

Appendix D

Noise Data and Calculations



File name AU2_0101
 File number 1
 Data number 2
 Frequency-weight A
 Time-weight Fast
 Filter -
 Center/High pass filter cutoff -
 Low pass filter cutoff -
 Time setting 15min
 Start Time 5/20/2015 7:25
 Stop Time 5/20/2015 7:40
 Lx1 L10
 Lx2 L33
 Lx3 L50
 Lx4 L90
 Lx5 L95
 Ly Lppeak

Address	Time	Measurment Time	LAeq	LAE	LAmx	L Amin	LA10	LA33
1	5/20/2015 7:25	0:15:00	64.9	94.4	77.8	51	68.1	65.4
			LA90	LA95	Lppeak	Over	Under	Pause
			57.2	55.1	98.6	-	-	-

LA50

63.7

File name AU2_0102
 File number 1
 Data number 2
 Frequency-weight A
 Time-weight Fast
 Filter -
 Center/High pass filter cutoff -
 Low pass filter cutoff -
 Time setting 15min
 Start Time 5/20/2015 8:00
 Stop Time 5/20/2015 8:15
 Lx1 L10
 Lx2 L33
 Lx3 L50
 Lx4 L90
 Lx5 L95
 Ly Lppeak

Address	Time	Measurement Time	LAeq	LAE	LAmx	LAmn	LA10	LA33
1	5/20/2015 8:00	0:15:00	70.8	100.3	87	52.1	74.8	70.6
			LA90	LA95	Lppeak	Over	Under	Pause
			56.5	55.4	107.9	-	-	-

LA50

66.6

File name AU2_0103
 File number 1
 Data number 2
 Frequency-weight A
 Time-weight Fast
 Filter -
 Center/High pass filter cutoff -
 Low pass filter cutoff -
 Time setting 15min
 Start Time 5/20/2015 8:30
 Stop Time 5/20/2015 8:45
 Lx1 L10
 Lx2 L33
 Lx3 L50
 Lx4 L90
 Lx5 L95
 Ly Lppeak

Address	Time	Measurment Time	LAeq	LAE	LAmx	L Amin	LA10	LA33
1	5/20/2015 8:30	0:15:00	68.5	98.1	81.2	49.1	73	68.4
			LA90	LA95	Lppeak	Over	Under	Pause
			53.7	52.3	103.4	-	-	-

LA50

64.4

RESULTS: SOUND LEVELS

15-01260

Third St SW Corner Third and Chestnut	37	1	0.0	68.3	66	68.3	10	Snd Lvl	68.3	0.0	8	-8.0
Chestnut btwn Third and Broadway	38	1	0.0	65.3	66	65.3	10	----	65.3	0.0	8	-8.0
Broadway NW corner Chestnut and Broad	39	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
Broadway btwn Chestnut and Magnolia	40	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
Broadway NE corner Chestnut and Magnolia	41	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Magnolia btwn Third and Broadway	42	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
Third St NE Corner Third and Magnolia	43	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
Chestnut E of Chestnut btwn Third and Bro	44	1	0.0	64.1	66	64.1	10	----	64.1	0.0	8	-8.0
Future Residential SE Corner Third and C	45	1	0.0	66.5	66	66.5	10	Snd Lvl	66.5	0.0	8	-8.0
Future Residential SW Corner Third and P	46	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
Future Residential W of Pacific btwn Third	47	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
Future Residential NW corner Pacific and	48	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0
Future Residential north of Broadway btwn	49	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
Future Residential NE corner Broadway ar	50	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0
Future Residential E of Cedar btwn Broad	51	1	0.0	65.2	66	65.2	10	----	65.2	0.0	8	-8.0
Pacific E of Pacific btwn Third and Broad	52	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
Future Library NW corner Broadway and P	53	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
Ocean btwn Cedar and Chestnut	55	1	0.0	71.8	66	71.8	10	Snd Lvl	71.8	0.0	8	-8.0
Future Park at Pacific and 1st	57	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		43	0.0	0.0	0.0							
All Impacted		39	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

