element Existing Levels of Service, summarizes the LOS analysis at these intersections. As illustrated by Table 4.8.C, 6 intersections operate at LOS E or F in the a.m. peak hour and 19 intersections operate at LOS E or F in the p.m. peak hour.

Table 4.8.C: Mobility Element Existing Levels of Service

	Intersection	Existing 2008			
		AM		PM	
		V/C	LOS	V/C	LOS
1	Magnolia Ave/Ocean Blvd	0.848	D	0.744	C
2	Pacific Ave/7th St	0.677	B	0.525	A
3	Pacific Ave/6th St	0.415	A	0.630	B
4	Pacific Ave/3rd St	0.532	A	0.387	A
5	Pacific Ave/Broadway	0.360	A	0.699	B
6	Pacific Ave/Ocean Blvd	0.814	D	0.713	C
7	Long Beach Blvd/7th St	0.730	C	0.550	A
8	Long Beach Blvd/6th St	0.455	A	0.614	B
9	Long Beach Blvd/3rd St	0.512	A	0.382	A
10	Long Beach Blvd/Broadway	0.315	A	0.613	B
11	Long Beach Blvd/Ocean Blvd	0.723	C	0.632	B
12	Atlantic Ave/7th St	0.762	C	0.521	A
13	Atlantic Ave/6th St	0.458	A	0.559	A
14	Atlantic Ave/3rd St	0.487	A	0.356	A
15	Atlantic Ave/Broadway	0.261	A	0.604	B
16	Atlantic Ave/Shoreline Ave, Ocean Blvd	0.649	B	0.607	B
17	Alamitos Ave/7th St	**0.902**	**E**	0.759	D
18	Alamitos Ave/6th St	0.368	A	0.436	A
19	Alamitos Ave/3rd St	**1.048**	**F**	0.659	B
20	Alamitos Ave/Broadway	0.900	D	**0.945**	**E**
21	Alamitos Ave/Shoreline Ave, Ocean Blvd	**1.107**	**F**	**1.040**	**F**
22	Long Beach Blvd/Anaheim St	0.527	A	0.685	B
23	Long Beach Blvd/Pacific Coast Hwy	0.694	B	0.797	C
24	Long Beach Blvd/Willow St	0.694	B	0.756	C
25	Long Beach Blvd/Spring St	0.570	A	0.709	C
26	Long Beach Blvd/Wardlow Rd	0.837	D	0.827	D
27	Long Beach Blvd/San Antonio	0.482	A	0.773	C
28	Long Beach Blvd/Del Amo Blvd	0.799	C	0.833	D
29	Long Beach Blvd/Market St	0.581	A	0.878	D
30	Long Beach Blvd/Artesia Blvd	0.712	C	**1.027**	**F**
31	Pacific Ave/Anaheim St	0.614	B	0.706	C
32	Pacific Ave/Pacific Coast Hwy	0.663	B	0.636	B
33	Santa Fe Ave/Anaheim St	0.557	A	0.669	B
34	Santa Fe Ave/Pacific Coast Hwy	**0.990**	**E**	**0.942**	**E**
35	Santa Fe Ave/Willow St	0.751	C	0.851	D
36	Terminal Island Fwy/Willow St	0.390	A	0.500	A
37	Santa Fe Ave/Wardlow Rd	0.799	C	**0.910**	**E**
38	Atlantic Ave/Anaheim St	0.647	B	0.818	D
39	Atlantic Ave/Pacific Coast Hwy	0.603	B	0.758	C
40	Atlantic Ave/Willow St	0.681	B	0.890	D
41	Atlantic Ave/Del Amo Blvd	0.803	D	**0.986**	**E**
42	Atlantic Ave/South St	0.451	A	0.785	C
43	Atlantic Ave/Artesia Blvd	0.744	C	**0.976**	**E**
44	Alamitos Ave/Anaheim St	0.636	B	**0.914**	**E**
45	Orange Ave/Pacific Coast Hwy	0.608	B	0.793	C
46	Orange Ave/Wardlow Rd	0.708	C	0.773	C
47	Cherry Ave/7th St	0.686	B	0.801	D

Table 4.8.C: Mobility Element Existing Levels of Service

Intersection		Existing 2008			
		AM		PM	
		V/C	LOS	V/C	LOS
48	Cherry Ave/Pacific Coast Hwy	0.805	D	0.896	D
49	Cherry Ave/Wardlow Rd	0.766	C	**0.948**	**E**
50	Cherry Ave/Carson St	0.544	A	0.706	C
51	Cherry Ave/Del Amo Blvd	0.742	C	**0.960**	**E**
52	Cherry Ave/Market St	0.708	C	0.742	C
53	Cherry Ave/Artesia Blvd	**0.916**	**E**	**1.020**	**F**
54	Paramount Blvd/Artesia Blvd	0.764	C	**0.932**	**E**
55	Paramount Blvd/South St	0.580	A	0.787	C
56	Redondo Ave/Ocean Blvd	0.867	D	**0.916**	**E**
57	Redondo Ave/3rd St	0.552	A	0.629	B
58	Redondo Ave/7th St	**0.913**	**E**	0.877	D
59	Redondo Ave/Anaheim St	0.769	C	0.833	D
60	Redondo Ave/Pacific Coast Hwy	0.733	C	0.855	D
61	Redondo Ave/Willow St	0.698	B	0.895	D
62	Redondo Ave/Spring St	0.646	B	0.769	C
63	Lakewood Blvd/Del Amo Blvd	0.825	D	**1.103**	**F**
64	Lakewood Blvd/Carson St	0.646	B	0.685	B
65	Lakewood Blvd/Spring St	0.764	C	0.763	C
66	Lakewood Blvd/Willow St	0.779	C	0.768	C
67	Ximeno Ave/4th St	0.594	A	0.719	C
68	Ximeno Ave/7th St	0.690	B	0.807	D
69	Livingston Dr/2nd St	0.843	D	**0.948**	**E**
70	Park Ave/4th St	0.599	A	0.724	C
71	Park Ave/7th St	0.808	D	0.873	D
72	Pacific Coast Hwy/Ximeno Ave	0.573	A	0.698	B
73	Pacific Coast Hwy/7th St	0.873	D	0.835	D
74	Pacific Coast Hwy/Anaheim St	0.736	C	**0.922**	**E**
75	Bellflower Blvd/Carson St	0.727	C	**0.950**	**E**
76	Bellflower Blvd/Spring St	0.788	C	0.861	D
77	Bellflower Blvd/Los Coyotes Diagonal	0.642	B	0.771	C
78	Bellflower Blvd/Atherton St	0.609	B	0.775	C
79	Bellflower Blvd/7th St	0.863	D	0.838	D
80	Los Coyotes Diagonal/Spring St	0.663	B	0.801	D
81	Palo Verde Ave/Wardlow Rd	0.412	A	0.597	A
82	Palo Verde Ave/Atherton St	0.518	A	0.718	C
83	Los Coyotes Diagonal/Carson St	0.658	B	**1.018**	**F**
84	Studebaker Rd/Spring St	0.593	A	0.724	C
85	Studebaker Rd/Willow St	0.563	A	0.715	C
86	Studebaker Rd/2nd St	0.746	C	0.887	D
87	Pacific Coast Hwy/2nd St	0.871	D	**1.053**	**F**
88	Bellflower Blvd/Pacific Coast Hwy	0.553	A	0.684	B

Source: *Traffic Impact Analysis*, LSA Associates, Inc. (May 2016) (Appendix E).

Ave = Avenue
Blvd = Boulevard
Dr = Drive
Fwy = Freeway
Hwy = Highway
LOS = level(s) of service
Rd = Road
St = Street
V/C = volume-to-capacity

Future Baseline Condition. The Mobility Element also disclosed the future (2035) v/c and LOS at the 88 intersections. Future (2035) conditions demonstrate the effects of organic growth in traffic volumes associated with growth in population and employment unrelated to land use changes in the City, regional traffic originating from outside the City, or land use changes proposed as part of the LUE.

Table 4.8.D, Mobility Element Future (2035) No Project Levels of Service, shows the future (No Project) conditions in comparison to existing (2008) conditions. As illustrated by Table 4.8.D, 9 intersections operate at LOS E or F in the a.m. peak hour and 30 intersections operate at LOS E or F in the p.m. peak hour. The Mobility Element used this disclosure to identify congestion hot spots within the City that could be addressed with a variety of tools.

Table 4.8.D: Mobility Element Future (2035) No Project Levels of Service

		Existing 2008				Future 2035				Change Without Project	
		AM		PM		AM		PM			
	Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
1	Magnolia Ave/Ocean Blvd	0.848	D	0.744	C	0.859	D	0.758	C	0.011	0.014
2	Pacific Ave/7th St	0.677	B	0.525	A	0.712	C	0.608	B	0.035	0.083
3	Pacific Ave/6th St	0.415	A	0.630	B	0.440	A	0.700	B	0.025	0.070
4	Pacific Ave/3rd St	0.532	A	0.387	A	0.548	A	0.446	A	0.016	0.059
5	Pacific Ave/Broadway	0.360	A	0.699	B	0.371	A	0.781	C	0.011	0.082
6	Pacific Ave/Ocean Blvd	0.814	D	0.713	C	0.828	D	0.738	C	0.014	0.025
7	Long Beach Blvd/7th St	0.730	C	0.550	A	0.762	C	0.586	A	0.032	0.036
8	Long Beach Blvd/6th St	0.455	A	0.614	B	0.485	A	0.671	B	0.030	0.057
9	Long Beach Blvd/3rd St	0.512	A	0.382	A	0.533	A	0.425	A	0.021	0.043
10	Long Beach Blvd/Broadway	0.315	A	0.613	B	0.328	A	0.665	B	0.013	0.052
11	Long Beach Blvd/Ocean Blvd	0.723	C	0.632	B	0.747	C	0.659	B	0.024	0.027
12	Atlantic Ave/7th St	0.762	C	0.521	A	0.865	D	0.577	A	0.103	0.056
13	Atlantic Ave/6th St	0.458	A	0.559	A	0.514	A	0.608	B	0.056	0.049
14	Atlantic Ave/3rd St	0.487	A	0.356	A	0.513	A	0.406	A	0.026	0.050
15	Atlantic Ave/Broadway	0.261	A	0.604	B	0.290	A	0.666	B	0.029	0.062
16	Atlantic Ave/Shoreline Ave, Ocean Blvd	0.649	B	0.607	B	0.668	B	0.636	B	0.019	0.029
17	Alamitos Ave/7th St	**0.902**	**E**	0.759	D	**0.930**	**E**	0.814	D	0.028	0.055
18	Alamitos Ave/6th St	0.368	A	0.436	A	0.406	A	0.475	A	0.038	0.039
19	Alamitos Ave/3rd St	**1.048**	**F**	0.659	B	**1.099**	**F**	0.717	C	0.051	0.058
20	Alamitos Ave/Broadway	0.900	D	**0.945**	**E**	**0.954**	**E**	**1.012**	**F**	0.054	0.067
21	Alamitos Ave/Shoreline Ave, Ocean Blvd	**1.107**	**F**	**1.040**	**F**	**1.128**	**F**	**1.076**	**F**	0.021	0.036
22	Long Beach Blvd/Anaheim St	0.527	A	0.685	B	0.565	A	0.723	C	0.038	0.038
23	Long Beach Blvd/Pacific Coast Hwy	0.694	B	0.797	C	0.754	C	0.847	D	0.060	0.050
24	Long Beach Blvd/Willow St	0.694	B	0.756	C	0.746	C	0.805	D	0.052	0.049
25	Long Beach Blvd/Spring St	0.570	A	0.709	C	0.616	B	0.760	C	0.046	0.051
26	Long Beach Blvd/Wardlow Rd	0.837	D	0.827	D	0.884	D	0.854	D	0.047	0.027
27	Long Beach Blvd/San Antonio	0.482	A	0.773	C	0.513	A	0.881	D	0.031	0.108

