

# APPENDIX E

## TRAFFIC IMPACT ANALYSIS

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GENERAL PLAN LAND USE AND URBAN DESIGN ELEMENTS  
CITY OF LONG BEACH, CALIFORNIA

LSA

May 2016

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CITY OF LONG BEACH, CALIFORNIA

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## INTRODUCTION

This traffic impact analysis was prepared to examine the City of Long Beach's proposed update to the existing 1989 General Plan Land Use Element (LUE) and adoption of a new Urban Design Element (UDE) as part of its General Plan. These two General Plan Elements are collectively referred to as the "proposed project" throughout this analysis. The City of Long Beach (City) adopted an updated General Plan Mobility Element in October 2013. The Mobility Element analyzed existing conditions and future (2035) traffic conditions. Future (2035) traffic conditions reflect growth in City population and employment as well as growth in regional traffic. No changes in land use classification or density were presumed in future (2035) conditions. The Mobility Element outlined goals for a transportation system more responsive to all travel modes and focused on the mobility of people. Some of these goals (e.g., increased ability to walk, bike, and use transit) would be supported by changes in land use. Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, mandates closer linkage between land use planning and planning for transportation infrastructure. In the spirit of those mandates, the City has proposed changes to the Land Use Element and Urban Design Elements supporting the City's adopted mobility goals.

The proposed project includes the adoption of the proposed Land Use Element and Urban Design Element, which are intended to guide the future development patterns and the aesthetic character of the City through the implementation of goals, policies, and implementation strategies. The proposed project would be implemented over the next 24 years, through the year 2040. The Land Use Element's proposed changes to land use classification and density will likely have a more tangible effect on travel demand and traffic volume than the proposed aesthetic changes in the Urban Design Element in support of the goals of the Land Use Element.

For past updates of the General Plan, traffic projections would be developed for the build-out year showing automobile volume. A traffic study would be prepared to analyze the performance of intersections given anticipated future automobile volume. Performance would be measured in terms of vehicular level of service (LOS). LOS is a qualitative assessment of the quantitative effects on vehicles of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. In this approach, physical improvements would be identified that could increase the capacity of intersections to accommodate automobile traffic. As described below, the adopted Mobility Element shifts the analysis away from automobiles and focuses on a broader range of transportation modes, including transit, bicycles, and pedestrians, in addition to automobiles.

The Mobility Element communicates the importance of the mobility of people and a need to transition away from a focus on the mobility of automobiles. The Mobility Element states that the City is built out and opportunities to widen streets to accommodate more automobiles are limited. Instead, the City desires a more efficient use of the existing network that can be used by all modes of transportation (i.e., trucks, cars, transit, bicycles, and pedestrians). As such, 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. The City is not alone in its desire to broaden the view of mobility. Since the passage of Senate Bill 743 (SB 743) in September 2013, the Office of Planning and Research has been drafting procedures for removing measurement of vehicular LOS from the California Environmental Quality Act (CEQA) Guidelines.

In the near future it is anticipated that a robust methodology will be developed for analyzing LOS for all modes of transportation. The City's Mobility Element states the intent of the City to adopt a

multimodal LOS policy at that time. However, at the present time, the vehicle LOS policy is still in place. Additionally, such revisions to the CEQA guidelines have not been completed or adopted, and vehicular LOS is still included as a threshold to determine whether a project’s impacts are significant. Therefore, the effect of the Land Use Element on vehicular LOS must still be considered.

## METHODOLOGY

The Mobility Element included a vehicular LOS analysis of 88 intersections throughout the City. The locations of these 88 intersections are illustrated on Figure 1 (all figures have been placed at the end of this report for enhanced readability). This Traffic Impact Analysis identifies the effect of the proposed Land Use Element on the performance of those 88 intersections.

### Intersection Measures of Effectiveness

As mentioned previously, while the City views mobility as the movement of people and desires to examine the performance of the circulation system for all travel modes, a robust methodology for multimodal analysis is not currently available. Therefore, the previously adopted analysis methodology remains in place at this time. That previous methodology focused on the movement of automobiles. Because the movement of automobiles through a roadway network is metered by the performance of intersections along the network, the City’s methodology required the analysis of intersection performance. Specifically, the performance of intersections was examined during the busiest morning commute hour (a.m. peak hour) and busiest afternoon commute hour (p.m. peak hour) using intersection capacity utilization (ICU) methodology.

The ICU methodology compares the volume-to-capacity ratios of conflicting turn movements at an intersection, sums up these critical conflicting volume-to-capacity 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.

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. This level 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. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, speed can drop to zero.

The relationship between LOS and the ICU value (i.e., volume-to-capacity ratio) is as follows:

Level of Service	Volume to Capacity (ICU Methodology)
A	≤ 0.600
B	0.610–0.700
C	0.710–0.800
D	0.810–0.900
E	0.910–1.000
F	> 1.000

ICU = intersection capacity utilization

The City considers LOS D to be the upper limit of satisfactory operations. The City determines 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 traffic causes an increase in volume-to-capacity ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition.

### **Trip Generation and Assignment Methodology**

The Land Use Element identified eight Major Areas of Change throughout the City. The Major Areas of Change have been identified by the City as areas where changes associated with the proposed Land Use Element would be focused. These changes could result in changes to land use classification 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 categories of Major Areas of Change are:

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

The Major Areas of Change alter land use classification and increase land use density in specific areas to support urban design policies and the goals of the Mobility Element. For these reasons, the Major Areas of Change are grouped together in specific City districts. Figure 2 illustrates these groupings of Major Areas of Change and the districts where they occur. To ease reference to these districts they are labeled North Long Beach, Mid-City, Riverside, Downtown, Airport, Pacific Coast Highway (PCH), Traffic Circle, Redondo, and SEADIP. Although traffic volume will increase throughout the City (even without the Major Areas of Change) in the General Plan horizon year, traffic volume increases as a result of the proposed Land Use Element will be concentrated within these districts. This traffic impact analysis focuses on the increase in traffic within these districts.

The Mobility Element disclosed LOS in the existing (2008) and future (2035) conditions. Future (2035) conditions reflect changes in traffic volume throughout the City in a no-project condition. That is, as population and employment generally and organically increase within the City, travel demand and traffic volumes will increase commensurately. Growth in regional traffic from sources outside of the City will also affect traffic volumes throughout the City. These will occur even without the changes to land use classification and density proposed in the Land Use Element.

The Land Use Element presents new land use assumptions and a new horizon year for build out of the General Plan, horizon year 2040. The traffic volume resulting from changes to land use classification and density in the Major Areas of Change could increase travel demand and traffic volume above what was anticipated in the future (2035) conditions. The increase in traffic volumes from the Major Areas of Change was calculated and added to the future (2035) conditions and is presented in this report as future (2040) conditions. Traffic volume calculations were made using socioeconomic data.

Traffic volume projections for the analysis of future (2035) conditions in the Mobility Element were provided by the Southern California Association of Governments (SCAG) traffic model. The SCAG traffic model uses socioeconomic data (e.g., housing, population, and employment) to calculate travel demand. The SCAG traffic model has not been updated to reflect the new Land Use Element and was not available to reexamine traffic conditions for the 2040 horizon. However, comparisons could be made between the socioeconomic data for future (2035) conditions and the socioeconomic data associated with the proposed Land Use Element. 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.

Socioeconomic projections were available forecasting the total new housing, population, and employment growth attributable to each of the categories of the Major Areas of Change. LSA allocated these socioeconomic factors to each Major Area of Change based on the size (percentage) allocated to each Major Area of Change. For example, if one Major Area of Change for converting to neo-industrial use was 10 percent of the total area for all conversions to neo-industrial use then it was allocated 10 percent of the socioeconomic growth attributable to all conversion to neo-industrial use. One hundred percent of all socioeconomic growth anticipated for each category of the Major Areas of Change was allocated in that manner. Growth in socioeconomic factors was totaled for each City district and compared to baseline socioeconomic factors.

Baseline socioeconomic factors and traffic volumes were queried from the SCAG traffic model. As mentioned previously, the traffic model uses socioeconomic factors to calculate traffic volume. Data for socioeconomic factor input and traffic volume output were available for each 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. Traffic models examining a large area (like the SCAG regional traffic model) by necessity have larger TAZs. Socioeconomic data associated with each SCAG-level TAZ is used to generate trips which are then distributed within the roadway network. Appendix A provides the data available for this analysis. TAZ-level socioeconomic factors and traffic volume were allocated to the areas affected by change based on proportionate size of the Major Area of Change compared to the SCAG-level TAZ (e.g., 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). This is a gross level of analysis evenly spreading trip generation potential across a TAZ.

Growth in socioeconomic factors can be compared and used to project traffic volumes assuming the relationship between socioeconomic factors and traffic remains 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 be increasing by 11 percent within Mid-City. Appendix B presents this analysis for each of the districts.

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

## **EXISTING BASELINE CONDITION**

The Mobility Element disclosed the existing (2008) volume-to-capacity and LOS at the 88 study intersections. Table A, below, summarizes the LOS analysis. Table A shows that 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.

Between the existing condition and the General Plan build out year of 2040, the study intersections will be affected by organic growth in population and employment within the City unrelated to land use changes, regional traffic originating from outside the City, and land use changes described in the Land Use Element.

## **FUTURE BASELINE CONDITION**

The Mobility Element disclosed future (2035) volume-to-capacity and LOS in addition to the existing conditions shown above. Future (2035) conditions demonstrate the effects of organic growth within the City and regional traffic without implementing the Land Use Element changes in land use density. Table B shows the future (No Project) conditions in comparison to existing conditions.