Table 4.8.D: Mobility Element Future (2035) No Project Levels of Service

		Existing 2008				Future 2035				Change Without Project	
		AM		PM		AM		PM			
	Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
28	Long Beach Blvd/Del Amo Blvd	0.799	C	0.833	D	0.853	D	0.893	D	0.054	0.060
29	Long Beach Blvd/Market St	0.581	A	0.878	D	0.627	B	**0.943**	**E**	0.046	0.065
30	Long Beach Blvd/Artesia Blvd	0.712	C	**1.027**	**F**	0.755	C	**1.100**	**F**	0.043	0.073
31	Pacific Ave/Anaheim St	0.614	B	0.706	C	0.673	B	0.783	C	0.059	0.077
32	Pacific Ave/Pacific Coast Hwy	0.663	B	0.636	B	0.750	D	0.700	B	0.087	0.064
33	Santa Fe Ave/Anaheim St	0.557	A	0.669	B	0.657	B	0.776	C	0.100	0.107
34	Santa Fe Ave/Pacific Coast Hwy	**0.990**	**E**	**0.942**	**E**	**1.153**	**F**	**1.018**	**F**	0.163	0.076
35	Santa Fe Ave/Willow St	0.751	C	0.851	D	0.817	D	**0.905**	**E**	0.066	0.054
36	Terminal Island Fwy/Willow St	0.390	A	0.500	A	0.397	A	0.518	A	0.007	0.018
37	Santa Fe Ave/Wardlow Rd	0.799	C	**0.910**	**E**	0.837	D	**0.959**	**E**	0.038	0.049
38	Atlantic Ave/Anaheim St	0.647	B	0.818	D	0.708	C	0.885	D	0.061	0.067
39	Atlantic Ave/Pacific Coast Hwy	0.603	B	0.758	C	0.683	B	0.816	D	0.080	0.058
40	Atlantic Ave/Willow St	0.681	B	0.890	D	0.766	C	**0.945**	**E**	0.085	0.055
41	Atlantic Ave/Del Amo Blvd	0.803	D	**0.986**	**E**	0.877	D	**1.086**	**F**	0.074	0.100
42	Atlantic Ave/South St	0.451	A	0.785	C	0.496	A	0.853	D	0.045	0.068
43	Atlantic Ave/Artesia Blvd	0.744	C	**0.976**	**E**	0.813	D	**1.078**	**F**	0.069	0.102
44	Alamitos Ave/Anaheim St	0.636	B	**0.914**	**E**	0.687	B	**0.963**	**E**	0.051	0.049
45	Orange Ave/Pacific Coast Hwy	0.608	B	0.793	C	0.654	B	0.839	D	0.046	0.046
46	Orange Ave/Wardlow Rd	0.708	C	0.773	C	0.755	C	0.845	D	0.047	0.072
47	Cherry Ave/7th St	0.686	B	0.801	D	0.717	C	0.869	D	0.031	0.068
48	Cherry Ave/Pacific Coast Hwy	0.805	D	0.896	D	**0.906**	**E**	**1.048**	**F**	0.101	0.152
49	Cherry Ave/Wardlow Rd	0.766	C	**0.948**	**E**	0.818	D	**1.019**	**F**	0.052	0.071
50	Cherry Ave/Carson St	0.544	A	0.706	C	0.576	A	0.754	C	0.032	0.048
51	Cherry Ave/Del Amo Blvd	0.742	C	**0.960**	**E**	0.791	C	**1.032**	**F**	0.049	0.072
52	Cherry Ave/Market St	0.708	C	0.742	C	0.771	C	0.806	D	0.063	0.064
53	Cherry Ave/Artesia Blvd	**0.916**	**E**	**1.020**	**F**	**0.987**	**E**	**1.091**	**F**	0.071	0.071
54	Paramount Blvd/Artesia Blvd	0.764	C	**0.932**	**E**	0.830	D	**1.002**	**F**	0.066	0.070
55	Paramount Blvd/South St	0.580	A	0.787	C	0.646	B	0.888	D	0.066	0.101
56	Redondo Ave/Ocean Blvd	0.867	D	**0.916**	**E**	**0.901**	**E**	**0.941**	**E**	0.034	0.025
57	Redondo Ave/3rd St	0.552	A	0.629	B	0.581	A	0.735	C	0.029	0.106
58	Redondo Ave/7th St	**0.913**	**E**	0.877	D	**0.960**	**E**	**0.934**	**E**	0.047	0.057
59	Redondo Ave/Anaheim St	0.769	C	0.833	D	0.828	D	**0.904**	**E**	0.059	0.071
60	Redondo Ave/Pacific Coast Hwy	0.733	C	0.855	D	0.806	D	**0.947**	**E**	0.073	0.092
61	Redondo Ave/Willow St	0.698	B	0.895	D	0.744	C	**0.930**	**E**	0.046	0.035
62	Redondo Ave/Spring St	0.646	B	0.769	C	0.794	C	0.791	C	0.148	0.022
63	Lakewood Blvd/Del Amo Blvd	0.825	D	**1.103**	**F**	0.857	D	**1.172**	**F**	0.032	0.069
64	Lakewood Blvd/Carson St	0.646	B	0.685	B	0.678	B	0.737	C	0.032	0.052
65	Lakewood Blvd/Spring St	0.764	C	0.763	C	0.836	D	0.813	D	0.072	0.050
66	Lakewood Blvd/Willow St	0.779	C	0.768	C	0.812	D	0.817	D	0.033	0.049

Table 4.8.D: Mobility Element Future (2035) No Project Levels of Service

		Existing 2008				Future 2035				Change Without Project	
		AM		PM		AM		PM			
	Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
67	Ximeno Ave/4th St	0.594	A	0.719	C	0.712	C	0.793	C	0.118	0.074
68	Ximeno Ave/7th St	0.690	B	0.807	D	0.735	C	0.866	D	0.045	0.059
69	Livingston Dr/2nd St	0.843	D	**0.948**	**E**	0.861	D	**0.991**	**E**	0.018	0.043
70	Park Ave/4th St	0.599	A	0.724	C	0.619	B	0.757	C	0.020	0.033
71	Park Ave/7th St	0.808	D	0.873	D	0.835	D	**0.907**	**E**	0.027	0.034
72	Pacific Coast Hwy/Ximeno Ave	0.573	A	0.698	B	0.627	B	0.731	C	0.054	0.033
73	Pacific Coast Hwy/7th St	0.873	D	0.835	D	0.891	D	0.863	D	0.018	0.028
74	Pacific Coast Hwy/Anaheim St	0.736	C	**0.922**	**E**	0.766	C	**0.980**	**E**	0.030	0.058
75	Bellflower Blvd/Carson St	0.727	C	**0.950**	**E**	0.759	C	**0.995**	**E**	0.032	0.045
76	Bellflower Blvd/Spring St	0.788	C	0.861	D	0.855	D	**0.938**	**E**	0.067	0.077
77	Bellflower Blvd/Los Coyotes Diagonal	0.642	B	0.771	C	0.698	B	0.819	D	0.056	0.048
78	Bellflower Blvd/Atherton St	0.609	B	0.775	C	0.690	B	0.886	D	0.081	0.111
79	Bellflower Blvd/7th St	0.863	D	0.838	D	0.886	D	0.876	D	0.023	0.038
80	Los Coyotes Diagonal/Spring St	0.663	B	0.801	D	0.711	C	0.872	D	0.048	0.071
81	Palo Verde Ave/Wardlow Rd	0.412	A	0.597	A	0.459	A	0.656	B	0.047	0.059
82	Palo Verde Ave/Atherton St	0.518	A	0.718	C	0.585	A	0.806	D	0.067	0.088
83	Los Coyotes Diagonal/Carson St	0.658	B	**1.018**	**F**	0.688	B	**1.080**	**F**	0.030	0.062
84	Studebaker Rd/Spring St	0.593	A	0.724	C	0.661	B	0.835	D	0.068	0.111
85	Studebaker Rd/Willow St	0.563	A	0.715	C	0.602	B	0.763	C	0.039	0.048
86	Studebaker Rd/2nd St	0.746	C	0.887	D	0.761	C	**0.903**	**E**	0.015	0.016
87	Pacific Coast Hwy/2nd St	0.871	D	**1.053**	**F**	0.895	D	**1.092**	**F**	0.024	0.039
88	Bellflower Blvd/Pacific Coast Hwy	0.553	A	0.684	B	0.579	A	0.751	C	0.026	0.067

Source: *Traffic Impact Analysis*, LSA Associates, Inc. (May 2016) (Appendix E).

Ave = Avenue
Blvd = Boulevard
Dr = Drive
Fwy = Freeway
Hwy = Highway
LOS = level(s) of service
Rd = Road
St = Street
V/C = volume-to-capacity

Existing Transit Network. Transit service is provided within the project vicinity by Long Beach Transit (LBT). The routes and times of bus lines within the planning area are described in Table 4.8.E, Long Beach Transit Routes Summary, and are illustrated on Figure 4.8.3, Long Beach Transit System Map. In addition, the Los Angeles County Metropolitan Transit Authority (Metro) operates the Metro Blue Line in the City. Specifically, the Metro Blue Line runs in a north-south fashion from 7th Street/Metro Center to the Downtown Long Beach stop. An Amtrak unstaffed throughway bus stop is also located in Downtown Long Beach at the Transit Gallery.

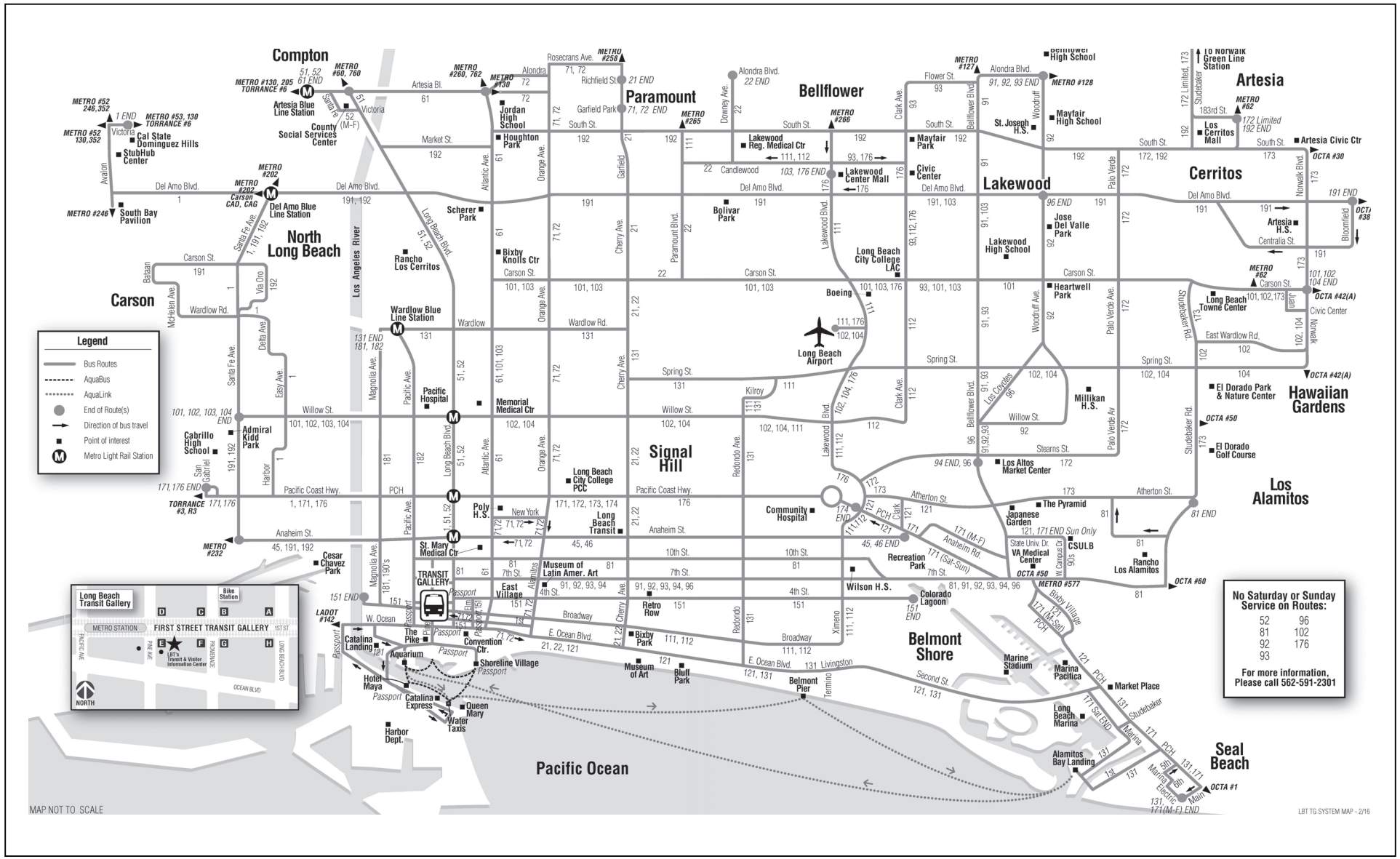
Table 4.8.E: Long Beach Transit Routes Summary

Route Number	Route Name	Origin	Destination	Hours of Operation	Direction
1	Downtown Long Beach/Easy Ave/CSUDH	Downtown Long Beach at the Transit Gallery Shelter/CSUDH	CSUDH/Downtown Long Beach at the Transit Gallery Shelter	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
21/22	Cherry Ave/Downey Ave	Downtown Long Beach at the Transit Gallery/Alondra/Downey Ave	Alondra/Downey Ave & Downtown Long Beach at the Transit Gallery	Route 21: Monday through Sunday. Route 22: Monday through Sunday	North/South
-	Passport- Downtown Long Beach/Queen Mary	Queen Mary/Downtown Long Beach at 3rd and Promenade	Downtown Long Beach at 3rd & Promenade/Queen Mary	Northbound: Monday through Friday, and Saturday and Sunday. Southbound: Monday through Friday, and Saturday and Sunday.	-
45	Anaheim to Santa Fe	Downtown Long Beach at the Transit Gallery Shelter/Anaheim/PCH	Anaheim/PCH & Downtown Long Beach at the Transit Gallery Shelter	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
46	Anaheim Street to Downtown	Downtown Long Beach at the Transit Gallery Shelter/Anaheim/PCH	Anaheim/PCH & Downtown Long Beach at the Transit Gallery Shelter	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
51	Long Beach Blvd to Artesia Station	Downtown Long Beach at the Transit Gallery Shelter/Artesia Station	Artesia Station/ Downtown Long Beach at the Transit Gallery Shelter	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
52	Long Beach Blvd/Victoria/ Artesia Station	Downtown Long Beach at the Transit Gallery Shelter/Artesia Station	Artesia Station/ Downtown Long Beach at the Transit Gallery Shelter	Northbound: Monday through Friday, and is not in operation on Saturday or Sunday. Southbound: Monday through Friday, and is not in operation on Saturday or Sunday.	North/South
61	Atlantic Ave to Artesia Station	Downtown Long Beach at the Transit Gallery Shelter/Artesia Station	Artesia Station/ Downtown Long Beach at the Transit Gallery Shelter	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
71	Alamitos/Orange Ave	Downtown Long Beach at the Transit Gallery Shelter & Garfield/Petrol	Garfield/Petrol & Downtown Long Beach at the Transit Gallery Shelter	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
72	Alamitos/Orange Ave/Hunsaker Ave	Downtown Long Beach at the Transit Gallery Shelter & Garfield/Petrol	Garfield/Petrol & Downtown Long Beach at the Transit Gallery Shelter	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
81	10th St to CSULB	Downtown Long Beach at the Transit Gallery Shelter & Studebaker/Anaheim	Studebaker/Anaheim & Downtown Long Beach at the Transit Gallery Shelter	Eastbound: Monday through Friday, and is not in operation on Saturday and Sunday. Westbound: Monday through Friday, and is not in operation on Saturday and Sunday.	East/West
91	7th St/ Bellflower Boulevard	Downtown Long Beach at the Transit Gallery Shelter & Alondra/Woodruff	Alondra/Woodruff & Downtown Long Beach at the Transit Gallery Shelter	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
92	7th St/ Woodruff Ave	Downtown Long Beach at the Transit Gallery Shelter & Alondra/Woodruff	Alondra/Woodruff & Downtown Long Beach at the Transit Gallery Shelter	Eastbound: Monday through Friday, and is not in operation on Saturday and Sunday. Westbound: Monday through Friday, and is not in operation on Saturday and Sunday.	East/West
93	7th St/Clark Ave	Downtown Long Beach at the Transit Gallery Shelter & Clark/Del Amo	Clark/Del Amo Downtown Long Beach at the Transit Gallery Shelter	Eastbound: Monday through Friday, and is not in operation on Saturday and Sunday. Westbound: Monday through Friday, and is not in operation on Saturday and Sunday.	East/West
94	7th St/ Los Altos Only	Downtown Long Beach at the Transit Gallery Shelter & Bellflower/Stearns	Bellflower/Stearns & Downtown Long Beach at the Transit Gallery Shelter	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
96	ZAP - 7th Street	6th Street/Long Beach Boulevard stop & Woodruff/Del Amo stop	Woodruff/Del Amo stop & 7th Street/Long Beach Boulevard stop	Eastbound: Monday through Friday, and is not in operation on Saturday and Sunday. Westbound: Monday through Friday, and is not in operation on Saturday and Sunday.	East/West
101	Carson Street/Norwalk Boulevard	Santa Fe/25th & Carson/Norwalk	Carson/Norwalk & Santa Fe/25th	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
102	Willow/Spring/Wardlow	Santa Fe/25th & Carson/Norwalk	Carson/Norwalk & Santa Fe/25th	Eastbound: Monday through Friday, and is not in operation on Saturday and Sunday. Westbound: Monday through Friday, and is not in operation on Saturday and Sunday.	East/West
103	Carson Street to Lakewood Mall	Santa Fe/25th & Lakewood/Candlewood	Lakewood/Candlewood & Santa Fe/25th	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
104	Willow/Spring/Nature Center	Santa Fe/25th & Carson/Norwalk	Carson/Norwalk & Santa Fe/25th	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
111	Broadway/Lakewood Boulevard	Downtown Long Beach at the Transit Gallery & South/Downey	South/Downey & Downtown Long Beach at the Transit Gallery	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
112	Broadway/Clark Ave	Downtown Long Beach at the Transit Gallery & South/Downey	South/Downey & Downtown Long Beach at the Transit Gallery	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
121	Ocean/Belmont Shore/CSULB/PCH at Ximeno	Catalina Landing & PCH/Clark	Atherton/Ximeno & Downtown Long Beach at the Transit Gallery	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
131	Redondo Ave to Seal Beach	Alamitos Bay Landing/Wardlow	Wardlow/Alamitos Bay Landing	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
151	4th Street	4th/Ximeno stop & Transit Gallery in Downtown Long Beach	Transit Gallery in Downtown Long Beach & 4th/Ximeno stop	Eastbound: Monday through Sunday. Westbound: Monday through Sunday.	East/West
171	PCH/Seal Beach	Technology Place & Electric/Main	Electric/Main & Technology Place	Eastbound: Monday through Sunday. Westbound: Monday through Sunday	East/West
172	PCH/ Palo Verde	Transit Gallery in Downtown Long Beach/Norwalk Station	Norwalk Station/Transit Gallery in Downtown Long Beach	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South

Table 4.8.E: Long Beach Transit Routes Summary

Route Number	Route Name	Origin	Destination	Hours of Operation	Direction
173	PCH/Studebaker	Transit Gallery in Downtown Long Beach/Norwalk Station	Norwalk Station/Transit Gallery in Downtown Long Beach	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
174	PCH to Ximeno Only	Transit Gallery in Downtown Long Beach/Norwalk Station	Norwalk Station/Transit Gallery in Downtown Long Beach	Northbound: Monday through Sunday.	North/South
176	ZAP – PCH/LBCC/Lakewood Mall	Technology Place & Lakewood/Hardwick	Lakewood/Hardwick & Technology Place	Northbound: Monday through Friday, and is not in operation on Saturday or Sunday. Southbound: Monday through Friday, and is not in operation on Saturday or Sunday.	North/South
181	Magnolia Ave	Transit Gallery in Downtown Long Beach & Wardlow Station	Wardlow Station & Transit Gallery in Downtown Long Beach	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
182	Pacific Ave	Transit Gallery in Downtown Long Beach & Wardlow Station	Wardlow Station & Transit Gallery in Downtown Long Beach	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
191	Santa Fe/Del Amo Boulevard	Transit Gallery in Downtown Long Beach/Los Cerritos Center	Los Cerritos Center/Transit Gallery in Downtown Long Beach	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South
192	Santa Fe/South Street	Transit Gallery in Downtown Long Beach/Los Cerritos Center	Los Cerritos Center/Transit Gallery in Downtown Long Beach	Northbound: Monday through Sunday. Southbound: Monday through Sunday.	North/South

Source: Compiled by LSA (May 2016); Long Beach Transit (http://www.lbtransit.com/Services/).
Ave = Avenue
Blvd = Boulevard
CSUDH = California State University, Dominguez Hills
CSULB = California State University, Long Beach
LBCC = Long Beach Community College
PCH = Pacific Coast Highway
St = Street



LSA

FIGURE 4.8.3

Long Beach General Plan
Land Use and Urban Design Elements

Long Beach Transit System Map

SOURCE: City of Long Beach

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Existing Bicycle Network. As previously explained, it is the stated priority of the City to provide alternative modes of transportation in place of private automobiles. As part of this effort, the City has established a bicycle transportation network and has adopted a Bicycle Master Plan (2001). As illustrated by Figure 4.8.4, City of Long Beach Bike Map, the City has established a three-tier ranking system by which existing bicycle routes in the City are identified as "high comfort," "medium comfort," or "low comfort" bicycle routes.

The City has 120 miles of different types of bike paths, including 40 miles of Class 1 bikeways, 50 miles of Class II bikeways, and 30 miles of Class III bike routes,[1] as described further below.

- **Class I:** Variously called a bike path or multi-use trail. Provides for bicycle travel on a paved right of way completely separated from any street or highway.
- **Class II Bikeway:** Referred to as a bike lane. Provides a striped lane for one-way travel on a street or highway.
- **Class III Bikeway:** Referred to as a bike route. Provides for shared use with pedestrian or motor vehicle traffic.

To provide connections to other transportation modes, bicycle racks are included at several of the transit stops within the City. In addition, the Long Beach Bikestation is located in downtown Long Beach, near the Metro Blue Line. The Bikestation provides valet bicycle parking, bicycle rentals, and other amenities.

Existing Pedestrian Network. The existing conditions within the City include an elaborate network of pedestrian facilities, such as sidewalk coverage, curb cuts, crosswalks, street lighting, landscaping, and signalized intersections that serve the needs of pedestrians.

In recent years, the City has made a concerted effort to improve the walkability of its Downtown and surrounding communities. Buildings, sidewalk lighting, sidewalks, landscaping, and street furniture have been implemented to encourage walking between the transit stations, housing, shopping, employment centers, and nearby recreation uses.

4.8.4 Regulatory Setting

Federal Regulations. There are no relevant federal traffic and circulation regulations applicable to the proposed project.

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[1] Bike Long Beach. 2015. Website: http://www.bikelongbeach.org/welcome/infrastructure/bikeways (accessed May 3, 2016).

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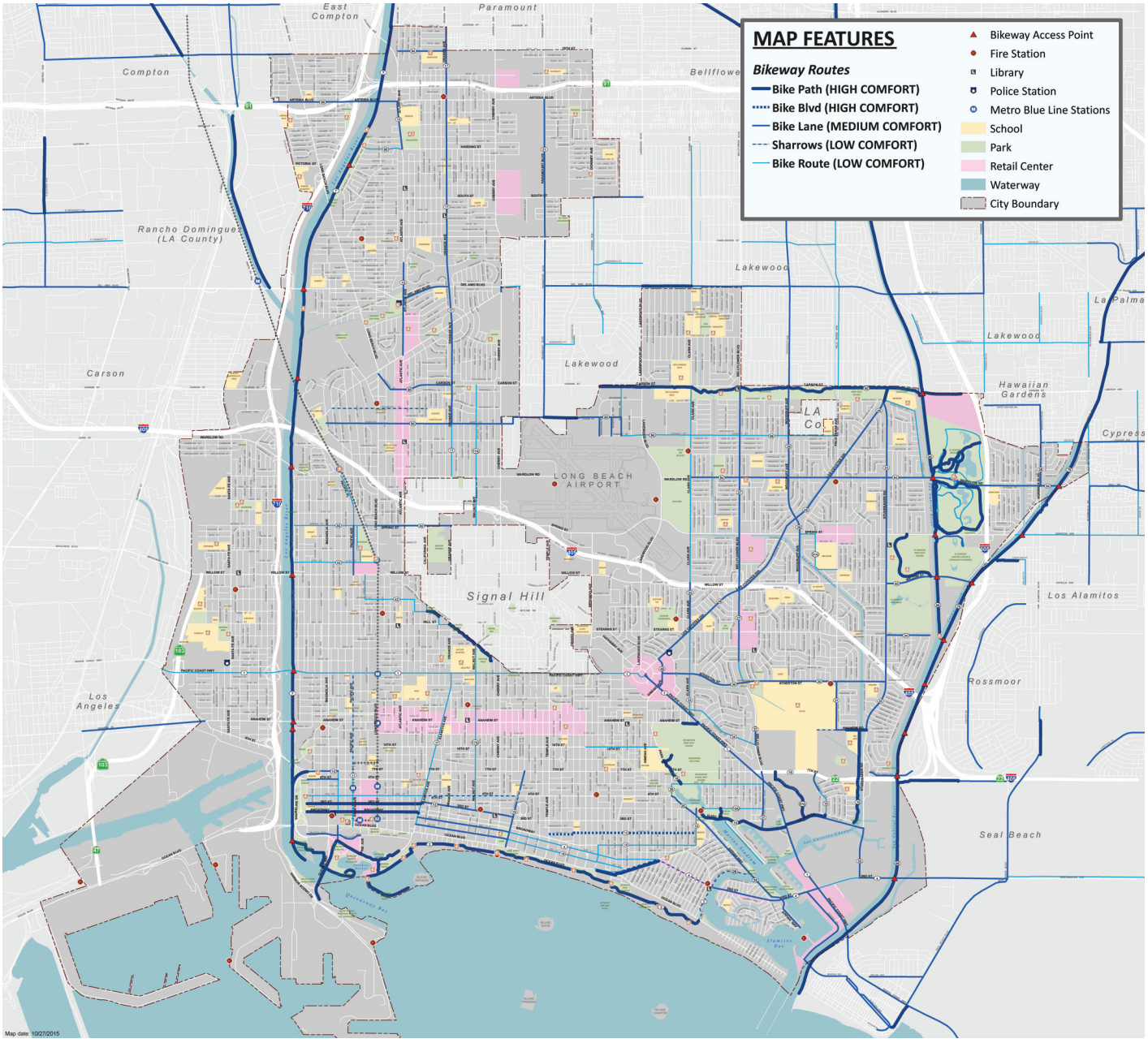

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FIGURE 4.8.4

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MILES

SOURCE: City of Long Beach Public Works Department

Long Beach General Plan
Land Use and Urban Design Elements
City of Long Beach Bike Map

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State Regulations.