Table B shows that 9 intersections are projected to operate an LOS E or F in the a.m. peak hour and 30 intersections are projected to 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 A: 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/7 <sup>th</sup> St	0.677	B	0.525	A
3	Pacific Ave/6 <sup>th</sup> St	0.415	A	0.630	B
4	Pacific Ave/3 <sup>rd</sup> 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/7 <sup>th</sup> St	0.730	C	0.550	A
8	Long Beach Blvd/6 <sup>th</sup> St	0.455	A	0.614	B
9	Long Beach Blvd/3 <sup>rd</sup> 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/7 <sup>th</sup> St	0.762	C	0.521	A
13	Atlantic Ave/6 <sup>th</sup> St	0.458	A	0.559	A
14	Atlantic Ave/3 <sup>rd</sup> 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/7 <sup>th</sup> St	<b>0.902</b>	<b>E</b>	0.759	D
18	Alamitos Ave/6 <sup>th</sup> St	0.368	A	0.436	A
19	Alamitos Ave/3 <sup>rd</sup> St	<b>1.048</b>	<b>F</b>	0.659	B
20	Alamitos Ave/Broadway	0.900	D	<b>0.945</b>	<b>E</b>
21	Alamitos Ave/Shoreline Ave, Ocean Blvd	<b>1.107</b>	<b>F</b>	<b>1.040</b>	<b>F</b>
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	<b>1.027</b>	<b>F</b>
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	<b>0.990</b>	<b>E</b>	<b>0.942</b>	<b>E</b>
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	<b>0.910</b>	<b>E</b>
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	<b>0.986</b>	<b>E</b>
42	Atlantic Ave/South St	0.451	A	0.785	C
43	Atlantic Ave/Artesia Blvd	0.744	C	<b>0.976</b>	<b>E</b>
44	Alamitos Ave/Anaheim St	0.636	B	<b>0.914</b>	<b>E</b>
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/7 <sup>th</sup> St	0.686	B	0.801	D

**Table A: 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	<b>0.948</b>	<b>E</b>
50	Cherry Ave/Carson St	0.544	A	0.706	C
51	Cherry Ave/Del Amo Blvd	0.742	C	<b>0.960</b>	<b>E</b>
52	Cherry Ave/Market St	0.708	C	0.742	C
53	Cherry Ave/Artesia Blvd	<b>0.916</b>	<b>E</b>	<b>1.020</b>	<b>F</b>
54	Paramount Blvd/Artesia Blvd	0.764	C	<b>0.932</b>	<b>E</b>
55	Paramount Blvd/South St	0.580	A	0.787	C
56	Redondo Ave/Ocean Blvd	0.867	D	<b>0.916</b>	<b>E</b>
57	Redondo Ave/3 <sup>rd</sup> St	0.552	A	0.629	B
58	Redondo Ave/7 <sup>th</sup> St	<b>0.913</b>	<b>E</b>	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	<b>1.103</b>	<b>F</b>
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/4 <sup>th</sup> St	0.594	A	0.719	C
68	Ximeno Ave/7 <sup>th</sup> St	0.690	B	0.807	D
69	Livingston Dr/2 <sup>nd</sup> St	0.843	D	<b>0.948</b>	<b>E</b>
70	Park Ave/4 <sup>th</sup> St	0.599	A	0.724	C
71	Park Ave/7 <sup>th</sup> St	0.808	D	0.873	D
72	Pacific Coast Hwy/Ximeno Ave	0.573	A	0.698	B
73	Pacific Coast Hwy/7 <sup>th</sup> St	0.873	D	0.835	D
74	Pacific Coast Hwy/Anaheim St	0.736	C	<b>0.922</b>	<b>E</b>
75	Bellflower Blvd/Carson St	0.727	C	<b>0.950</b>	<b>E</b>
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/7 <sup>th</sup> 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	<b>1.018</b>	<b>F</b>
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/2 <sup>nd</sup> St	0.746	C	0.887	D
87	Pacific Coast Hwy/2 <sup>nd</sup> St	0.871	D	<b>1.053</b>	<b>F</b>
88	Bellflower Blvd/Pacific Coast Hwy	0.553	A	0.684	B

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

**Table B: Mobility Element Future (2035) No Project Levels of Service**

	Intersection	Existing 2008				Future 2035				Change Without Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
1	Magnolia Ave/Ocean Blvd	0.848	D	0.744	C	0.859	D	0.758	C	0.011	0.014
2	Pacific Ave/7 <sup>th</sup> St	0.677	B	0.525	A	0.712	C	0.608	B	0.035	0.083
3	Pacific Ave/6 <sup>th</sup> St	0.415	A	0.630	B	0.440	A	0.700	B	0.025	0.070
4	Pacific Ave/3 <sup>rd</sup> 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/7 <sup>th</sup> St	0.730	C	0.550	A	0.762	C	0.586	A	0.032	0.036
8	Long Beach Blvd/6 <sup>th</sup> St	0.455	A	0.614	B	0.485	A	0.671	B	0.030	0.057
9	Long Beach Blvd/3 <sup>rd</sup> 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/7 <sup>th</sup> St	0.762	C	0.521	A	0.865	D	0.577	A	0.103	0.056
13	Atlantic Ave/6 <sup>th</sup> St	0.458	A	0.559	A	0.514	A	0.608	B	0.056	0.049
14	Atlantic Ave/3 <sup>rd</sup> 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/7 <sup>th</sup> St	<b>0.902</b>	<b>E</b>	0.759	D	<b>0.930</b>	<b>E</b>	0.814	D	0.028	0.055
18	Alamitos Ave/6 <sup>th</sup> St	0.368	A	0.436	A	0.406	A	0.475	A	0.038	0.039
19	Alamitos Ave/3 <sup>rd</sup> St	<b>1.048</b>	<b>F</b>	0.659	B	<b>1.099</b>	<b>F</b>	0.717	C	0.051	0.058
20	Alamitos Ave/Broadway	0.900	D	<b>0.945</b>	<b>E</b>	<b>0.954</b>	<b>E</b>	<b>1.012</b>	<b>F</b>	0.054	0.067
21	Alamitos Ave/Shoreline Ave, Ocean Blvd	<b>1.107</b>	<b>F</b>	<b>1.040</b>	<b>F</b>	<b>1.128</b>	<b>F</b>	<b>1.076</b>	<b>F</b>	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
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	<b>0.943</b>	<b>E</b>	0.046	0.065
30	Long Beach Blvd/Artesia Blvd	0.712	C	<b>1.027</b>	<b>F</b>	0.755	C	<b>1.100</b>	<b>F</b>	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	<b>0.990</b>	<b>E</b>	<b>0.942</b>	<b>E</b>	<b>1.153</b>	<b>F</b>	<b>1.018</b>	<b>F</b>	0.163	0.076
35	Santa Fe Ave/Willow St	0.751	C	0.851	D	0.817	D	<b>0.905</b>	<b>E</b>	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	<b>0.910</b>	<b>E</b>	0.837	D	<b>0.959</b>	<b>E</b>	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	<b>0.945</b>	<b>E</b>	0.085	0.055
41	Atlantic Ave/Del Amo Blvd	0.803	D	<b>0.986</b>	<b>E</b>	0.877	D	<b>1.086</b>	<b>F</b>	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	<b>0.976</b>	<b>E</b>	0.813	D	<b>1.078</b>	<b>F</b>	0.069	0.102
44	Alamitos Ave/Anaheim St	0.636	B	<b>0.914</b>	<b>E</b>	0.687	B	<b>0.963</b>	<b>E</b>	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

**Table B: Mobility Element Future (2035) No Project Levels of Service**

Intersection	Existing 2008				Future 2035				Change Without Project	
	AM		PM		AM		PM		AM	PM
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
46 Orange Ave/Wardlow Rd	0.708	C	0.773	C	0.755	C	0.845	D	0.047	0.072
47 Cherry Ave/7 <sup>th</sup> 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	<b>0.906</b>	<b>E</b>	<b>1.048</b>	<b>F</b>	0.101	0.152
49 Cherry Ave/Wardlow Rd	0.766	C	<b>0.948</b>	<b>E</b>	0.818	D	<b>1.019</b>	<b>F</b>	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	<b>0.960</b>	<b>E</b>	0.791	C	<b>1.032</b>	<b>F</b>	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	<b>0.916</b>	<b>E</b>	<b>1.020</b>	<b>F</b>	<b>0.987</b>	<b>E</b>	<b>1.091</b>	<b>F</b>	0.071	0.071
54 Paramount Blvd/Artesia Blvd	0.764	C	<b>0.932</b>	<b>E</b>	0.830	D	<b>1.002</b>	<b>F</b>	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	<b>0.916</b>	<b>E</b>	<b>0.901</b>	<b>E</b>	<b>0.941</b>	<b>E</b>	0.034	0.025
57 Redondo Ave/3 <sup>rd</sup> St	0.552	A	0.629	B	0.581	A	0.735	C	0.029	0.106
58 Redondo Ave/7 <sup>th</sup> St	<b>0.913</b>	<b>E</b>	0.877	D	<b>0.960</b>	<b>E</b>	<b>0.934</b>	<b>E</b>	0.047	0.057
59 Redondo Ave/Anaheim St	0.769	C	0.833	D	0.828	D	<b>0.904</b>	<b>E</b>	0.059	0.071
60 Redondo Ave/Pacific Coast Hwy	0.733	C	0.855	D	0.806	D	<b>0.947</b>	<b>E</b>	0.073	0.092
61 Redondo Ave/Willow St	0.698	B	0.895	D	0.744	C	<b>0.930</b>	<b>E</b>	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	<b>1.103</b>	<b>F</b>	0.857	D	<b>1.172</b>	<b>F</b>	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
67 Ximeno Ave/4 <sup>th</sup> St	0.594	A	0.719	C	0.712	C	0.793	C	0.118	0.074
68 Ximeno Ave/7 <sup>th</sup> 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	<b>0.948</b>	<b>E</b>	0.861	D	<b>0.991</b>	<b>E</b>	0.018	0.043
70 Park Ave/4 <sup>th</sup> St	0.599	A	0.724	C	0.619	B	0.757	C	0.020	0.033
71 Park Ave/7 <sup>th</sup> St	0.808	D	0.873	D	0.835	D	<b>0.907</b>	<b>E</b>	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/7 <sup>th</sup> 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	<b>0.922</b>	<b>E</b>	0.766	C	<b>0.980</b>	<b>E</b>	0.030	0.058
75 Bellflower Blvd/Carson St	0.727	C	<b>0.950</b>	<b>E</b>	0.759	C	<b>0.995</b>	<b>E</b>	0.032	0.045
76 Bellflower Blvd/Spring St	0.788	C	0.861	D	0.855	D	<b>0.938</b>	<b>E</b>	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/7 <sup>th</sup> 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	<b>1.018</b>	<b>F</b>	0.688	B	<b>1.080</b>	<b>F</b>	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/2 <sup>nd</sup> St	0.746	C	0.887	D	0.761	C	<b>0.903</b>	<b>E</b>	0.015	0.016
87 Pacific Coast Hwy/2 <sup>nd</sup> St	0.871	D	<b>1.053</b>	<b>F</b>	0.895	D	<b>1.092</b>	<b>F</b>	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

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 WITH PROJECT CONDITION

In support of the multimodal goals of the adopted Mobility Element, the proposed Land Use Element 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 provides new residents and employees with alternatives for travel besides a private automobile. However, concentrating future growth in these areas also has the potential to concentrate growth of new automobile trips.

As described in the methodology section, increases in socioeconomic factors as a result of changes in land use classification or density were used to estimate 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 find the percent increase in traffic volume. In other words, changes in land use classification would increase traffic volume compared to the 2035 traffic volumes that would be anticipated without changes to land use classification. Table C shows this calculation for each district.