Congestion Management Program. In Los Angeles County, the CMP is the program by which County agencies have agreed to monitor and report on the status of regional roadways. In June 1990, the passage of the Proposition 111 gas tax increase required urbanized areas in the State with a population of 50,000 or more to adopt a CMP. The CMP is intended to link transportation, land use, and air quality decisions, as well as address the impact of local growth on the regional transportation system. State legislation requires that the CMP contain a process to analyze the impacts of land use decisions by local governments on the regional transportation system. For CMP purposes, the regional transportation system is defined by the legislation as all State highways and principal arterials. The identification and analysis of impacts along with estimated mitigation costs are determined with respect to this CMP Highway System.

As the Congestion Management Agency for Los Angeles County, Metro is responsible for the preparation of the CMP. The latest CMP (Metro, 2010) states that a significant impact would occur if intersection LOS with the project is LOS F and the proposed project causes a 0.02 or greater increase in volume-to-capacity ratio. The CMP includes 10 monitored intersections within the City of Long Beach. These intersections are as follows, and are also included in the project study area:

- (16) Atlantic Avenue/Shoreline Avenue-Ocean Boulevard
- (17) Alamitos Avenue/7th Street
- (34) Santa Fe Avenue/Pacific Coast Highway
- (45) Orange Avenue/Pacific Coast Highway
- (58) Redondo Avenue/7th Street
- (64) Lakewood Boulevard/Carson Street
- (66) Lakewood Boulevard/Willow Street
- (72) Pacific Coast Highway/Ximeno Avenue
- (73) Pacific Coast Highway/7th Street
- (87) Pacific Coast Highway/2nd Street

Local Regulations.

City of Long Beach General Plan Mobility Element. In October 2013, the City approved the Mobility Element of the City's General Plan. The Mobility Element seeks to guide development and improvements to the existing circulation system. As previously stated, the Mobility Element establishes several goals aimed at improving the existing transportation system so that it is responsive to all travel modes. Some of these goals (e.g., increased ability to walk, bike, and use transit) would be supported by the changes in the proposed LUE. The following transportation/traffic goals and policies in the City's Mobility Element are applicable to the proposed project.

Goal 1: Create a safe, efficient, balanced, and multimodal mobility network.

Mobility of People (MOP) Policies:

MOP Policy 1-1: To improve the performance and visual appearance of Long Beach's streets, design streets holistically using the "complete streets approach" which considers walking, those with mobility constraints, bicyclists, public transit users, and various other modes of mobility in parallel.

MOP Policy 1-12: Continue to assist Long Beach Transit in implementing a comprehensive Citywide transit service that meets future needs.

MOP Policy 1-13: Increase multimodal access to major employers and educational institutions, including Long Beach Community College.

MOP Policy 1-14: Use universal design techniques to accommodate pedestrians of all ages and abilities and ensure compliance with the Americans with Disabilities Act.

MOP Policy 1-17: Develop land use policies that focus development potential in locations best served by transit.

MOP Policy 1-18: Focus development densities for residential and nonresidential land uses around the eight Metro Blue Line stations within City boundaries.

MOP Policy 2-2: Design the character and scale of the street to support its street type and place-type designation and overlay networks (for example, create a bike boulevard or bicycle-friendly retail district, transit street, or green street).

MOP Policy 2-15: Ensure that all new development is consistent with the applicable provisions of the Bicycle Master Plan.

MOP Policy 5-2: Reduce vehicle miles traveled (VMT) and vehicle trips through the use of alternative modes of transportation and Transportation Demand Management (TDM).

MOP Policy 6-12: Promote transit-oriented development with reduced parking requirements around appropriate transit hubs and stations to facilitate the use of available transit systems.

4.8.5 Proposed Land Use Element and Urban Design Element Goals, Strategies, and Policies

The following proposed Goals, Strategies, and Policies are applicable to the analysis of Transportation and Traffic:

Land Use Element.

STRATEGY No. 1: Support sustainable urban development patterns.

LU Policy 1-1: Promote sustainable development patterns and development intensities that use land.

STRATEGY No. 6: Implement the major areas of change identified in this Land Use Plan (Map LU-19).

LU Policy 6-6: Promote transit-oriented development around passenger rail stations and along major transit corridors.

LU Policy 6-7: Continue to develop the downtown into a city center that provides compact development, accommodates new growth, creates a walkable urban environment, allows for diversified businesses and is easily accessible to surrounding neighborhoods and regional facilities.

LU Policy 6-9: Focus infill development in the downtown, Multi-Family residential neighborhoods and transit-oriented development areas, and along specific corridors.

LU Policy 6-11: Support infill and transit-oriented development projects by utilizing available tools, such as public-private partnerships and assistance with land assembly and consolidation.

Urban Design Element.

STRATEGY No. 1: Improve function and connectivity within neighborhoods and districts.

Policy UD 1-5: Prioritize and revitalize streetscapes in existing neighborhoods and targeted areas of change to provide well-lit streets, continuous sidewalks, consistent paving treatment and improved crosswalks at intersections.

Policy UD 1-6: Identify streets that can be reconfigured to accommodate a variety of improvements, such as wider sidewalks with trees, bike paths, dedicated transit lanes, and landscape medians or curb extensions that make the streets more attractive and usable, consistent with Complete Streets principles.

Policy UD 1-7: Employ timeless and durable materials in streetscape designed amenities.

STRATEGY No. 2: Beautify and improve efficiency of corridors, gateways, and private and public spaces.

Policy UD 4-4: Identify opportunities for "walking loops" through neighborhoods that provide easy-to-follow routes (with distances noted) for exercise and pleasure.

Policy UD 8-3: Enhance walkable streets and neighborhoods to create pedestrian-friendly environments that support business vitality.

Policy UD 16-2: Continue to develop the Downtown into a city center that provides compact development, accommodates new growth, creates a walkable environment, allows for diversified businesses and is easily accessible to surrounding neighborhoods and regional facilities.

Policy UD 16-3: Focus new development with the greatest intensity and broadest mix of uses, along transit-supportive corridors, downtown, and near transit stations.

Policy UD 19-8: Provide better connections to these neighborhoods by improving bikeways and pedestrian paths, especially along the arterial streets. Capture opportunity for pedestrian paths to improve walkability (e.g., utility easement, vacant parcels).

Policy UD 19-9: Encourage streets to be repurposed to accommodate slower speeds and better serve pedestrians, cyclists, and local transit where the City Transportation Engineer determines that streets are overdesigned for estimated traffic loads.

Policy UD 20-6: Provide traffic calming measures such as roundabouts or narrowed intersections, where appropriate, to slow automobile speeds and allow pedestrians and cyclists to safely share the street.

Policy UD 21-3: Promote pedestrian activity by establishing well-designed streetscapes, active ground floor uses, and tree-canopied sidewalks that are unique to the individual neighborhood and transit stations.

Policy UD 21-8: Provide access to parking/loading from alleys or side streets to minimize curb cuts along the main boulevard where pedestrian activity will be the heaviest. Require a well-designed interface between pedestrians, bicyclists, and transit users. Bicycle facilities and pedestrian amenities should be integrated throughout the PlaceType.

Policy UD 23-8: Provide access to auto-oriented uses with the minimum required curb cut to make the sidewalk more navigable for pedestrians. Consider sidewalk extensions wherever possible to slow automobile traffic into the residential areas and to improve pedestrian crossings at side streets. Provide bicycle parking within commercial developments.

Policy UD 28-6: Encourage pedestrian activity through the controlling of vehicles, the use of tree-canopied, landscaped pathways and sidewalks, pedestrian-scaled lighting, and active and inviting ground floor uses.

Policy UD 28-7: Provide transit stops that are conveniently located.

Policy UD 38-8: Provide a clear zone for through-pedestrian traffic along the sidewalk. See the Mobility Element for specific sidewalk widths for each Street Type.

Policy UD 40-2: Provide well-marked and convenient pedestrian access through parking areas to separate pedestrian and vehicular traffic.
Policy UD 41-1: Encourage new developments to incorporate pedestrian amenities and pathways that provide direct, convenient, and safe access to public sidewalks and streets.

Policy UD 41-2: Explore opportunities to improve connections among the downtown, corridors, campuses, and neighborhoods to create interconnected walking environments.

Policy UD 41-3: Maintain and enhance the street grid network and short blocks that support all modes of transportation in Long Beach.

Policy UD 41-4: Provide street furnishings in the pedestrian zone to encourage walking and areas to stop and rest.

Policy UD 41-5: Promote enhancement, repair, and maintenance of alleys, paseos, paths, and trails.

Policy UD 41-6: Encourage the use of specialty paving or artistic ground treatment, such as painted concrete, where alleys intersect to enhance pedestrian activity.

Policy UD 41-7: Provide wayfinding signs, pedestrian lighting for safety and security, benches, and public art along alleys, paseos, paths, and trails to enhance neighborhood character and walkability.

Policy UD 41-8: Provide mid-block pedestrian connections between the street and alley on commercial blocks to encourage pedestrian discovery and safe passages.

STRATEGY No. 42: Continue promoting the City's vision to become the most bicycle-friendly city in the United States. Refer to additional policies provided in the Mobility Element.

Policy UD 42-1: Support and enhance bicycle streets by strategically locating bicycle facilities (like bicycle boulevards, bike racks and corrals, bike stations, and bike rental/share facilities), and reducing conflicts between pedestrians, bicyclists, and vehicles.

Policy UD 42-2: Encourage the integration of bike corrals and other transit amenities into projects located at heavily used transit stops, retail areas, and activity centers.

Policy UD 42-3: Support Long Beach's bike share program.

Policy UD 42-4: Provide bicycle facilities that connect activity centers.

STRATEGY No. 43: Establish comfortable and safe transit infrastructure. Refer to additional policies provided in the Mobility Element.

Policy UD 43-1: Promote the integration of transit stop amenities into the site or landscape design of a project, such as rain or sun protection, seating, and trash receptacle, where appropriate and feasible.

Policy UD 43-2: Create and encourage the use of a route/bus information theme to transit centers (or elements), so that they are visually similar, recognizable, and have an identity that is specific to Long Beach.

Policy UD 43-3: Provide transit infrastructure within 1/4 mile of all bus and transit stops.

4.8.6 Thresholds of Significance

The following thresholds of significance criteria are based on Appendix G of the *State CEQA Guidelines*. Based on these thresholds, implementation of the proposed project would have a significant adverse impact on transportation if it would:

Threshold 4.8.1: Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

Threshold 4.8.2: Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

Threshold 4.8.3: Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

Threshold 4.8.4: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

Threshold 4.8.5: Result in inadequate emergency access; or

Threshold 4.8.6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Approval of the proposed project is considered a policy/panning action for the entire City and does not include any physical improvements at this time. Therefore, the Initial Study/Notice of Preparation (IS/NOP) (Appendix A) determined that the proposed project would result in less than significant

impacts related to changes in air traffic patterns (Threshold 4.8.3), the exposure to hazards due to a design feature (Threshold 4.8.4), inadequate emergency access (Threshold 4.8.5), and potential conflicts with adopted plans, policies, and/or programs regarding public transit (Threshold 4.8.6). These thresholds will be analyzed at the time that future development projects subject to CEQA are being evaluated. As a result, these thresholds are not analyzed further in this Draft EIR.

4.8.7 Standard Conditions and Project Design Features

The proposed project would not be required to adhere to any standard conditions and would not include any project design features related to transportation and traffic.

4.8.8 Project Impacts

Threshold 4.8.1: Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Significant and Unavoidable Impact. In support of the multimodal goals established in the adopted Mobility Element, the proposed LUE concentrates growth along corridors and in the districts previously identified. Many of these corridors and districts are supported by infrastructure for alternative transportation modes. Concentrating future growth in these areas would provide residents and employees with alternatives for travel aside from a private automobile. However, concentrating future growth in these areas also has the potential to concentrate new automobile trips.

As previously described, increases in socioeconomic factors as a result of changes in land use classifications or densities were used to project the increase in traffic for each Major Area of Change. The total new traffic within each district was compared to the total baseline traffic within the district to determine the percentage of increase in traffic volume. In other words, changes in the land use classifications would increase traffic volume compared to the 2035 traffic volumes that would be anticipated without changes to the land use classifications. Table 4.8.F shows the resulting traffic increase for each district.

Figure 4.8.5, Intersections and District Boundaries, illustrates the location of the study area intersections and the boundaries of the City districts to identify which intersections lay within each district. The increases in v/c ratio provided in Table 4.8.G were applied to each of the intersections within the districts. For intersections not located within any of the City districts affected by new development proposed within the Major Areas of Change, no increase in v/c ratio was added to the 2035 condition.

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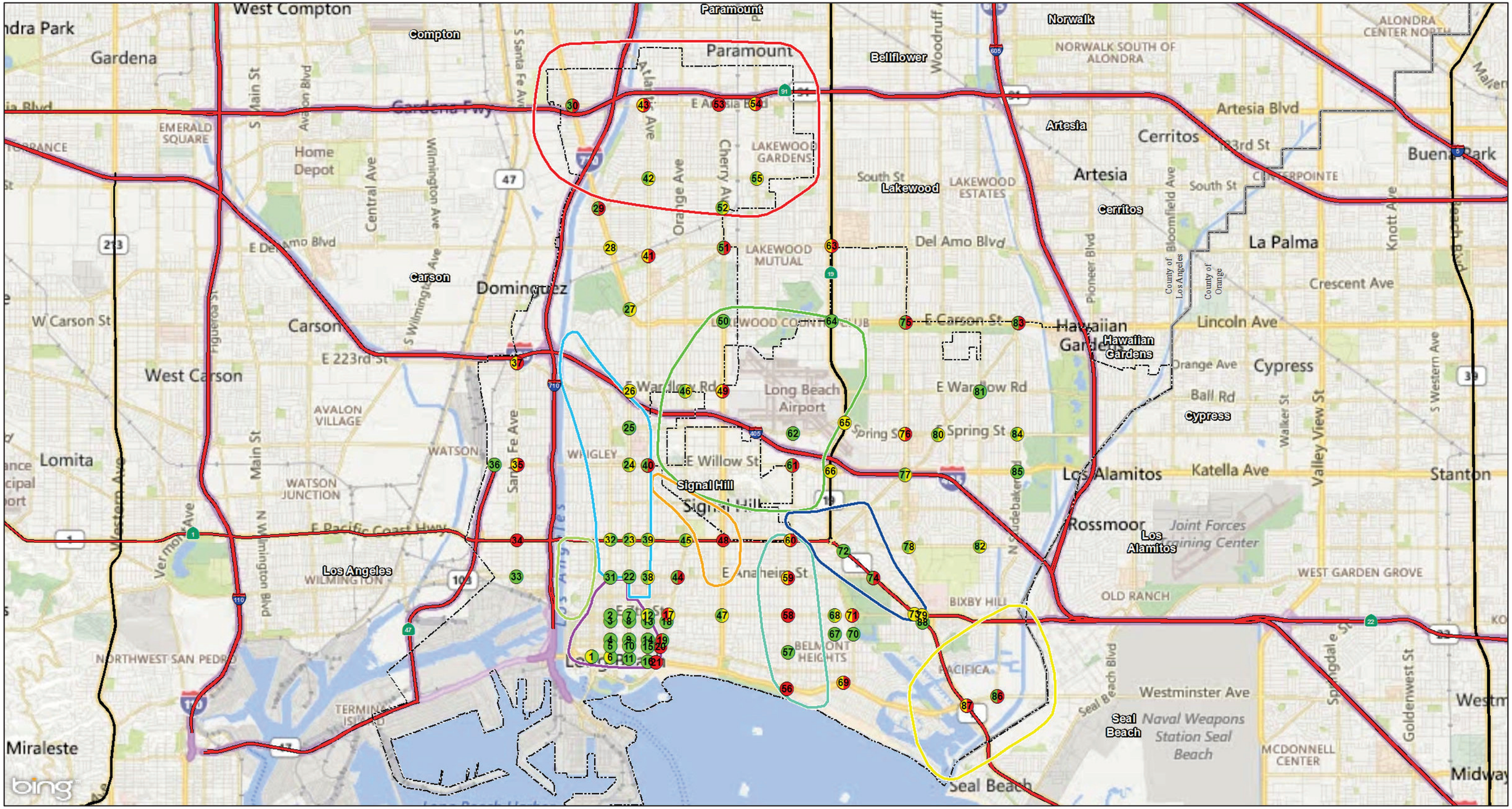

LSA

LEGEND

City Boundary

2035 Intersections (AM left side/PM right side)

- Los A, B, C
- Los D
- Los E, F

Neighborhoods of Change

1. North Long Beach
2. Mid City
3. Riverside
4. Downtown
5. Airport
6. PCH
7. Traffic Circle
8. Redondo
9. SEADIP

0 0.625 1.25 Miles

SOURCE: Bing Maps (2013)

I:\CLB1505\G\Traffic\Intersections&Districts.cdr (5/4/2016)

FIGURE 4.8.5

Long Beach General Plan
Land Use and Urban Design Elements

Intersections and District Boundaries

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Table 4.8.F: Traffic Increase as a Result of Land Use Element Major Areas of Change

City District	Total 2035 District Traffic[1]			New Traffic Within Major Areas of Change			Percent Increase		
	ADT	AM Peak Hour	PM Peak Hour	ADT	AM Peak Hour	PM Peak Hour	ADT	AM Peak Hour	PM Peak Hour
1. North Long Beach	158,427	11,083	14,409	4,630	309	422	3%	3%	3%
2. Mid-City	211,287	15,169	20,349	23,457	1,682	2,284	11%	11%	11%
3. Riverside	23,051	1,619	2,072	1,595	112	144	7%	7%	7%
4. Downtown	186,874	12,419	17,102	17,167	1,105	1,569	9%	9%	9%
5. Airport	164,778	11,843	15,297	11,790	846	1,084	7%	7%	7%
6. PCH	70,613	4,869	6,391	1,773	128	159	3%	3%	2%
7. Traffic Circle	77,210	5,019	7,072	7,139	458	653	9%	9%	9%
8. Redondo	175,416	12,008	16,403	7,177	471	657	4%	4%	4%
9. SEADIP	46,221	2,884	4,247	12,836	780	1,182	28%	27%	28%

Source: *Traffic Impact Analysis,* LSA Associates, Inc. (May 2016) (Appendix E).
[1] Total traffic for all traffic analysis zones within the district as shown in the SCAG traffic model.
ADT = Average Daily Traffic
SCAG = Southern California Association of Governments
PCH = Pacific Coast Highway
SEADIP = Southeast Area Development and Improvement Plan

Table 4.8.G: Change in Volume-to-Capacity from Major Areas of Change

City District	Percent Increase			Change in Volume-to-Capacity Ratio	
	ADT	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. North Long Beach	3%	3%	3%	0.03	0.03
2. Mid-City	11%	11%	11%	0.11	0.11
3. Riverside	7%	7%	7%	0.07	0.07
4. Downtown	9%	9%	9%	0.09	0.09
5. Airport	7%	7%	7%	0.07	0.07
6. PCH	3%	3%	2%	0.03	0.02
7. Traffic Circle	9%	9%	9%	0.09	0.09
8. Redondo	4%	4%	4%	0.04	0.04
9. SEADIP	28%	27%	28%	0.27	0.28

Source: *Traffic Impact Analysis,* LSA Associates, Inc. (May 2016) (Appendix E).
ADT = Average Daily Traffic
PCH = Pacific Coast Highway
SEADIP = Southeast Area Development and Improvement Plan

The 2035 No Project conditions reflect future traffic conditions in Long Beach where population and employment would grow in the City and in surrounding areas, but no changes to the land use classifications in the City would occur as proposed under the project. However, because there would be potential increases in travel demand within the districts seeing changes in land use classifications as proposed in the LUE, the 2040 With Project conditions reflect the potential increases in traffic within the districts where changes in land use classifications would occur.

The increase in traffic volume in each City district is presumed to affect the v/c ratio of intersections within the City districts. Table 4.8.G shows the increase in v/c ratio applied to the intersections within each district.

For the purposes of a CEQA comparison, the baseline of analysis is the existing condition or the 2008 baseline used in the Mobility Element analysis of the 88 study area intersections. Table 4.8.H compares the future 2040 With Project conditions to the 2008 existing baseline. Based on the City's criteria, the following 44 intersections could be significantly impacted by the proposed General Plan LUE:

- (1) Magnolia Avenue/Ocean Boulevard
- (6) Pacific Avenue/Ocean Boulevard
- (12) Atlantic Avenue/7th Street
- (17) Alamitos Avenue/7th Street
- (19) Alamitos Avenue/3rd Street
- (20) Alamitos Avenue/Broadway
- (21) Alamitos Avenue/Shoreline Avenue, Ocean Boulevard
- (23) Long Beach Boulevard/Pacific Coast Highway
- (24) Long Beach Boulevard/Willow Street
- (26) Long Beach Boulevard/Wardlow Road
- (29) Long Beach Boulevard/Market Street
- (30) Long Beach Boulevard/Artesia Boulevard
- (34) Santa Fe Avenue/Pacific Coast Highway
- (37) Santa Fe Avenue/Wardlow Road
- (38) Atlantic Avenue/Anaheim Street
- (39) Atlantic Avenue/Pacific Coast Highway
- (40) Atlantic Avenue/Willow Street
- (41) Atlantic Avenue/Del Amo Boulevard
- (43) Atlantic Avenue/Artesia Boulevard
- (44) Alamitos Avenue/Anaheim Street
- (46)Orange Avenue/Wardlow Road
- (48) Cherry Avenue/Pacific Coast Highway
- (49) Cherry Avenue/Wardlow Road
- (51) Cherry Avenue/Del Amo Boulevard
- (53) Cherry Avenue/Artesia Boulevard
- (54) Paramount Boulevard/Artesia Boulevard
- (55) Paramount Boulevard/South Street
- (56) Redondo Avenue/Ocean Boulevard
- (58) Redondo Avenue/7th Street
- (59) Redondo Avenue/Anaheim Street
- (60) Redondo Avenue/Pacific Coast Highway
- (61) Redondo Avenue/Willow Street
- (63) Lakewood Boulevard/Del Amo Boulevard
- (65) Lakewood Boulevard/Spring Street
- (69) Livingston Drive/2nd Street
- (71) Park Avenue/7th Street
- (73) Pacific Coast Highway/7th Street
- (74) Pacific Coast Highway/Anaheim Street
- (75) Bellflower Boulevard/Carson Street
- (76) Bellflower Boulevard/Spring Street
- (79) Bellflower Boulevard/7th Street
- (83) Los Coyotes Diagonal/Carson Street
- (86) Studebaker Road/2nd Street
- (87) Pacific Coast Highway/2nd Street

Figure 4.8.6, Affected Intersections, illustrates the locations of these affected intersections. The forecasted intersection LOS deficiencies are caused by future traffic volume growth from the projected project-related traffic volumes. For this reason, impacts to these intersections represent a potentially significant impact, and mitigation is required.