**Table C: Traffic Increase as a Result of Land Use Element Major Areas of Change**

City District	Total 2035 District Traffic <sup>1</sup>			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%

<sup>1</sup>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

SEADIP = Southeast Area Development and Improvement Plan

The increase in traffic volume in each of the City districts is presumed to affect the volume-to-capacity ratio of intersections within the City districts. Table D shows the increase in volume-to-capacity ratio applied to the intersections within each district.

**Table D: 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

ADT = Average Daily Traffic

Figure 3 shows the location of the study intersections and the boundaries of the districts to identify which intersections lay within each district. The increases in volume-to-capacity ratio provided in Table D were applied to each of the intersections within the districts. For intersections not located within any of the districts affected by the Major Areas of Change, no increase in volume-to-capacity ratio was applied over the 2035 No Project condition. Table E, below, displays the calculation of future (2040) LOS with the land use changes proposed in the Land Use Element.

## **PROJECT IMPACTS**

The 2035 No Project conditions reflect traffic in Long Beach under a condition where population and employment were to grow in the City and in surrounding areas, but no changes were made to the land use classifications in the City. The Land Use Element changes lead to potential increases in travel demand within the districts seeing changes in land use classifications. The 2040 With Project conditions reflect the potential increases in travel demand within those districts. Table E shows that 18 intersections are projected to operate an LOS E or F in the a.m. peak hour and 39 intersections are projected to operate at LOS E or F in the p.m. peak hour. Table E displays the anticipated change in intersection performance caused by the Land Use Element compared to the 2035 No Project conditions (i.e., the increase in travel demand within districts where land use classification would change). With these changes in land use classification, 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 projected to function at LOS E or F. These intersections are:

### **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/PCH

### **Downtown:**

1. Magnolia Avenue/Ocean Boulevard  
6. Pacific Avenue/Ocean Boulevard  
12. Atlantic Avenue/7<sup>th</sup> Street

### **Airport:**

46. Orange Avenue/Wardlow Road  
65. Lakewood Boulevard/Spring Street

### **Traffic Circle:**

73. PCH/7<sup>th</sup> Street  
79. Bellflower Boulevard/7<sup>th</sup> Street

**Table E: 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	AM		PM	
		V/C	LOS	V/C	LOS			V/C	LOS	V/C	LOS
1. North Long Beach	30 Long Beach Blvd/Artesia Blvd	0.76	C	<b>1.10</b>	<b>F</b>	0.03	0.03	0.79	C	<b>1.13</b>	<b>F</b>
	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	<b>1.08</b>	<b>F</b>			0.84	D	<b>1.11</b>	<b>F</b>
	52 Cherry Ave/Market St	0.77	C	0.81	D			0.80	D	0.84	D
	53 Cherry Ave/Artesia Blvd	<b>0.99</b>	<b>E</b>	<b>1.09</b>	<b>F</b>			<b>1.02</b>	<b>F</b>	<b>1.12</b>	<b>F</b>
	54 Paramount Blvd/Artesia Blvd	0.83	D	<b>1.00</b>	<b>F</b>			0.86	D	<b>1.03</b>	<b>F</b>
	55 Paramount Blvd/South St	0.65	B	0.89	D			0.68	B	<b>0.92</b>	<b>E</b>
2. Mid-City	23 Long Beach Blvd/Pacific Coast Hwy	0.75	C	0.85	D	0.11	0.11	0.86	D	<b>0.96</b>	<b>E</b>
	24 Long Beach Blvd/Willow St	0.75	C	0.81	D			0.86	D	<b>0.92</b>	<b>E</b>
	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			<b>0.99</b>	<b>E</b>	<b>0.96</b>	<b>E</b>
	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	<b>1.00</b>	<b>E</b>
	39 Atlantic Ave/Pacific Coast Hwy	0.68	B	0.82	D			0.79	C	<b>0.93</b>	<b>E</b>
40 Atlantic Ave/Willow St	0.77	C	<b>0.95</b>	<b>E</b>	0.88	D	<b>1.06</b>	<b>F</b>			
4. Downtown	1 Magnolia Ave/Ocean Blvd	0.86	D	0.76	C	0.09	0.09	<b>0.95</b>	<b>E</b>	0.85	D
	2 Pacific Ave/7 <sup>th</sup> St	0.71	C	0.61	B			0.80	D	0.70	B
	3 Pacific Ave/6 <sup>th</sup> St	0.44	A	0.70	B			0.53	A	0.79	C
	4 Pacific Ave/3 <sup>rd</sup> 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			<b>0.92</b>	<b>E</b>	0.83	D
	7 Long Beach Blvd/7 <sup>th</sup> St	0.76	C	0.59	A			0.85	D	0.68	B
	8 Long Beach Blvd/6 <sup>th</sup> St	0.49	A	0.67	B			0.58	A	0.76	C
	9 Long Beach Blvd/3 <sup>rd</sup> 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/7 <sup>th</sup> St	0.87	D	0.58	A			<b>0.96</b>	<b>E</b>	0.67	B
	13 Atlantic Ave/6 <sup>th</sup> St	0.51	A	0.61	B			0.60	B	0.70	B
	14 Atlantic Ave/3 <sup>rd</sup> 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/7 <sup>th</sup> St	<b>0.93</b>	<b>E</b>	0.81	D			<b>1.02</b>	<b>F</b>	0.90	D
	18 Alamitos Ave/6 <sup>th</sup> St	0.41	A	0.48	A			0.50	A	0.57	A
	19 Alamitos Ave/3 <sup>rd</sup> St	<b>1.10</b>	<b>F</b>	0.72	C			<b>1.19</b>	<b>F</b>	0.81	D
	20 Alamitos Ave/Broadway	<b>0.95</b>	<b>E</b>	<b>1.01</b>	<b>F</b>			<b>1.04</b>	<b>F</b>	<b>1.10</b>	<b>F</b>
	21 Alamitos Ave/Shoreline Ave, Ocean Blvd	<b>1.13</b>	<b>F</b>	<b>1.08</b>	<b>F</b>			<b>1.22</b>	<b>F</b>	<b>1.17</b>	<b>F</b>
	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	<b>0.92</b>	<b>E</b>
	49 Cherry Ave/Wardlow Rd	0.82	D	<b>1.02</b>	<b>F</b>			0.89	D	<b>1.09</b>	<b>F</b>
	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	<b>0.93</b>	<b>E</b>			0.81	D	<b>1.00</b>	<b>E</b>
	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			<b>0.91</b>	<b>E</b>	0.88	D
66 Lakewood Blvd/Willow St	0.81	D	0.82	D	0.88	D	0.89	D			

**Table E: 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	AM		PM	
		V/C	LOS	V/C	LOS			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/7 <sup>th</sup> 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/7 <sup>th</sup> 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/3 <sup>rd</sup> St	0.58	A	0.74	C			0.62	B	0.78	C
	58 Redondo Ave/7 <sup>th</sup> 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/2 <sup>nd</sup> St	0.76	C	0.90	E	0.27	0.28	1.03	F	1.18	F
	87 Pacific Coast Hwy/2 <sup>nd</sup> 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/7 <sup>th</sup> 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/4 <sup>th</sup> St	0.71	C	0.79	C			0.71	C	0.79	C
	68 Ximeno Ave/7 <sup>th</sup> St	0.74	C	0.87	D			0.74	C	0.87	D
	69 Livingston Dr/2 <sup>nd</sup> St	0.86	D	0.99	E			0.86	D	0.99	E
	70 Park Ave/4 <sup>th</sup> St	0.62	B	0.76	C			0.62	B	0.76	C
	71 Park Ave/7 <sup>th</sup> 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			

Ave = Avenue  
Blvd = Boulevard  
Dr = Drive  
Fwy = Freeway  
Hwy = Highway

LOS = level(s) of service  
Rd = Road  
St = Street  
V/C = volume-to-capacity

However, for the purposes of a CEQA comparison the baseline of analysis is the existing condition. Table F 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 Land Use Element for the purposes of CEQA:

- 1. Magnolia Avenue/Ocean Boulevard
- 6. Pacific Avenue/Ocean Boulevard
- 12. Atlantic Avenue/7<sup>th</sup> Street
- 17. Alamitos Avenue/7<sup>th</sup> Street
- 19. Alamitos Avenue/3<sup>rd</sup> Street
- 20. Alamitos Avenue/Broadway
- 21. Alamitos Avenue/Shoreline Avenue, Ocean Boulevard
- 23. Long Beach Boulevard/PCH
- 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/PCH
- 37. Santa Fe Avenue/Wardlow Road
- 38. Atlantic Avenue/Anaheim Street
- 39. Atlantic Avenue/PCH
- 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/PCH
- 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/7<sup>th</sup> Street
- 59. Redondo Avenue/Anaheim Street
- 60. Redondo Avenue/PCH
- 61. Redondo Avenue/Willow Street
- 63. Lakewood Boulevard/Del Amo Boulevard
- 65. Lakewood Boulevard/Spring Street
- 69. Livingston Drive/2<sup>nd</sup> Street
- 71. Park Avenue/7<sup>th</sup> Street
- 73. PCH/7<sup>th</sup> Street
- 74. PCH/Anaheim Street
- 75. Bellflower Boulevard/Carson Street
- 76. Bellflower Boulevard/Spring Street
- 79. Bellflower Boulevard/7<sup>th</sup> Street
- 83. Los Coyotes Diagonal/Carson Street
- 86. Studebaker Road/2<sup>nd</sup> Street
- 87. PCH/2<sup>nd</sup> Street

Figure 4 illustrates the locations of these affected intersections.

**Table F: General Plan Land Use Element Project Impacts (Year 2040)**

	Intersection	Existing 2008				General Plan Build Out with Project				Change With Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
1	Magnolia Ave/Ocean Blvd	0.85	D	0.74	C	<b>0.95</b>	<b>E</b>	0.85	D	0.10	0.10
2	Pacific Ave/7 <sup>th</sup> St	0.68	B	0.53	A	0.80	D	0.70	B	0.13	0.17
3	Pacific Ave/6 <sup>th</sup> St	0.42	A	0.63	B	0.53	A	0.79	C	0.12	0.16
4	Pacific Ave/3 <sup>rd</sup> 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	<b>0.92</b>	<b>E</b>	0.83	D	0.10	0.12
7	Long Beach Blvd/7 <sup>th</sup> St	0.73	C	0.55	A	0.85	D	0.68	B	0.12	0.13
8	Long Beach Blvd/6 <sup>th</sup> St	0.46	A	0.61	B	0.58	A	0.76	C	0.12	0.15
9	Long Beach Blvd/3 <sup>rd</sup> 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/7 <sup>th</sup> St	0.76	C	0.52	A	<b>0.96</b>	<b>E</b>	0.67	B	0.19	0.15
13	Atlantic Ave/6 <sup>th</sup> St	0.46	A	0.56	A	0.60	B	0.70	B	0.15	0.14
14	Atlantic Ave/3 <sup>rd</sup> 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/7 <sup>th</sup> St	<b>0.90</b>	<b>E</b>	0.76	D	<b>1.02</b>	<b>F</b>	0.90	D	0.12	0.15
18	Alamitos Ave/6 <sup>th</sup> St	0.37	A	0.44	A	0.50	A	0.57	A	0.13	0.13
19	Alamitos Ave/3 <sup>rd</sup> St	<b>1.05</b>	<b>F</b>	0.66	B	<b>1.19</b>	<b>F</b>	0.81	D	0.14	0.15
20	Alamitos Ave/Broadway	0.90	D	<b>0.95</b>	<b>E</b>	<b>1.04</b>	<b>F</b>	<b>1.10</b>	<b>F</b>	0.14	0.16
21	Alamitos Ave/Shoreline Ave, Ocean Blvd	<b>1.11</b>	<b>F</b>	<b>1.04</b>	<b>F</b>	<b>1.22</b>	<b>F</b>	<b>1.17</b>	<b>F</b>	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	<b>0.96</b>	<b>E</b>	0.17	0.16
24	Long Beach Blvd/Willow St	0.69	B	0.76	C	0.86	D	<b>0.92</b>	<b>E</b>	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	<b>0.99</b>	<b>E</b>	<b>0.96</b>	<b>E</b>	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	<b>0.94</b>	<b>E</b>	0.05	0.06
30	Long Beach Blvd/Artesia Blvd	0.71	C	<b>1.03</b>	<b>F</b>	0.79	C	<b>1.13</b>	<b>F</b>	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	<b>0.99</b>	<b>E</b>	<b>0.94</b>	<b>E</b>	<b>1.15</b>	<b>F</b>	<b>1.02</b>	<b>F</b>	0.16	0.08
35	Santa Fe Ave/Willow St	0.75	C	0.85	D	0.82	D	<b>0.91</b>	<b>E</b>	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	<b>0.91</b>	<b>E</b>	0.84	D	<b>0.96</b>	<b>E</b>	0.04	0.05
38	Atlantic Ave/Anaheim St	0.65	B	0.82	D	0.82	D	<b>1.00</b>	<b>E</b>	0.17	0.18
39	Atlantic Ave/Pacific Coast Hwy	0.60	B	0.76	C	0.79	C	<b>0.93</b>	<b>E</b>	0.19	0.17
40	Atlantic Ave/Willow St	0.68	B	0.89	D	0.88	D	<b>1.06</b>	<b>F</b>	0.20	0.17
41	Atlantic Ave/Del Amo Blvd	0.80	D	<b>0.99</b>	<b>E</b>	0.88	D	<b>1.09</b>	<b>F</b>	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	<b>0.98</b>	<b>E</b>	0.84	D	<b>1.11</b>	<b>F</b>	0.10	0.13
44	Alamitos Ave/Anaheim St	0.64	B	<b>0.91</b>	<b>E</b>	0.69	B	<b>0.96</b>	<b>E</b>	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	<b>0.92</b>	<b>E</b>	0.12	0.14

**Table F: General Plan Land Use Element Project Impacts (Year 2040)**

Intersection		Existing 2008				General Plan Build Out with Project				Change With Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
47	Cherry Ave/7 <sup>th</sup> 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	<b>0.94</b>	<b>E</b>	<b>1.07</b>	<b>F</b>	0.13	0.17
49	Cherry Ave/Wardlow Rd	0.77	C	<b>0.95</b>	<b>E</b>	0.89	D	<b>1.09</b>	<b>F</b>	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	<b>0.96</b>	<b>E</b>	0.79	C	<b>1.03</b>	<b>F</b>	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	<b>0.92</b>	<b>E</b>	<b>1.02</b>	<b>F</b>	<b>1.02</b>	<b>F</b>	<b>1.12</b>	<b>F</b>	0.10	0.10
54	Paramount Blvd/Artesia Blvd	0.76	C	<b>0.93</b>	<b>E</b>	0.86	D	<b>1.03</b>	<b>F</b>	0.10	0.10
55	Paramount Blvd/South St	0.58	A	0.79	C	0.68	B	<b>0.92</b>	<b>E</b>	0.10	0.13
56	Redondo Ave/Ocean Blvd	0.87	D	<b>0.92</b>	<b>E</b>	<b>0.94</b>	<b>E</b>	<b>0.98</b>	<b>E</b>	0.07	0.06
57	Redondo Ave/3 <sup>rd</sup> St	0.55	A	0.63	B	0.62	B	0.78	C	0.07	0.15
58	Redondo Ave/7 <sup>th</sup> St	<b>0.91</b>	<b>E</b>	0.88	D	<b>1.00</b>	<b>E</b>	<b>0.97</b>	<b>E</b>	0.09	0.10
59	Redondo Ave/Anaheim St	0.77	C	0.83	D	0.87	D	<b>0.94</b>	<b>E</b>	0.10	0.11
60	Redondo Ave/Pacific Coast Hwy	0.73	C	0.86	D	0.81	D	<b>0.95</b>	<b>E</b>	0.07	0.09
61	Redondo Ave/Willow St	0.70	B	0.90	D	0.81	D	<b>1.00</b>	<b>E</b>	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	<b>1.10</b>	<b>F</b>	0.86	D	<b>1.17</b>	<b>F</b>	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	<b>0.91</b>	<b>E</b>	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/4 <sup>th</sup> St	0.59	A	0.72	C	0.71	C	0.79	C	0.12	0.07
68	Ximeno Ave/7 <sup>th</sup> St	0.69	B	0.81	D	0.74	C	0.87	D	0.05	0.06
69	Livingston Dr/2 <sup>nd</sup> St	0.84	D	<b>0.95</b>	<b>E</b>	0.86	D	<b>0.99</b>	<b>E</b>	0.02	0.04
70	Park Ave/4 <sup>th</sup> St	0.60	A	0.72	C	0.62	B	0.76	C	0.02	0.03
71	Park Ave/7 <sup>th</sup> St	0.81	D	0.87	D	0.84	D	<b>0.91</b>	<b>E</b>	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/7 <sup>th</sup> St	0.87	D	0.84	D	<b>0.98</b>	<b>E</b>	<b>0.95</b>	<b>E</b>	0.11	0.12
74	Pacific Coast Hwy/Anaheim St	0.74	C	<b>0.92</b>	<b>E</b>	0.86	D	<b>1.07</b>	<b>F</b>	0.12	0.15
75	Bellflower Blvd/Carson St	0.73	C	<b>0.95</b>	<b>E</b>	0.76	C	<b>1.00</b>	<b>E</b>	0.03	0.05
76	Bellflower Blvd/Spring St	0.79	C	0.86	D	0.86	D	<b>0.94</b>	<b>E</b>	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/7 <sup>th</sup> St	0.86	D	0.84	D	<b>0.98</b>	<b>E</b>	<b>0.97</b>	<b>E</b>	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	<b>1.02</b>	<b>F</b>	0.69	B	<b>1.08</b>	<b>F</b>	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/2 <sup>nd</sup> St	0.75	C	0.89	D	<b>1.04</b>	<b>F</b>	<b>1.18</b>	<b>F</b>	0.30	0.30
87	Pacific Coast Hwy/2 <sup>nd</sup> St	0.87	D	<b>1.05</b>	<b>F</b>	<b>1.18</b>	<b>F</b>	<b>1.37</b>	<b>F</b>	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

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

## CONGESTION MANAGEMENT PROGRAM

The passage of Proposition 111 in 1990 required urbanized areas in the State with a population of 50,000 or more to adopt a Congestion Management Program (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 creating the CMP requires that the program 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 are determined with respect to this CMP Highway System.

As the Congestion Management Agency for Los Angeles County, the Los Angeles County Metropolitan Transportation Authority (Metro) is responsible for the preparation of the CMP. The latest CMP (Metro 2010) states that a significant impact would occur if the final intersection LOS 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 in the City of Long Beach. These intersections are:

- 16. Atlantic Avenue/Shoreline Avenue-Ocean Boulevard
- 17. Alamitos Avenue/7<sup>th</sup> Street
- 34. Santa Fe Avenue/PCH
- 45. Orange Avenue/PCH
- 58. Redondo Avenue/7<sup>th</sup> Street
- 64. Lakewood Boulevard/Carson Street
- 66. Lakewood Boulevard/Willow Street
- 72. PCH/Ximeno Avenue
- 73. PCH/7<sup>th</sup> Street
- 87. PCH/2<sup>nd</sup> Street

Table G reiterates the results of the intersection analysis for the CMP intersections.

The following intersections would be determined to have a significant project impact based on CMP criteria:

- 17. Alamitos Avenue/7<sup>th</sup> Street
- 34. Santa Fe Avenue/PCH
- 58. Redondo Avenue/7<sup>th</sup> Street
- 73. PCH/7<sup>th</sup> Street
- 87. PCH/2<sup>nd</sup> Street

**Table G: General Plan Land Use Element Project Impacts**

Intersection		Existing 2008				General Plan Build Out with Project (2040)				Change With Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
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/7 <sup>th</sup> St	0.90	E	0.76	D	<b>1.02</b>	<b>F</b>	0.90	D	0.12	0.15
34	Santa Fe Ave/Pacific Coast Hwy	0.99	E	0.94	E	<b>1.15</b>	<b>F</b>	<b>1.02</b>	<b>F</b>	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/7 <sup>th</sup> 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/7 <sup>th</sup> St	0.87	D	0.84	D	0.98	E	0.95	E	0.11	0.12
87	Pacific Coast Hwy/2 <sup>nd</sup> St	0.87	D	<b>1.05</b>	<b>F</b>	<b>1.18</b>	<b>F</b>	<b>1.37</b>	<b>F</b>	0.30	0.32

Notes: Bold = Intersection LOS exceeds CMP acceptable level  
 Shaded = Project contribution exceeds CMP significance criteria.  
 Ave = Avenue  
 Blvd = Boulevard  
 Dr = Drive  
 Fwy = Freeway  
 Hwy = Highway  
 Rd = Road  
 St = Street  
 V/C = volume-to-capacity  
 LOS = level(s) of service

**MITIGATION MEASURES**

The Mobility Element presents a number of Implementation Measures designed to promote mobility 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 volume-to-capacity ratio at City intersections, and improving vehicle LOS. The implementation measures are:

- **MOP IM-1:** Develop a street design standards manual to reflect the new street typologies that incorporate the concept of complete streets.
- **MOP IM-2:** Routinely incorporate complete streets features into all street redesign and repaving projects.
- **MOP IM-3:** Provide neighborhood and business groups the opportunity to review preliminary plans for major street improvements included in this plan before final design and implementation.
- **MOP IM-4:** Develop a Citywide Pedestrian Master Plan that establishes a basic inventory of pedestrian infrastructure, comprehensively prioritizes pedestrian improvements, furthers the intent of the place-type designations, makes connections to other modes of travel, promotes public health, and connects with open space features.
- **MOP IM-5:** Create walking loops with stepping-stone mile markers and other supportive features to support active living.
- **MOP IM-6:** Continue to implement programs to promote pedestrian safety through outreach to both pedestrians and motorists.