Table 4.8.H: General Plan Land Use Element Project Impacts (Year 2040)

		Existing 2008				General Plan Build Out with Project				Change with Project	
		AM		PM		AM		PM			
	Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
1	Magnolia Ave/Ocean Blvd	0.85	D	0.74	C	**0.95**	**E**	0.85	D	0.10	0.10
2	Pacific Ave/7th St	0.68	B	0.53	A	0.80	D	0.70	B	0.13	0.17
3	Pacific Ave/6th St	0.42	A	0.63	B	0.53	A	0.79	C	0.12	0.16
4	Pacific Ave/3rd St	0.53	A	0.39	A	0.64	B	0.54	A	0.11	0.15
5	Pacific Ave/Broadway	0.36	A	0.70	B	0.46	A	0.87	D	0.10	0.17
6	Pacific Ave/Ocean Blvd	0.81	D	0.71	C	**0.92**	**E**	0.83	D	0.10	0.12
7	Long Beach Blvd/7th St	0.73	C	0.55	A	0.85	D	0.68	B	0.12	0.13
8	Long Beach Blvd/6th St	0.46	A	0.61	B	0.58	A	0.76	C	0.12	0.15
9	Long Beach Blvd/3rd St	0.51	A	0.38	A	0.62	B	0.52	A	0.11	0.13
10	Long Beach Blvd/Broadway	0.32	A	0.61	B	0.42	A	0.76	C	0.10	0.14
11	Long Beach Blvd/Ocean Blvd	0.72	C	0.63	B	0.84	D	0.75	C	0.11	0.12
12	Atlantic Ave/7th St	0.76	C	0.52	A	**0.96**	**E**	0.67	B	0.19	0.15
13	Atlantic Ave/6th St	0.46	A	0.56	A	0.60	B	0.70	B	0.15	0.14
14	Atlantic Ave/3rd St	0.49	A	0.36	A	0.60	B	0.50	A	0.12	0.14
15	Atlantic Ave/Broadway	0.26	A	0.60	B	0.38	A	0.76	C	0.12	0.15
16	Atlantic Ave/Shoreline Ave, Ocean Blvd	0.65	B	0.61	B	0.76	C	0.73	C	0.11	0.12
17	Alamitos Ave/7th St	**0.90**	**E**	0.76	D	**1.02**	**F**	0.90	D	0.12	0.15
18	Alamitos Ave/6th St	0.37	A	0.44	A	0.50	A	0.57	A	0.13	0.13
19	Alamitos Ave/3rd St	**1.05**	**F**	0.66	B	**1.19**	**F**	0.81	D	0.14	0.15
20	Alamitos Ave/Broadway	0.90	D	**0.95**	**E**	**1.04**	**F**	**1.10**	**F**	0.14	0.16
21	Alamitos Ave/Shoreline Ave, Ocean Blvd	**1.11**	**F**	**1.04**	**F**	**1.22**	**F**	**1.17**	**F**	0.11	0.13
22	Long Beach Blvd/Anaheim St	0.53	A	0.69	B	0.66	B	0.81	D	0.13	0.13
23	Long Beach Blvd/Pacific Coast Hwy	0.69	B	0.80	C	0.86	D	**0.96**	**E**	0.17	0.16
24	Long Beach Blvd/Willow St	0.69	B	0.76	C	0.86	D	**0.92**	**E**	0.16	0.16
25	Long Beach Blvd/Spring St	0.57	A	0.71	C	0.73	C	0.87	D	0.16	0.16
26	Long Beach Blvd/Wardlow Rd	0.84	D	0.83	D	**0.99**	**E**	**0.96**	**E**	0.16	0.14
27	Long Beach Blvd/San Antonio	0.48	A	0.77	C	0.51	A	0.88	D	0.03	0.11
28	Long Beach Blvd/Del Amo Blvd	0.80	C	0.83	D	0.85	D	0.89	D	0.05	0.06
29	Long Beach Blvd/Market St	0.58	A	0.88	D	0.63	B	**0.94**	**E**	0.05	0.06
30	Long Beach Blvd/Artesia Blvd	0.71	C	**1.03**	**F**	0.79	C	**1.13**	**F**	0.07	0.10
31	Pacific Ave/Anaheim St	0.61	B	0.71	C	0.76	C	0.87	D	0.15	0.17
32	Pacific Ave/Pacific Coast Hwy	0.66	B	0.64	B	0.86	D	0.81	D	0.20	0.17
33	Santa Fe Ave/Anaheim St	0.56	A	0.70	B	0.66	B	0.78	C	0.10	0.11
34	Santa Fe Ave/Pacific Coast Hwy	**0.99**	**E**	**0.94**	**E**	**1.15**	**F**	**1.02**	**F**	0.16	0.08
35	Santa Fe Ave/Willow St	0.75	C	0.85	D	0.82	D	**0.91**	**E**	0.07	0.05
36	Terminal Island Fwy/Willow St	0.39	A	0.50	A	0.40	A	0.52	A	0.01	0.02
37	Santa Fe Ave/Wardlow Rd	0.80	C	**0.91**	**E**	0.84	D	**0.96**	**E**	0.04	0.05
38	Atlantic Ave/Anaheim St	0.65	B	0.82	D	0.82	D	**1.00**	**E**	0.17	0.18
39	Atlantic Ave/Pacific Coast Hwy	0.60	B	0.76	C	0.79	C	**0.93**	**E**	0.19	0.17
40	Atlantic Ave/Willow St	0.68	B	0.89	D	0.88	D	**1.06**	**F**	0.20	0.17
41	Atlantic Ave/Del Amo Blvd	0.80	D	**0.99**	**E**	0.88	D	**1.09**	**F**	0.07	0.10
42	Atlantic Ave/South St	0.45	A	0.79	C	0.53	A	0.88	D	0.08	0.10
43	Atlantic Ave/Artesia Blvd	0.74	C	**0.98**	**E**	0.84	D	**1.11**	**F**	0.10	0.13
44	Alamitos Ave/Anaheim St	0.64	B	**0.91**	**E**	0.69	B	**0.96**	**E**	0.05	0.05
45	Orange Ave/Pacific Coast Hwy	0.61	B	0.79	C	0.65	B	0.84	D	0.05	0.05
46	Orange Ave/Wardlow Rd	0.71	C	0.77	C	0.83	D	**0.92**	**E**	0.12	0.14

Table 4.8.H: General Plan Land Use Element Project Impacts (Year 2040)

		Existing 2008				General Plan Build Out with Project				Change with Project	
		AM		PM		AM		PM			
	Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
47	Cherry Ave/7th St	0.69	B	0.80	D	0.72	C	0.87	D	0.03	0.07
48	Cherry Ave/Pacific Coast Hwy	0.81	D	0.90	D	**0.94**	**E**	**1.07**	**F**	0.13	0.17
49	Cherry Ave/Wardlow Rd	0.77	C	**0.95**	**E**	0.89	D	**1.09**	**F**	0.12	0.14
50	Cherry Ave/Carson St	0.54	A	0.71	C	0.65	B	0.82	D	0.10	0.12
51	Cherry Ave/Del Amo Blvd	0.74	C	**0.96**	**E**	0.79	C	**1.03**	**F**	0.05	0.07
52	Cherry Ave/Market St	0.71	C	0.74	C	0.80	D	0.84	D	0.09	0.09
53	Cherry Ave/Artesia Blvd	**0.92**	**E**	**1.02**	**F**	**1.02**	**F**	**1.12**	**F**	0.10	0.10
54	Paramount Blvd/Artesia Blvd	0.76	C	**0.93**	**E**	0.86	D	**1.03**	**F**	0.10	0.10
55	Paramount Blvd/South St	0.58	A	0.79	C	0.68	B	**0.92**	**E**	0.10	0.13
56	Redondo Ave/Ocean Blvd	0.87	D	**0.92**	**E**	**0.94**	**E**	**0.98**	**E**	0.07	0.06
57	Redondo Ave/3rd St	0.55	A	0.63	B	0.62	B	0.78	C	0.07	0.15
58	Redondo Ave/7th St	**0.91**	**E**	0.88	D	**1.00**	**E**	**0.97**	**E**	0.09	0.10
59	Redondo Ave/Anaheim St	0.77	C	0.83	D	0.87	D	**0.94**	**E**	0.10	0.11
60	Redondo Ave/Pacific Coast Hwy	0.73	C	0.86	D	0.81	D	**0.95**	**E**	0.07	0.09
61	Redondo Ave/Willow St	0.70	B	0.90	D	0.81	D	**1.00**	**E**	0.12	0.11
62	Redondo Ave/Spring St	0.65	B	0.77	C	0.86	D	0.86	D	0.22	0.09
63	Lakewood Blvd/Del Amo Blvd	0.83	D	**1.10**	**F**	0.86	D	**1.17**	**F**	0.03	0.07
64	Lakewood Blvd/Carson St	0.65	B	0.69	B	0.75	C	0.81	D	0.10	0.12
65	Lakewood Blvd/Spring St	0.76	C	0.76	C	**0.91**	**E**	0.88	D	0.14	0.12
66	Lakewood Blvd/Willow St	0.78	C	0.77	C	0.88	D	0.89	D	0.10	0.12
67	Ximeno Ave/4th St	0.59	A	0.72	C	0.71	C	0.79	C	0.12	0.07
68	Ximeno Ave/7th St	0.69	B	0.81	D	0.74	C	0.87	D	0.05	0.06
69	Livingston Dr/2nd St	0.84	D	**0.95**	**E**	0.86	D	**0.99**	**E**	0.02	0.04
70	Park Ave/4th St	0.60	A	0.72	C	0.62	B	0.76	C	0.02	0.03
71	Park Ave/7th St	0.81	D	0.87	D	0.84	D	**0.91**	**E**	0.03	0.03
72	Pacific Coast Hwy/Ximeno Ave	0.57	A	0.70	B	0.72	C	0.82	D	0.14	0.12
73	Pacific Coast Hwy/7th St	0.87	D	0.84	D	**0.98**	**E**	**0.95**	**E**	0.11	0.12
74	Pacific Coast Hwy/Anaheim St	0.74	C	**0.92**	**E**	0.86	D	**1.07**	**F**	0.12	0.15
75	Bellflower Blvd/Carson St	0.73	C	**0.95**	**E**	0.76	C	**1.00**	**E**	0.03	0.05
76	Bellflower Blvd/Spring St	0.79	C	0.86	D	0.86	D	**0.94**	**E**	0.07	0.08
77	Bellflower Blvd/Los Coyotes Diagonal	0.64	B	0.77	C	0.70	B	0.82	D	0.06	0.05
78	Bellflower Blvd/Atherton St	0.61	B	0.78	C	0.69	B	0.89	D	0.08	0.11
79	Bellflower Blvd/7th St	0.86	D	0.84	D	**0.98**	**E**	**0.97**	**E**	0.11	0.13
80	Los Coyotes Diagonal/Spring St	0.66	B	0.80	D	0.71	C	0.87	D	0.05	0.07
81	Palo Verde Ave/Wardlow Rd	0.41	A	0.60	A	0.46	A	0.66	B	0.05	0.06
82	Palo Verde Ave/Atherton St	0.52	A	0.72	C	0.59	A	0.81	D	0.07	0.09
83	Los Coyotes Diagonal/Carson St	0.66	B	**1.02**	**F**	0.69	B	**1.08**	**F**	0.03	0.06
84	Studebaker Rd/Spring St	0.59	A	0.72	C	0.66	B	0.84	D	0.07	0.11
85	Studebaker Rd/Willow St	0.56	A	0.72	C	0.60	B	0.76	C	0.04	0.05
86	Studebaker Rd/2nd St	0.75	C	0.89	D	**1.04**	**F**	**1.18**	**F**	0.30	0.30
87	Pacific Coast Hwy/2nd St	0.87	D	**1.05**	**F**	**1.18**	**F**	**1.37**	**F**	0.30	0.32
88	Bellflower Blvd/Pacific Coast Hwy	0.55	A	0.68	B	0.70	B	0.84	D	0.12	0.16

Source: *Traffic Impact Analysis*, LSA Associates, Inc. (May 2016) (Appendix E).

Ave = Avenue
Blvd = Boulevard
Dr = Drive
Fwy = Freeway
Hwy = Highway
LOS = level(s) of service
St = Street
Rd = Road
V/C = volume-to-capacity

LSA

LEGEND

City Boundary

New Los E or F Compared to Mobility Element

Impact Compared to Existing

0 0.625 1.25
Miles

SOURCE: Bing Maps (2013)

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FIGURE 4.8.6

Long Beach General Plan
Land Use and Urban Design Elements

Affected Intersections

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Table 4.8.I shows the LOS conditions at study area intersections for the year 2040 (General Plan Build Out) without and with project traffic. As shown in Table 4.8.I, under the No Project scenario, 18 study area intersections are forecast to operate at LOS E or F in the a.m. peak hour and 39 intersections are forecast to operate at LOS E or F in the p.m. peak hour. Table 4.8.I shows the anticipated change in intersection performance caused by the LUE compared to the No Project conditions (i.e., the increase in travel demand within districts where land use classifications would change).

With the proposed changes in land use classifications, as compared to the No Project scenario, nine more intersections would operate at LOS E or F in the a.m. peak hour and nine more intersections would operate at LOS E or F in the p.m. peak hour.