- **MOP IM-7:** Create separated lanes for pedestrians and cyclists for the entire length of the beach path.
- **MOP IM-8:** Use Neighborhood Traffic Control techniques when excessive vehicle speed, excessive volume, or pedestrian/vehicle safety concerns warrant them.
- **MOP IM-9:** Implement midblock crossings and traffic calming as needed in the more suburban locations of the City where larger blocks and wider streets inhibit pedestrians.
- **MOP IM-10:** Design safer streets by using traffic calming techniques (such as roundabouts and sidewalk extensions) and by providing more frequent and innovative crosswalks, pedestrian signals, and clearly marked bicycle lanes.
- **MOP IM-11:** Continuously implement new technology to improve the pedestrian environment.
- **MOP IM-12:** Actively seek funding to implement the Pedestrian and Bicycle Master Plans.
- **MOP IM-13:** Implement a Citywide bikeshare program.
- **MOP IM-14:** Develop an on-street bike parking (i.e., bike corrals) program, including standards and procedures.
- **MOP IM-15:** Strengthen existing development standards for bike parking at new commercial and multifamily developments.
- **MOP IM-16:** Implement the City's Metro Blue Line Bicycle and Pedestrian Access Plan.
- **MOP IM-17:** Address bicycle safety and access in the design and maintenance of all street projects.
- **MOP IM-18:** Whenever capital improvement projects are constructed at intersections, vehicle actuation should detect bicycles.
- **MOP IM-19:** Identify and analyze locations with a high number of bicycle crashes and implement appropriate engineering, education, enforcement, and countermeasures.
- **MOP IM-20:** Use "sharrow" marking on all existing and proposed Class III facilities, as feasible.
- **MOP IM-21:** Institutionalize the Bicycle-Friendly Business Districts and Bike Saturday campaign in Long Beach.
- **MOP IM-22:** Continue to conduct annual bike counts, walk audits, and other data collection and analysis related to bicycle facilities for program evaluation and to support grant-making efforts.
- **MOP IM-23:** Develop a policy for retrofitting existing automobile parking spaces for bike parking at existing commercial and multifamily developments.
- **MOP IM-24:** Coordinate and collaborate with local school districts to provide enhanced, safer bicycle and pedestrian connections to school facilities throughout Long Beach.
- **MOP IM-25:** Continue to upgrade the City's designation as a bike-friendly city to Platinum status.
- **MOP IM-26:** Participate in and support Citywide events to promote bicycling, such as National Car-Free Day, Bike to- Work Day, Bike Saturday, and Park[ing] Day, women on bikes, and bike buddy.

- **MOP IM-27:** Pilot an “individualized marketing campaign” to help residents to choose safe, convenient routes to replace automobile trips with bicycling and transit trips.
- **MOP IM-28:** Actively support ciclovias (i.e., bike festivals) and other “open street” activities in Long Beach.
- **MOP IM-29:** Continue to support the Bikestation and encourage the development of small-scale bike-transit hubs throughout the City of Long Beach.
- **MOP IM-30:** Ensure that all planning processes, such as neighborhood and specific plans, identify areas where pedestrian, bike, and transit improvements can be made, such as new connections, increased sidewalk width, improved crosswalks, improved lighting, and new street furniture.
- **MOP IM-31:** Continue to strengthen the marketing and promotion of nonautomobile transportation to residents, employees, and visitors.
- **MOP IM-32:** Routinely integrate the financing, design, and construction of pedestrian facilities with street projects. Build pedestrian improvements at the same time as improvements for vehicular circulation.
- **MOP IM-33:** Continue to implement pedestrian streetscape designs, especially on streets with projected excess vehicle capacity, to reduce either the number of travel lanes or the roadway width, and use the available public rights-of-way to provide wider sidewalks, bicycle lanes, transit amenities, or landscaping.
- **MOP IM-34:** Convert electricity transmission corridors to parks, as resources and leases become available.
- **MOP IM-35:** Establish Rails to Trails Program to repurpose, share, or reconfigure surplus rights-of-way to greenbelts with bicycles and pedestrian facilities.
- **MOP IM-36:** Establish a Pavement to Plazas Program to realign irregular intersections and repurpose surplus public rights-of-way for public space.
- **MOP IM-37:** Actively support and assist Long Beach Transit in the implementation of design guidelines for bus shelters and other bus stop amenities.
- **MOP IM-38:** Include Long Beach Transit early in the City’s Site Plan Review process to ensure transit facilities are well integrated into the development project.
- **MOP IM-39:** Actively support and assist Long Beach Transit’s development of a strategic action plan for future transit service.
- **MOP IM-40:** Actively support and assist Long Beach Transit’s expansion of real-time transit information at bus shelters and expand smart phone applications and other new technology.
- **MOP IM-41:** Actively support and assist Long Beach Transit’s establishment of mini-transit hubs throughout the City that provide multimodal connectivity.
- **MOP IM-42:** Establish interagency transit hubs and Park and Rides in northern half of the City.
- **MOP IM-43:** Actively support and assist Metro to expand the existing Park and Ride facilities at Metro Blue Line stations.

- **MOP IM-44:** Actively support Long Beach Transit's efforts to expand the Universal Access Pass Program to major employers and business districts.
- **MOP IM-45:** Continue to explore the feasibility of bus rapid transit and a streetcar system in Long Beach.
- **MOP IM-46:** Continue to implement transit-priority traffic signals.
- **MOP IM-47:** Investigate the feasibility of establishing a street car or other type of personal rapid transit system in Long Beach. This system is proposed as a long-term community asset that will enhance nonautomobile connectivity between neighborhoods; bus, rail, and water transit hubs; and the Downtown core.
- **MOP IM-48:** As a pilot program, apply interim MMLoS standards for development proposals Downtown.
- **MOP IM-49:** Actively promote and develop plans for the extension of the Metro Green Line Station to the Blue Line Willow Station to increase regional connectivity.
- **MOP IM-50:** Review all capital improvement projects to ensure improvements located on existing and planned bus routes include modification of street, curb, and sidewalk configurations to allow for easier and more efficient bus operation and improved passenger access and safety while maintaining overall pedestrian and bicycle safety and convenience.
- **MOP IM-51:** Ensure that the City's Transportation Impact Fee Program provides adequate funding for necessary transportation improvements that will benefit all travel modes, while also incentivizing development that is less dependent on expensive, new transportation infrastructure.
- **MOP IM-52:** Review and, if necessary, update the City's Transportation Impact Fee Program to ensure that funding is provided for necessary transportation improvements that will benefit all travel modes.
- **MOP IM-53:** Integrate financing and implementation of pedestrian, bicycle, and transit improvement projects with other related street modifications projects.
- **MOP IM-54:** Participate with local, regional, State and federal agencies, and other organizations.
- **MOP IM-55:** Support the casual carpool system by enhancing existing facilities and amenities. If necessary, the carpool facilities should be reconfigured or relocated to equally convenient locations.
- **MOP IM-56:** When industry best practice has been established, adopt a Multimodal Level of Service (MMLoS) standard.
- **MOP IM-57:** Develop a program to regularly evaluate traffic collision data. Identify top collision locations for automobiles, bicycles, and pedestrians, and develop appropriate countermeasures.
- **MOP IM-58:** Develop street and alley vacation guidelines.
- **MOP IM-59:** Create a mechanism to adjust the pricing and hours of availability and turnover of on-street parking consistent with the cost of parking garages and demand.
- **MOP IM-60:** Revise current parking space requirements to reflect shared parking and park-once policies.

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, when some automobile trips are converted into alternative modes, some 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 intersections for the purposes of CEQA.

Therefore, 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 7<sup>th</sup> 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/2<sup>nd</sup> Street, Artesia Boulevard Cycle Track, Alamitos Avenue Cycle Track, 3<sup>rd</sup> 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):

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

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 H documents the constraints associated with vehicle capacity enhancements at these intersections.

**Table H: Impacted Intersections-Constraints Matrix**

Study Area No.	Intersection	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 Ave/Ocean Blvd	x	x						
6	Pacific Ave/Ocean Blvd	x	x						
12	Atlantic Ave/7 <sup>th</sup> St	x	x						x
17	Alamitos Ave/7 <sup>th</sup> St	x	x					x	x
19	Alamitos Ave/3 <sup>rd</sup> St	x	x		x		x	x	x
20	Alamitos Ave/Broadway	x	x		x		x	x	x
21	Alamitos Ave/Shoreline Ave-Ocean Blvd	x	x		x		x	x	x
23	Long Beach Blvd/Pacific Coast Highway	x	x				x		x
24	Long Beach Blvd/Willow St	x	x	x			x		x
26	Long Beach Blvd/Wardlow Rd	x	x	x			x		x
29	Long Beach Blvd/Market St	x	x				x		x
30	Long Beach Blvd/Artesia Blvd	x	x	x			x		x
34	Santa Fe Ave/Pacific Coast Highway	x	x	x					x
37	Santa Fe Ave/Wardlow Rd	x	x	x	x	x	x		
38	Atlantic Ave/Anaheim St	x	x						x
39	Atlantic Ave/Pacific Coast Highway	x	x						x
40	Atlantic Ave/Willow St	x	x			x	x		x
41	Atlantic Ave/Del Amo Blvd	x	x	x			x		
43	Atlantic Ave/Artesia Blvd	x	x	x			x		x
44	Alamitos Ave/Anaheim St	x	x				x		x
46	Orange Ave/Wardlow Rd	x	x	x		x			
48	Cherry Ave/Pacific Coast Highway	x	x			x			x
49	Cherry Ave/Wardlow Rd	x	x	x		x			x
51	Cherry Ave/Del Amo Blvd	x	x	x		x	x		x
53	Cherry Ave/Artesia Blvd	x	x	x			x		x
54	Paramount Blvd/Artesia Blvd	x	x	x			x		x
55	Paramount Blvd/South St	x	x	x			x		
56	Redondo Ave/Ocean Blvd		x						x
58	Redondo Ave/7 <sup>th</sup> St	x	x						x

**Table H: Impacted Intersections-Constraints Matrix**

Study Area No.	Intersection	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
59	Redondo Ave/Anaheim St	x	x						x
60	Redondo Ave/Pacific Coast Highway	x	x	x		x			x
61	Redondo Ave/Willow St	x	x	x		x			
63	Lakewood Blvd/Del Amo Blvd	x	x	x		x			
65	Lakewood Blvd/Spring St		x						
69	Livingston Drive/2 <sup>nd</sup> St	x	x		x		x	x	x
71	Park Ave/7 <sup>th</sup> St		x		x			x	
73	Pacific Coast Highway/7 <sup>th</sup> St	x	x					x	x
74	Pacific Coast Highway/Anaheim St				x		x	x	x
75	Bellflower Blvd/Carson St	x	x	x		x	x		
76	Bellflower Blvd/Spring St	x	x	x			x		
79	Bellflower Blvd/7 <sup>th</sup> St	x	x				x		x
83	Los Coyotes Diagonal/Carson St	x	x	x		x	x		
86	Studebaker Rd/2 <sup>nd</sup> St			x			x		x
87	Pacific Coast Highway/2 <sup>nd</sup> St	x	x				x		x

Ave = Ave  
Blvd = Boulevard  
Rd = Road  
St = Street

It should be noted that when future specific plans are prepared for large areas of the City such as Mid-City and SEADIP, future intersection performance would be considered and a finer-grain approach to seeking physical improvements would be possible. Whether within a specific plan area or not, individual projects will be required to identify their specific impacts to intersections and implement mitigation measures to address those impacts. However, if individual projects are proposed but the metric for identifying transportation impacts has shifted from automobile LOS to multimodal LOS or vehicle miles traveled, it is possible that the automobile LOS deficiencies identified in this report would not be addressed. 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.