As compared to the conclusions in the Mobility Element traffic study, an additional 12 intersections are now forecast to operate at LOS E or F. In total, 12 intersections that were projected to function at LOS D or better when the Mobility Element analyzed traffic conditions are now forecast to function at LOS E or F. These intersections are as follows:

North Long Beach:

- (55) Paramount Boulevard/South Street

Mid-City:

- (24) Long Beach Boulevard/Willow Street
- (26) Long Beach Boulevard/Wardlow Road
- (38) Atlantic Avenue/Anaheim Street
- (39) Atlantic Avenue/Pacific Coast Highway

Downtown:

- (1) Magnolia Avenue/Ocean Boulevard
- (6) Pacific Avenue/Ocean Boulevard
- (12) Atlantic Avenue/7th Street

Airport:

- (46) Orange Avenue/Wardlow Road
- (65) Lakewood Boulevard/Spring Street

Traffic Circle:

- (73) Pacific Coast Highway/7th Street
- (79) Bellflower Boulevard/7th Street

Table 4.8.I: Future (2040) With Project Levels of Service

			General Plan Build Out No Project				Effect of Land Use Element		General Plan Build Out With Project			
			AM		PM				AM		PM	
District		Intersection	V/C	LOS	V/C	LOS	AM	PM	V/C	LOS	V/C	LOS
1. North Long Beach	30	Long Beach Blvd/Artesia Blvd	0.76	C	**1.10**	**F**	0.03	0.03	0.79	C	**1.13**	**F**
	42	Atlantic Ave/South St	0.50	A	0.85	D			0.53	A	0.88	D
	43	Atlantic Ave/Artesia Blvd	0.81	D	**1.08**	**F**			0.84	D	**1.11**	**F**
	52	Cherry Ave/Market St	0.77	C	0.81	D			0.80	D	0.84	D
	53	Cherry Ave/Artesia Blvd	**0.99**	**E**	**1.09**	**F**			**1.02**	**F**	**1.12**	**F**
	54	Paramount Blvd/Artesia Blvd	0.83	D	**1.00**	**F**			0.86	D	**1.03**	**F**
	55	Paramount Blvd/South St	0.65	B	0.89	D			0.68	B	**0.92**	**E**
2. Mid-City	23	Long Beach Blvd/Pacific Coast Hwy	0.75	C	0.85	D	0.11	0.11	0.86	D	**0.96**	**E**
	24	Long Beach Blvd/Willow St	0.75	C	0.81	D			0.86	D	**0.92**	**E**
	25	Long Beach Blvd/Spring St	0.62	B	0.76	C			0.73	C	0.87	D
	26	Long Beach Blvd/Wardlow Rd	0.88	D	0.85	D			**0.99**	**E**	**0.96**	**E**
	32	Pacific Ave/Pacific Coast Hwy	0.75	D	0.70	B			0.86	D	0.81	D
	38	Atlantic Ave/Anaheim St	0.71	C	0.89	D			0.82	D	**1.00**	**E**
	39	Atlantic Ave/Pacific Coast Hwy	0.68	B	0.82	D			0.79	C	**0.93**	**E**
	40	Atlantic Ave/Willow St	0.77	C	**0.95**	**E**			0.88	D	**1.06**	**F**
4. Downtown	1	Magnolia Ave/Ocean Blvd	0.86	D	0.76	C	0.09	0.09	**0.95**	**E**	0.85	D
	2	Pacific Ave/7th St	0.71	C	0.61	B			0.80	D	0.70	B
	3	Pacific Ave/6th St	0.44	A	0.70	B			0.53	A	0.79	C
	4	Pacific Ave/3rd St	0.55	A	0.45	A			0.64	B	0.54	A
	5	Pacific Ave/Broadway	0.37	A	0.78	C			0.46	A	0.87	D
	6	Pacific Ave/Ocean Blvd	0.83	D	0.74	C			**0.92**	**E**	0.83	D
	7	Long Beach Blvd/7th St	0.76	C	0.59	A			0.85	D	0.68	B
	8	Long Beach Blvd/6th St	0.49	A	0.67	B			0.58	A	0.76	C
	9	Long Beach Blvd/3rd St	0.53	A	0.43	A			0.62	B	0.52	A
	10	Long Beach Blvd/Broadway	0.33	A	0.67	B			0.42	A	0.76	C
	11	Long Beach Blvd/Ocean Blvd	0.75	C	0.66	B			0.84	D	0.75	C
	12	Atlantic Ave/7th St	0.87	D	0.58	A			**0.96**	**E**	0.67	B
	13	Atlantic Ave/6th St	0.51	A	0.61	B			0.60	B	0.70	B
	14	Atlantic Ave/3rd St	0.51	A	0.41	A			0.60	B	0.50	A
	15	Atlantic Ave/Broadway	0.29	A	0.67	B			0.38	A	0.76	C
	16	Atlantic Ave/Shoreline Ave, Ocean Blvd	0.67	B	0.64	B			0.76	C	0.73	C
	17	Alamitos Ave/7th St	**0.93**	**E**	0.81	D			**1.02**	**F**	0.90	D
	18	Alamitos Ave/6th St	0.41	A	0.48	A			0.50	A	0.57	A
	19	Alamitos Ave/3rd St	**1.10**	**F**	0.72	C			**1.19**	**F**	0.81	D
	20	Alamitos Ave/Broadway	**0.95**	**E**	**1.01**	**F**			**1.04**	**F**	**1.10**	**F**
	21	Alamitos Ave/Shoreline Ave, Ocean Blvd	**1.13**	**F**	**1.08**	**F**			**1.22**	**F**	**1.17**	**F**
	22	Long Beach Blvd/Anaheim St	0.57	A	0.72	C			0.66	B	0.81	D
	31	Pacific Ave/Anaheim St	0.67	B	0.78	C			0.76	C	0.87	D
5. Airport	46	Orange Ave/Wardlow Rd	0.76	C	0.85	D	0.07	0.07	0.83	D	**0.92**	**E**
	49	Cherry Ave/Wardlow Rd	0.82	D	**1.02**	**F**			0.89	D	**1.09**	**F**
	50	Cherry Ave/Carson St	0.58	A	0.75	C			0.65	B	0.82	D
	61	Redondo Ave/Willow St	0.74	C	**0.93**	**E**			0.81	D	**1.00**	**E**
	62	Redondo Ave/Spring St	0.79	C	0.79	C			0.86	D	0.86	D
	64	Lakewood Blvd/Carson St	0.68	B	0.74	C			0.75	C	0.81	D
	65	Lakewood Blvd/Spring St	0.84	D	0.81	D			**0.91**	**E**	0.88	D
	66	Lakewood Blvd/Willow St	0.81	D	0.82	D			0.88	D	0.89	D

Table 4.8.I: Future (2040) With Project Levels of Service

District		Intersection	General Plan Build Out No Project				Effect of Land Use Element		General Plan Build Out With Project			
			AM		PM				AM		PM	
			V/C	LOS	V/C	LOS	AM	PM	V/C	LOS	V/C	LOS
6. PCH	48	Cherry Ave/Pacific Coast Hwy	**0.91**	**E**	**1.05**	**F**	0.03	0.02	**0.94**	**E**	**1.07**	**F**
7. Traffic Circle	72	Pacific Coast Hwy/Ximeno Ave	0.63	B	0.73	C	0.09	0.09	0.72	C	0.82	D
	73	Pacific Coast Hwy/7th St	0.89	D	0.86	D			**0.98**	**E**	**0.95**	**E**
	74	Pacific Coast Hwy/Anaheim St	0.77	C	**0.98**	**E**			0.86	D	**1.07**	**F**
	79	Bellflower Blvd/7th St	0.89	D	0.88	D			**0.98**	**E**	**0.97**	**E**
	88	Bellflower Blvd/Pacific Coast Hwy	0.58	A	0.75	C			0.67	B	0.84	D
8. Redondo	56	Redondo Ave/Ocean Blvd	**0.90**	**E**	**0.94**	**E**	0.04	0.04	**0.94**	**E**	**0.98**	**E**
	57	Redondo Ave/3rd St	0.58	A	0.74	C			0.62	B	0.78	C
	58	Redondo Ave/7th St	**0.96**	**E**	**0.93**	**E**			**1.00**	**E**	**0.97**	**E**
	59	Redondo Ave/Anaheim St	0.83	D	**0.90**	**E**			0.87	D	**0.94**	**E**
9. SEADIP	86	Studebaker Rd/2nd St	0.76	C	**0.90**	**E**	0.27	0.28	**1.03**	**F**	**1.18**	**F**
	87	Pacific Coast Hwy/2nd St	0.90	D	**1.09**	**F**			**1.17**	**F**	**1.37**	**F**
No District	27	Long Beach Blvd/San Antonio	0.51	A	0.88	D	0.00	0.00	0.51	A	0.88	D
	28	Long Beach Blvd/Del Amo Blvd	0.85	D	0.89	D			0.85	D	0.89	D
	29	Long Beach Blvd/Market St	0.63	B	**0.94**	**E**			0.63	B	**0.94**	**E**
	33	Santa Fe Ave/Anaheim St	0.66	B	0.78	C			0.66	B	0.78	C
	34	Santa Fe Ave/Pacific Coast Hwy	**1.15**	**F**	**1.02**	**F**			**1.15**	**F**	**1.02**	**F**
	35	Santa Fe Ave/Willow St	0.82	D	**0.91**	**E**			0.82	D	**0.91**	**E**
	36	Terminal Island Fwy/Willow St	0.40	A	0.52	A			0.40	A	0.52	A
	37	Santa Fe Ave/Wardlow Rd	0.84	D	**0.96**	**E**			0.84	D	**0.96**	**E**
	41	Atlantic Ave/Del Amo Blvd	0.88	D	**1.09**	**F**			0.88	D	**1.09**	**F**
	44	Alamitos Ave/Anaheim St	0.69	B	**0.96**	**E**			0.69	B	**0.96**	**E**
	45	Orange Ave/Pacific Coast Hwy	0.65	B	0.84	D			0.65	B	0.84	D
	47	Cherry Ave/7th St	0.72	C	0.87	D			0.72	C	0.87	D
	51	Cherry Ave/Del Amo Blvd	0.79	C	**1.03**	**F**			0.79	C	**1.03**	**F**
	60	Redondo Ave/Pacific Coast Hwy	0.81	D	**0.95**	**E**			0.81	D	**0.95**	**E**
	63	Lakewood Blvd/Del Amo Blvd	0.86	D	**1.17**	**F**			0.86	D	**1.17**	**F**
	67	Ximeno Ave/4th St	0.71	C	0.79	C			0.71	C	0.79	C
	68	Ximeno Ave/7th St	0.74	C	0.87	D			0.74	C	0.87	D
	69	Livingston Dr/2nd St	0.86	D	**0.99**	**E**			0.86	D	**0.99**	**E**
	70	Park Ave/4th St	0.62	B	0.76	C			0.62	B	0.76	C
	71	Park Ave/7th St	0.84	D	**0.91**	**E**			0.84	D	**0.91**	**E**
	75	Bellflower Blvd/Carson St	0.76	C	**1.00**	**E**			0.76	C	**1.00**	**E**
	76	Bellflower Blvd/Spring St	0.86	D	**0.94**	**E**			0.86	D	**0.94**	**E**
	77	Bellflower Blvd/Los Coyotes Diagonal	0.70	B	0.82	D			0.70	B	0.82	D
	78	Bellflower Blvd/Atherton St	0.69	B	0.89	D			0.69	B	0.89	D
	80	Los Coyotes Diagonal/Spring St	0.71	C	0.87	D			0.71	C	0.87	D
	81	Palo Verde Ave/Wardlow Rd	0.46	A	0.66	B			0.46	A	0.66	B
	82	Palo Verde Ave/Atherton St	0.59	A	0.81	D			0.59	A	0.81	D
	83	Los Coyotes Diagonal/Carson St	0.69	B	**1.08**	**F**			0.69	B	**1.08**	**F**
	84	Studebaker Rd/Spring St	0.66	B	0.84	D			0.66	B	0.84	D
	85	Studebaker Rd/Willow St	0.60	B	0.76	C			0.60	B	0.76	C

Source: *Traffic Impact Analysis*, LSA Associates, Inc. (May 2016) (Appendix E).

Ave = Avenue
Blvd = Boulevard
Dr = Drive
Fwy = Freeway
Hwy = Highway
LOS = level(s) of service
Rd = Road
St = Street
V/C = volume-to-capacity

As part of the TIA, mitigation in the form of vehicle capacity enhancements for each impacted intersection was reviewed for feasibility. Of the 44 impacted intersections, planned vehicle capacity improvements have been identified in the Mobility Element and/or applicable specific plans at only one intersection, Alamitos Avenue/Broadway. The Long Beach Downtown Community Plan included a mitigation measure to remove parking spaces on the west side of Alamitos Avenue, restripe and reconstruct the street, add a bike lane in each direction of travel, and provide for two travel lanes in each direction plus exclusive left-turn lanes from 7th Street to Ocean Boulevard. When implemented, this improvement would result in a second southbound through lane at the intersection of Alamitos Avenue/Broadway. However, the Long Beach Community Plan Traffic Impact Analysis indicates that this intersection would still be anticipated to operate at LOS E in the p.m. peak hour after the improvement.