## CONCLUSION

The Land Use Element presents new land use assumptions and a new horizon year for build out of the General Plan, 2040. While the Long Beach General Plan Mobility Element (October 2013) communicates the importance of the mobility of people and a need to transition away from a focus on the mobility of automobiles, the vehicle LOS policy is still in place. Therefore, the effect of the Land Use Element on vehicular LOS must still be considered.

This analysis projected increases in traffic volume using the socioeconomic data associated with the Major Areas of Change. Traffic volume increases within City districts where Major Areas of Change are concentrated were then used to project future intersection performance at the 88 intersections addressed in the Mobility Element. Compared to the future traffic conditions anticipated with growth in neighboring cities and organic growth in the City without changes to land use classification or density, this analysis forecast that 12 additional intersections may function at LOS E or F. These intersections are:

### **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/PCH

### **Downtown:**

1. Magnolia Avenue/Ocean Boulevard  
6. Pacific Avenue/Ocean Boulevard  
12. Atlantic Avenue/7<sup>th</sup> Street

### **Airport:**

46. Orange Avenue/Wardlow Road  
65. Lakewood Boulevard/Spring Street

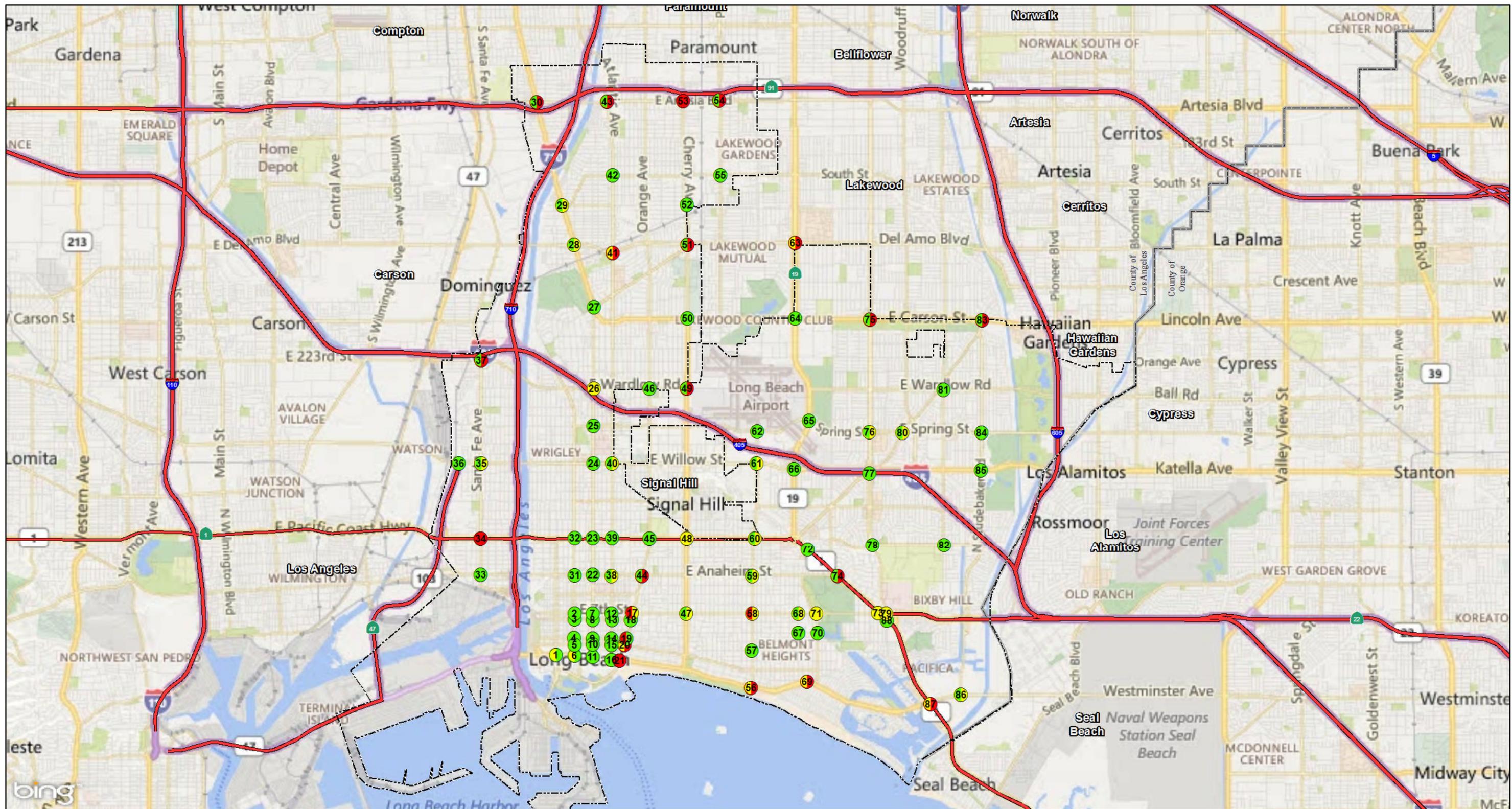
**Traffic Circle:**

73. PCH/7<sup>th</sup> Street

79. Bellflower Boulevard/7<sup>th</sup> Street

When compared to the existing conditions, 44 intersections would be significantly impacted by the General Plan according to the City's criteria for the purposes of CEQA. Although executing MOP IM-1 through MOP IM-60 would encourage the use of alternative modes of transportation and help to reduce the number of automobile trips on the roadway network, the effects at the identified 44 intersections cannot be quantified. Physical constraints to vehicle capacity enhancements were identified at each of the 44 impacted intersections. 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.

Project-specific design details of future projects are unknown at this time. The proposed project involves the adoption of City-wide programmatic policy documents; future project-specific actions would be subject to further environmental review and the regulations contained in the adopted General Plan. As such, individual development components, including traffic analyses, would be finalized on a project-by-project basis following approval of the proposed project.



LSA

LEGEND

City Boundary

2008 Intersections #  
(AM left side/PM right side)

Los A, B, C

Los D

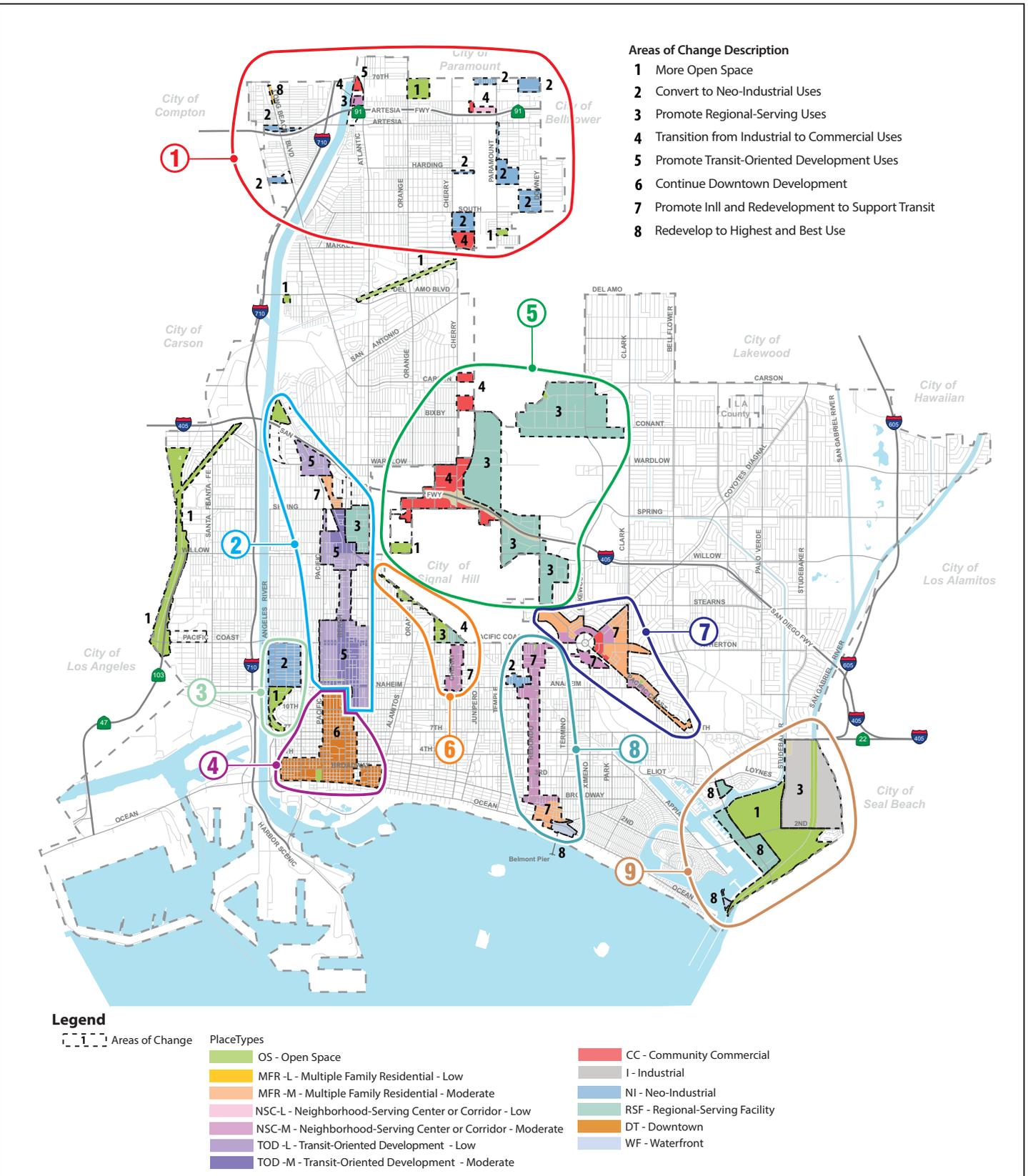
Los E, F



SOURCE: Bing Maps (2013)

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FIGURE 1



LSA



**LEGEND**

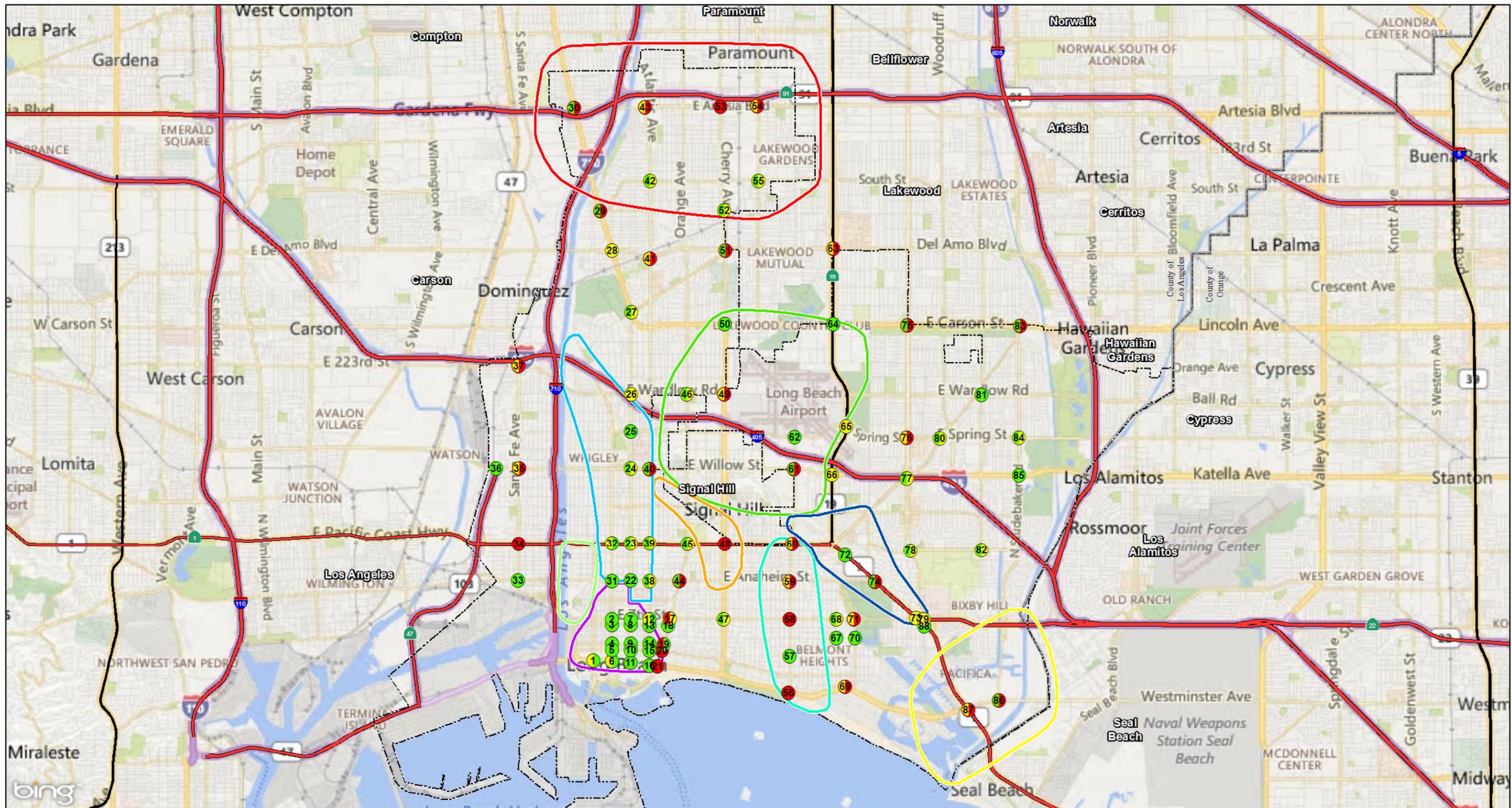
- |                     |                   |
|---------------------|-------------------|
| 1. North Long Beach | 6. PCH            |
| 2. Mid City         | 7. Traffic Circle |
| 3. Riverside        | 8. Redondo        |
| 4. Downtown         | 9. SEADIP         |
| 5. Airport          |           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

FIGURE 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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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

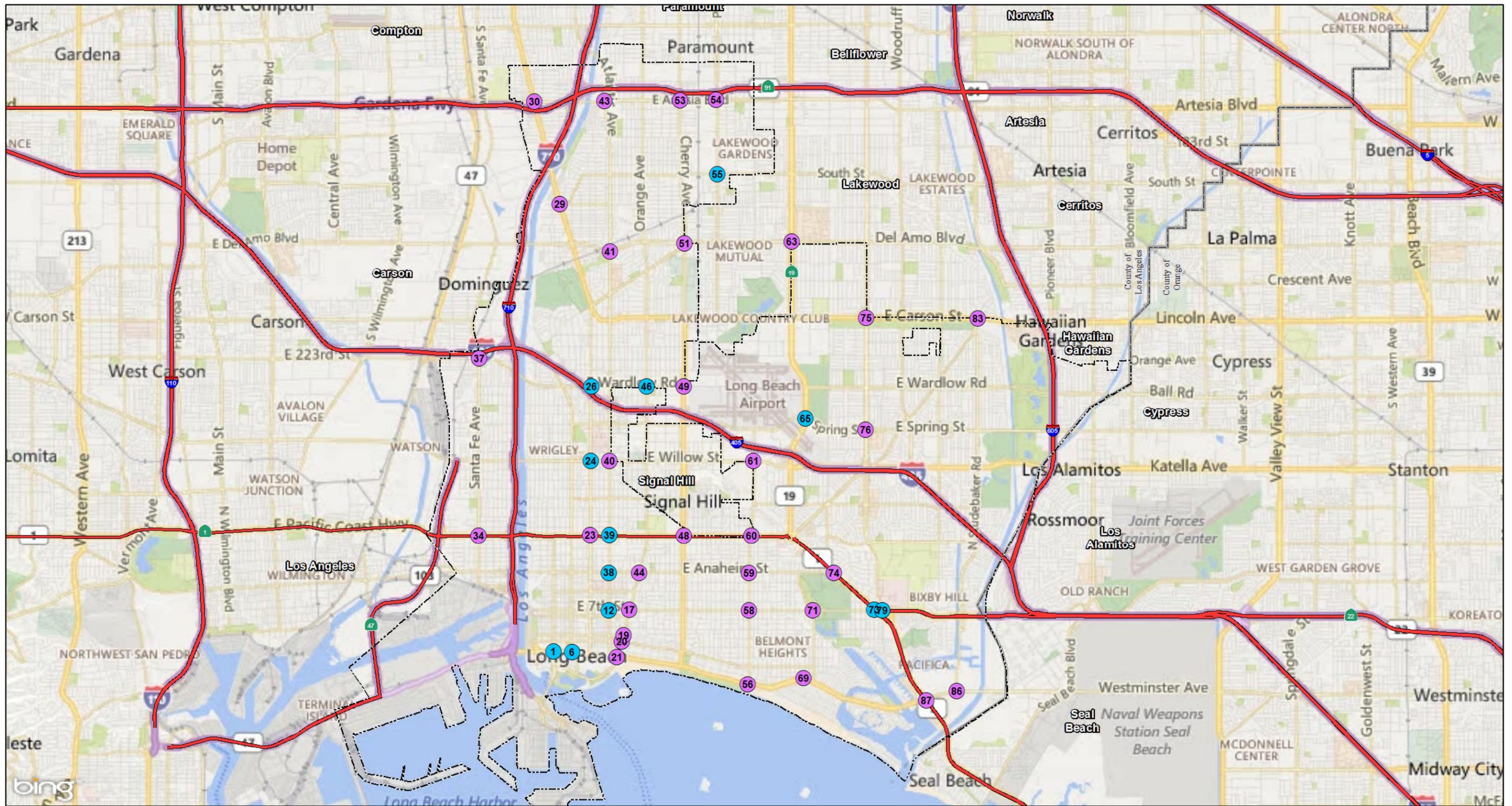


0 0.625 1.25 Miles

SOURCE: Bing Maps (2013)  
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FIGURE 3

Long Beach General Plan  
 Land Use and Urban Design Elements  
 Intersections and District Boundaries



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

*Long Beach General Plan  
Land Use and Urban Design Elements  
Affected Intersections*

# APPENDIX A

## SCAG TRAFFIC MODEL DATA

TAZ	Residential Population	Households	Total Employment	TAZ	Residential Population	Households	Total Employment
21365000	17	6	5626	21400000	6723	2935	4188
21369000	60	35	4749	21458000	9195	3510	1958
21367000	214	183	806	21466000	7388	2640	380
21372000	6391	1451	335	21479000	5366	1974	698
21371000	6468	1533	631	21483000	4700	1767	466
21370000	5660	1432	381	21486000	17	6	2706
21373000	4162	972	258	21488000	3994	1306	387
21374000	1077	311	368	21487000	2613	1025	101
21366000	4306	1061	137	21481000	6431	2267	1056
21368000	3905	1447	124	21468000	5807	2219	901
21361000	3611	917	2606	21460000	3912	1291	564
21387000	3900	1547	2303	21471000	6694	2586	2346
21385000	4210	1064	1220	21482000	6349	2231	1077
21383000	9453	2212	371	21485000	7592	2669	602
21414000	6489	1815	901	21475000	35	13	1592
21396000	8527	2415	357	21464000	4132	1645	1457
21436000	4830	1342	2123	21451000	2354	858	10973
21412000	9039	2370	808	21441000	0	0	2416
21428000	7594	2049	2591	21427000	7835	2712	8821
21442000	4272	1221	364	21413000	0	0	596
21445000	3098	858	3902	21435000	3689	1480	3146
21395000	4358	1293	112	21450000	4427	1931	297
21391000	5314	1601	371	21455000	5410	2238	2086
21381000	7029	2014	501	21452000	5784	2241	3940
21398000	9272	2538	810	21444000	5976	2258	1149
21408000	6064	1779	548	21432000	5255	1614	407
21421000	6499	2073	559	21419000	5046	1213	839
21433000	4907	1785	713	21415000	5814	1483	640
21426000	9185	3504	622	21423000	6095	1404	1025
21405000	5499	2030	1751	21431000	4895	1383	443
21439000	4769	1763	3010	21456000	8417	3735	1568
21437000	2455	846	212	21463000	3557	1748	786
21416000	6170	2682	2481	21470000	6	2	519
21377000	1451	364	46	21477000	1305	657	175
21392000	4654	2259	2441	21476000	3891	2021	634
21417000	5309	2466	1804	21461000	9145	4294	877
21443000	0	0	12996	21449000	7482	3846	1494
21406000	1515	577	2267	21440000	8081	2880	977
21389000	7539	2374	1315	21429000	6722	2069	538
21386000	3520	1041	2288	21425000	6162	1649	308
21397000	425	186	13088	21418000	5510	1516	322
21384000	8381	2624	1088	21411000	5221	1435	326
21404000	5764	1520	819	21410000	3802	1672	632
21380000	8885	2468	369	21420000	4983	2314	309
21394000	4824	1260	1312	21424000	4653	2098	417
21403000	6707	1741	318	21430000	4561	2379	610
21378000	5576	1366	2401	21438000	4693	2207	321
21375000	2957	765	253	21409000	4836	3189	219
21382000	6333	1740	211	21422000	4606	2963	382
21390000	3178	1331	710	21434000	4374	2537	614
21401000	8847	3173	3699	21447000	6048	3686	1201
21402000	5763	1546	825	21457000	3633	2018	1756
21393000	3788	1114	553	21454000	6094	3692	1689
21388000	5373	2863	1144	21467000	3875	1941	1221
21376000	3949	1511	318	21480000	1916	1060	4625
21379000	1368	865	18637	21465000	1784	948	183
21399000	3556	2428	9110	21465000	1784	948	183