The Mobility Element and/or applicable specific plans identify non-vehicle capacity improvements throughout the City. Pending projects in the City's Capital Improvement Program include: landscape improvements on the median islands at Livingston Drive/2nd Street, Artesia Boulevard Cycle Track, Alamitos Avenue Cycle Track, 3rd Street and Broadway Cycle Track, Alamitos Avenue Road Diet, Willow Street Pedestrian Improvements, Long Beach Boulevard Pedestrian Improvements, Long Beach Bike Lane Connections, and Bike Gap System Closures. Of the 44 impacted intersections, these projects will affect the following (but are not anticipated to improve vehicle LOS):

- Pacific Avenue/Ocean Boulevard
- Alamitos Avenue/7th Street
- Alamitos Avenue/3rd Street
- Alamitos Avenue/Broadway
- Alamitos Avenue/Shoreline Avenue-Ocean Boulevard
- Long Beach Boulevard/Willow Street
- Long Beach Boulevard/Wardlow Road
- Atlantic Avenue/Willow Street
- Atlantic Avenue/Artesia Boulevard
- Alamitos Avenue/Anaheim Street
- Cherry Avenue/Artesia Boulevard
- Paramount Boulevard/Artesia Boulevard
- Livingston Drive/2nd Street
- Bellflower Boulevard/7th Street

Aerial imagery of the impacted intersections was reviewed to identify potential constraints to vehicle capacity enhancements. Examples of potential constraints include lack of right-of-way, existing structures or open space, presence of utilities, geometric considerations, lack of complete jurisdiction over the intersection, conflict with other transportation modes, safety considerations, and incompatibility with planned road diets identified in the Mobility Element. Based on this review, it was determined that vehicle capacity enhancements would be infeasible, for various reasons, at all 44 impacted intersections. Table 4.8.J documents the constraints associated with vehicle capacity enhancements at these intersections.

Table 4.8.J: Constraints Matrix

Study Area No	Intersection	Constraints							
		Lack of Right-of-Way	Existing Structures or Open Space	Presence of Utilities	Geometric Considerations	Shared Jurisdiction	Conflict with Other Modes	Safety Considerations	Possible Road Diet in Mobility Element
1	Magnolia Avenue/Ocean Boulevard	x	x						
6	Pacific Avenue/Ocean Boulevard	x	x						
12	Atlantic Avenue/7th Street	x	x						x
17	Alamitos Avenue/7th Street	x	x					x	x
19	Alamitos Avenue/3rd Street	x	x		x		x	x	x
20	Alamitos Avenue/Broadway	x	x		x		x	x	x
21	Alamitos Avenue/Shoreline Avenue-Ocean Boulevard	x	x		x		x	x	x
23	Long Beach Boulevard/Pacific Coast Highway	x	x				x		x
24	Long Beach Boulevard/Willow Street	x	x	x			x		x
26	Long Beach Boulevard/Wardlow Road	x	x	x			x		x
29	Long Beach Boulevard/Market Street	x	x				x		x
30	Long Beach Boulevard/Artesia Boulevard	x	x	x			x		x
34	Santa Fe Avenue/Pacific Coast Highway	x	x	x					x
37	Santa Fe Avenue/Wardlow Road	x	x	x	x	x	x		
38	Atlantic Avenue/Anaheim Street	x	x						x
39	Atlantic Avenue/Pacific Coast Highway	x	x						x
40	Atlantic Avenue/Willow Street	x	x			x	x		x
41	Atlantic Avenue/Del Amo Boulevard	x	x	x			x		
43	Atlantic Avenue/Artesia Boulevard	x	x	x			x		x
44	Alamitos Avenue/Anaheim Street	x	x				x		x
46	Orange Avenue/Wardlow Road	x	x	x		x			
48	Cherry Avenue/Pacific Coast Highway	x	x			x			x
49	Cherry Avenue/Wardlow Road	x	x	x		x			x
51	Cherry Avenue/Del Amo Boulevard	x	x	x		x	x		x
53	Cherry Avenue/Artesia Boulevard	x	x	x			x		x
54	Paramount Boulevard/Artesia Boulevard	x	x	x			x		x
55	Paramount Boulevard/South Street	x	x	x			x		
56	Redondo Avenue/Ocean Boulevard		x						x
58	Redondo Avenue/7th Street	x	x						x
59	Redondo Avenue/Anaheim Street	x	x						x
60	Redondo Avenue/Pacific Coast Highway	x	x	x		x			x
61	Redondo Avenue/Willow Street	x	x	x		x			
63	Lakewood Boulevard/Del Amo Boulevard	x	x	x		x			
65	Lakewood Boulevard/Spring Street		x						
69	Livingston Drive/2nd Street	x	x		x		x	x	x
71	Park Avenue/7th Street		x		x			x	
73	Pacific Coast Highway/7th Street	x	x					x	x
74	Pacific Coast Highway/Anaheim Street				x		x	x	x
75	Bellflower Boulevard/Carson Street	x	x	x		x	x		
76	Bellflower Boulevard/Spring Street	x	x	x			x		
79	Bellflower Boulevard/7th Street	x	x				x		x
83	Los Coyotes Diagonal/Carson Street	x	x	x		x	x		

Table 4.8.J: Constraints Matrix

Study Area No	Intersection	Constraints							
		Lack of Right-of-Way	Existing Structures or Open Space	Presence of Utilities	Geometric Considerations	Shared Jurisdiction	Conflict with Other Modes	Safety Considerations	Possible Road Diet in Mobility Element
86	Studebaker Road/2nd Street			x			x		x
87	Pacific Coast Highway/2nd Street	x	x				x		x

Source: *Traffic Impact Analysis*, LSA Associates, Inc. (May 2016) (Appendix E).
Ave = Avenue ft = foot/feet
Blvd = Boulevard Rd = Road
City = City of Long Beach St = Street

In addition to the aforementioned planned improvements, the Mobility Element presents a number of Implementation Measures designed to promote mobility of people by supporting all travel modes, including walking, bicycling, and use of transit, thereby reducing the number of automobile trips on the roadway network. Executing Mobility of People Implementation Measure (MOP IM) 1 through MOP IM-60 would have an effect on managing travel demand, reducing the volume of vehicle traffic, decreasing the v/c ratio at City intersections, and improving vehicle LOS. However, the effect of these measures on individual intersection LOS cannot be guaranteed because they rely on the changing attitudes and actions of many commuters. In addition, it is possible that when some automobile trips are converted into alternative modes, additional automobile trips that would otherwise have been discouraged by congestion may occur. Therefore, although these measures would contribute to a reduced vehicle LOS, their effects cannot be quantified and they cannot be considered mitigation for the 44 impacted study area intersections for the purposes of CEQA. Because vehicle capacity enhancements to the impacted intersections are not feasible, and because no other mitigation to reduce traffic is available and enforceable, impacts to the 44 intersections identified above are considered significant and unavoidable for the build-out year of 2040.

It should be noted that as future specific plans are prepared for large areas of the City such as Mid-City and SEADIP, future intersection performance would be analyzed and a finer-grain approach to seeking physical improvements would be possible. Whether within a specific plan area or not, future individual projects subject to CEQA review will be required to identify their specific impacts to intersections and implement mitigation measures to address those impacts. Due to pending changes in the metric for identifying transportation impacts shifting from automobile LOS to multimodal LOS or VMT, it is possible that the automobile LOS deficiencies identified in the TIA would no longer be considered a significant impact for future projects.

It should also be noted that while the proposed project would result in significant unavoidable traffic impacts, project-related increases in growth are consistent with the SCAG's growth assumptions and Regional Transportation Plan (RTP). Therefore, the associated land uses have been included in the long-term regional transportation planning efforts conducted by SCAG.

Threshold 4.8.2: Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Significant and Unavoidable Impact. As previously stated, the latest CMP (Metro 2010) defines a significant impact at an intersection when a project causes a 0.02 or greater increase in v/c ratio at an intersection operating at LOS E or F. Of the 88 study area intersections, the CMP includes 10 monitored intersections. Table 4.8.K reiterates the results of the General Plan build-out intersection analysis for the 10 CMP intersections.

Table 4.8.K: General Plan Land Use Element Project Impacts – CMP Intersections

	Intersection	Existing 2008				General Plan Build Out with Project (2040)				Change With Project	
		AM		PM		AM		PM			
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
16	Atlantic Ave/Shoreline Ave, Ocean Blvd	0.65	B	0.61	B	0.76	C	0.73	C	0.11	0.12
17	Alamitos Ave/7th St	0.90	E	0.76	D	**1.02**	**F**	0.90	D	0.12	0.15
34	Santa Fe Ave/Pacific Coast Hwy	0.99	E	0.94	E	**1.15**	**F**	**1.02**	**F**	0.16	0.08
45	Orange Ave/Pacific Coast Hwy	0.61	B	0.79	C	0.65	B	0.84	D	0.05	0.05
58	Redondo Ave/7th St	0.91	E	0.88	D	1.00	E	0.97	E	0.09	0.10
64	Lakewood Blvd/Carson St	0.65	B	0.69	B	0.75	C	0.81	D	0.10	0.12
66	Lakewood Blvd/Willow St	0.78	C	0.77	C	0.88	D	0.89	D	0.10	0.12
72	Pacific Coast Hwy/Ximeno Ave	0.57	A	0.70	B	0.72	C	0.82	D	0.14	0.12
73	Pacific Coast Hwy/7th St	0.87	D	0.84	D	0.98	E	0.95	E	0.11	0.12
87	Pacific Coast Hwy/2nd St	0.87	D	**1.05**	**F**	**1.18**	**F**	**1.37**	**F**	0.30	0.32

Source: *Traffic Impact Analysis*, LSA Associates, Inc. (May 2016) (Appendix E)
Notes: Bold = Intersection LOS exceeds CMP acceptable level.
Shaded = Project contribution exceeds CMP significance criteria.

Ave = Avenue
Blvd = Boulevard
CMP = Congestion Management Program
Dr = Drive
Fwy = Freeway
Hwy = Highway
LOS = level(s) of service
Rd = Road
St = Street
V/C = volume-to-capacity

As illustrated by Table 4.8.K, the following intersections would have a significant project impact based on CMP criteria:

- (17) Alamitos Avenue/7th Street
- (34) Santa Fe Avenue/Pacific Coast Highway
- (58) Redondo Avenue/7th Street
- (73) Pacific Coast Highway/7th Street
- (87) Pacific Coast Highway/2nd Street

Based on the results and because there is no feasible mitigation to reduce impacts at the impacted intersections (see planned improvements and Mobility Element Implementation Measures above), the significant impacts to these five intersections are considered significant and unavoidable for the build-out year of 2040.

4.8.9 Mitigation Measures

There are no feasible mitigation measures to offset potentially significant adverse impacts to traffic and circulation associated with implementation of the proposed project.

4.8.10 Cumulative Impacts

As defined in the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future

projects within the cumulative impact area for traffic and circulation. The project proposes an update to the City's General Plan that would affect development patterns throughout the City. As such, because the proposed project is a City-wide policy action that would facilitate future development throughout the entire City, the proposed project itself is cumulative in nature.

Under 2040 plus project build-out conditions, operations at 44 intersections would be significantly impacted and would operate below the City's LOS D standard. Therefore, under this build-out scenario, the proposed project contributes to a cumulative impact at these 44 intersections. Although the Mobility Element presents a number of Implementation Measures designed to reduce the number of automobile trips on the roadway network and promote mobility by supporting all travel modes, the effect of these measures on individual intersection LOS cannot be guaranteed because they rely on the changing attitudes and actions of many commuters. Furthermore, as discussed previously, when automobile trips are converted into alternative modes, some automobile trips that would otherwise have been discouraged by congestion may occur. For these reasons, and because physical vehicle capacity enhancements are not feasible, the impacts to the 44 intersections identified above are considered cumulatively significant and unavoidable for the build-out year of 2040.

4.8.11 Level of Significance after Mitigation

The proposed project would result in significant unavoidable adverse traffic impacts at 44 study area intersections under the General Plan build-out scenario. The reason for these significant unavoidable adverse impacts is that there are physical constraints associated with vehicle capacity enhancements to the impacted intersections. Furthermore, the effect of the Implementation Measures in the Mobility Element cannot be guaranteed to reduce impacts at the 44 impacted intersections. For these reasons, there is no feasible mitigation for impacts to the 44 impacted intersections, and impacts remain significant and unavoidable.

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