**APPENDIX B**

**SOCIOECONOMIC DATA AND TRAFFIC VOLUME  
CALCULATIONS**

## Socioeconomic Data and Traffic Volume Calculations

City Section	SCAG RTP 2012 Model TAZ	Long Beach General Plan Area of Change	A. Area of Change to TAZ Area Ratio <sup>1</sup>	B. SCAG RTP 2012 TAZ Socioeconomic Data <sup>2</sup>				C. Area of Change Socioeconomic Data <sup>3</sup> (Estimated from Area)				D. 2040-2012 TAZ Socioeconomic Data Increase in Areas of Change <sup>4</sup>					E. TAZ Total Traffic <sup>5</sup>				F. Estimated Traffic From Area of Change <sup>6</sup>			G. Increase in Socioeconomic Factors <sup>7</sup>			H. Potential New Traffic Within Area of Change <sup>8</sup>		
				Resident Population	Households	Total Employment	Retail Employment	Resident Population	Households	Total Employment	Retail Employment	New Population	Population Percent Change	New Households	Household Percent Change	New Employment	Employment Percent Change	Average Daily Traffic	AM Peak Trips	PM Peak Trips	Area of Change to TAZ Area Ratio	Average Daily Traffic	AM Peak Trips	PM Peak Trips	Socioeconomic Factors	Average Daily Traffic	AM Peak Trips	PM Peak Trips	
1. North Long Beach	21383000	2. NI - Neo-Industrial	7%	4679	1124	205	15	328	79	14	1	18	7	26	18	7	3	13084	1009	1187	7%	916	71	83					
		8. MFR - Multiple Family Residential	3%					140	34	6	0	5	3	4							3%								
	21385000	2. NI - Neo-Industrial	7%	3670	929	1105	36	257	65	7	3	19	8	28				13084	1009	1187	7%	916	71	83					
	21396000	1. OS - Open Space	1%	7437	2110	322	54	74	21	3	1	0	0	2				17494	1249	1592	1%	175	12	16					
		4. CC - Community Commercial	9%					669	190	29	5	5	3	94							9%	1574	112	143					
	21414000	1. OS - Open Space	10%	5602	1569	812	172	560	157	81	17	0	0	8				18666	1390	1705	10%	1867	139	171					
		3. RSF - Regional-Serving Facility	5%					280	78	41	9	2	1	12							5%								
		4. CC - Community Commercial	5%					280	78	41	9	1	1	25							5%	933	70	85					
	21436000	2. NI - Neo-Industrial	13%	4148	1154	2111	202	539	150	274	26	19	8	27				14519	998	1345	13%	1887	130	175					
		4. CC - Community Commercial	5%					207	58	106	10	2	1	40							5%	726	50	67					
21428000	2. NI - Neo-Industrial	3%	6590	1781	2331	189	198	53	70	6	2	1	3				27721	1935	2475	3%	832	58	74						
21442000	2. NI - Neo-Industrial	6%	3741	1071	330	4	224	64	20	0	9	3	12				9197	673	850	6%	552	40	51						
21445000	2. NI - Neo-Industrial	33%	2673	742	3532	747	882	245	1166	247	35	14	50				28312	1685	2576	33%	9343	556	850						
21433000	2. NI - Neo-Industrial	17%	4155	1514	644	70	706	257	109	12	10	4	14				12525	853	1143	17%	2129	145	194						
	4. CC - Community Commercial	17%					706	257	109	12	3	2	56							17%	2129	145	194						
	<b>Total</b>			42695	11994	11392	1489	6050	1786	2146	358	131	2.2%	55	3.1%	401	16.0%	158427	11083	14409		24247	1618	2211	19.1%	4630	309	422	
2. Mid City	21377000	1. OS - Open Space	30%	1234	310	37	6	370	93	11	2	0	0	49				4826	382	459	30%	1448	115	138					
		5. TOD - Transit-Oriented Development	8%					99	25	3	0	45	32	79							8%	386	31	37					
	21392000	5. TOD - Transit-Oriented Development	13%	4037	1964	2213	44	525	255	288	6	35	24	60				20077	1349	1862	13%	2610	175	242					
	21389000	3. RSF - Regional-Serving Facility	2%	6513	2049	1198	132	130	41	24	3	1	0	5				12137	1463	1915	2%	243	29	38					
		5. TOD - Transit-Oriented Development	30%					1954	615	359	40	73	52	127							30%	3641	439	575					
		7a. MFR - Multi-Family Residential	13%					847	266	156	17	119	46	0							13%	1578	190	249					
	21386000	5. TOD - Transit-Oriented Development	20%	3018	894	2072	179	604	179	414	36	48	34	83				20291	1408	1868	20%	4058	282	374					
	21397000	3. RSF - Regional-Serving Facility	70%	363	159	11854	111	254	111	8298	78	23	9	186				47070	3268	4413	70%	32949	2288	3089					
		5. TOD - Transit-Oriented Development	30%					109	48	3556	33	83	59	144							30%	14121	980	1324					
	21384000	5. TOD - Transit-Oriented Development	15%	7243	2271	985	93	1086	341	148	14	26	19	45				20441	1423	1158	15%	3066	213	174					
21380000	5. TOD - Transit-Oriented Development	6%	7698	2141	332	33	462	128	20	2	8	6	14				15211	1084	1380	6%	913	65	83						
21401000	5. TOD - Transit-Oriented Development	17%	7586	2726	3346	136	1290	463	569	23	17	12	30				7897	375	788	17%	1342	64	134						
21393000	5. TOD - Transit-Oriented Development	100%	3239	954	501	62	3239	954	501	62	233	164	403				9750	587	894	100%	9750	587	894						
21402000	5. TOD - Transit-Oriented Development	50%	4983	1340	745	104	2492	670	373	52	162	114	281				15848	1277	1465	50%	7924	639	733						
21394000	5. TOD - Transit-Oriented Development	75%	4130	1081	1188	112	3098	811	891	84	87	62	151				12098	805	1110	75%	9074	604	833						
21403000	5. TOD - Transit-Oriented Development	30%	5875	1527	284	42	1763	458	85	13	53	37	91				12798	876	1171	30%	3839	263	351						
21404000	5. TOD - Transit-Oriented Development	28%	5017	1325	739	50	1405	371	207	14	53	37	91				12843	872	1866	28%	3596	244	522						
	<b>Total</b>			60936	18741	25494	1104	19727	5829	15903	479	1066	5.4%	706	12.1%	1838	11.2%	211287	15169	20349		100538	7208	9790	23.3%	23457	1682	2284	
3. Riverside	21378000	2. NI - Neo-Industrial	50%	4742	1164	2167	130	2371	582	1084	65	66	27	94				16797	1184	1513	50%	8399	592	757					
	21375000	1. OS - Open Space	50%	2574	667	225	28	1287	334	113	14	0	44					6254	435	559	50%	3127	218	280					
	<b>Total</b>			7316	1831	2392	158	3658	916	1197	79	66	1.8%	27	2.9%	139	10.9%	23051	1619	2072		11526	810	1037	13.8%	1595	112	144	
4. Downtown	21376000	6. DT - Downtown	13%	3458	1324	284	6	450	172	37	1	12	8	45				8252	592	761	13%	1073	77	99					
	21388000	6. DT - Downtown	50%	4736	2531	1025	81	2368	1266	513	41	116	73	432				15957	962	1462	50%	7979	481	731					
	21379000	6. DT - Downtown	25%	1280	810	16746	117	320	203	4187	29	117	73	435				61236	4790	5628	25%	15309	1198	1407					
	21399000	6. DT - Downtown	33%	3212	2194	8233	324	1060	724	2717	107	37	23	136				48609	3048	4379	33%	16041	1006	1445					
	21400000	6. DT - Downtown	50%	5987	2620	3755	607	2994	1310	1878	304	96	60	356				36137	2103	3264	50%	18069	1052	1632					
	21390000	6. DT - Downtown	50%	2823	1184	639	24	1412	592	320	12	140	87	219				8786	549	820	50%	4393	275	410					
	21401000	6. DT - Downtown	33%	7586	2726	3346	136	2503	900	1104	45	66	41	244				7897	375	788	33%	2606	124	260					
	<b>Total</b>			29082	13389	34028	1295	11107	5167	10756	539	583	5.2%	364	7.0%	2166	19.2%	186874	12419	17102		65470	4213	5984	26.2%	17167	1105	1569	
5. Airport	21426000	4. CC - Community Commercial	2%	8045	3059	560	68	161	61	11	1	1	0	20				23801	1673	2159	2%	476	33	43					
	21416000	4. CC - Community Commercial	6%	5264	2292	2244	315	316	138	135	19	2	1	39				29183	2079	2837	6%	1751	125	170					
	21413000	1. OS - Open Space	50%	0	0	534	40	0	0	267	20	0	58					4782	331	430	50%	2391	166	215					
		4. CC - Community Commercial	50%					0	0	267	20	21	10	448							50%	2391	166	215					
	21443000	3. RSF - Regional-Serving Facility	33%	0	0	11719	118	0	0	3867	39	39	15	316				53723	4076	4980	33%	17729	1345	1643					
		4. CC - Community Commercial	6%					0	0	703	7	6	3	132							6%	3223	245	299					
	21441000	3. RSF - Regional-Serving Facility	100%	0																									