15-01260

Third St SW Corner Third and Chestnut	37	1	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
Chestnut btwn Third and Broadway	38	1	0.0	67.2	66	67.2	10	Snd Lvl	67.2	0.0	8	-8.0
Broadway NW corner Chestnut and Broad	39	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Broadway btwn Chestnut and Magnolia	40	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
Broadway NE corner Chestnut and Magnolia	41	1	0.0	72.4	66	72.4	10	Snd Lvl	72.4	0.0	8	-8.0
Magnolia btwn Third and Broadway	42	1	0.0	70.7	66	70.7	10	Snd Lvl	70.7	0.0	8	-8.0
Third St NE Corner Third and Magnolia	43	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
Chestnut E of Chestnut btwn Third and Bro	44	1	0.0	66.6	66	66.6	10	Snd Lvl	66.6	0.0	8	-8.0
Future Residential SE Corner Third and C	45	1	0.0	68.7	66	68.7	10	Snd Lvl	68.7	0.0	8	-8.0
Future Residential SW Corner Third and P	46	1	0.0	70.8	66	70.8	10	Snd Lvl	70.8	0.0	8	-8.0
Future Residential W of Pacific btwn Third	47	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
Future Residential NW corner Pacific and	48	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Future Residential north of Broadway btwn	49	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
Future Residential NE corner Broadway ar	50	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
Future Residential E of Cedar btwn Broad	51	1	0.0	68.3	66	68.3	10	Snd Lvl	68.3	0.0	8	-8.0
Pacific E of Pacific btwn Third and Broad	52	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0
Future Library NW corner Broadway and P	53	1	0.0	71.6	66	71.6	10	Snd Lvl	71.6	0.0	8	-8.0
Ocean btwn Cedar and Chestnut	54	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Future Park at Pacific and 1st	55	1	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		43	0.0	0.0	0.0							
All Impacted		43	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

15-01260

Third St SW Corner Third and Chestnut	37	1	0.0	68.5	66	68.5	10	Snd Lvl	68.5	0.0	8	-8.0
Chestnut btwn Third and Broadway	38	1	0.0	65.5	66	65.5	10	----	65.5	0.0	8	-8.0
Broadway NW corner Chestnut and Broad	39	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
Broadway btwn Chestnut and Magnolia	40	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
Broadway NE corner Chestnut and Magnolia	41	1	0.0	72.4	66	72.4	10	Snd Lvl	72.4	0.0	8	-8.0
Magnolia btwn Third and Broadway	42	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Third St NE Corner Third and Magnolia	43	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
Chestnut E of Chestnut btwn Third and Bro	44	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0
Future Residential SE Corner Third and C	45	1	0.0	66.9	66	66.9	10	Snd Lvl	66.9	0.0	8	-8.0
Future Residential SW Corner Third and P	46	1	0.0	70.6	66	70.6	10	Snd Lvl	70.6	0.0	8	-8.0
Future Residential W of Pacific btwn Third	47	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0
Future Residential NW corner Pacific and	48	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
Future Residential north of Broadway btwn	49	1	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
Future Residential NE corner Broadway ar	50	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
Future Residential E of Cedar btwn Broad	51	1	0.0	65.6	66	65.6	10	----	65.6	0.0	8	-8.0
Pacific E of Pacific btwn Third and Broad	52	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0
Future Library NW corner Broadway and P	53	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
Ocean btwn Cedar and Chestnut	54	1	0.0	72.2	66	72.2	10	Snd Lvl	72.2	0.0	8	-8.0
Future Park at Pacific and 1st	55	1	0.0	67.5	66	67.5	10	Snd Lvl	67.5	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		43	0.0	0.0	0.0							
All Impacted		40	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

15-01260

Third St SW Corner Third and Chestnut	37	1	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
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Broadway NW corner Chestnut and Broad	39	1	0.0	70.8	66	70.8	10	Snd Lvl	70.8	0.0	8	-8.0
Broadway btwn Chestnut and Magnolia	40	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
Broadway NE corner Chestnut and Magnolia	41	1	0.0	73.4	66	73.4	10	Snd Lvl	73.4	0.0	8	-8.0
Magnolia btwn Third and Broadway	42	1	0.0	70.9	66	70.9	10	Snd Lvl	70.9	0.0	8	-8.0
Third St NE Corner Third and Magnolia	43	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
Chestnut E of Chestnut btwn Third and Bro	44	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
Future Residential SE Corner Third and C	45	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
Future Residential SW Corner Third and P	46	1	0.0	71.1	66	71.1	10	Snd Lvl	71.1	0.0	8	-8.0
Future Residential W of Pacific btwn Third	47	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
Future Residential NW corner Pacific and	48	1	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0
Future Residential north of Broadway btwn	49	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
Future Residential NE corner Broadway ar	50	1	0.0	71.8	66	71.8	10	Snd Lvl	71.8	0.0	8	-8.0
Future Residential E of Cedar btwn Broad	51	1	0.0	68.3	66	68.3	10	Snd Lvl	68.3	0.0	8	-8.0
Pacific E of Pacific btwn Third and Broad	52	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
Future Library NW corner Broadway and P	53	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
Ocean btwn Cedar and Chestnut	54	1	0.0	72.2	66	72.2	10	Snd Lvl	72.2	0.0	8	-8.0
Future Park at Pacific and 1st	55	1	0.0	67.3	66	67.3	10	Snd Lvl	67.3	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		43	0.0	0.0	0.0							
All Impacted		42	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

Appendix E

Transportation Impact Analysis



TRAFFIC IMPACT ANALYSIS
NEW LONG BEACH CIVIC CENTER PROJECT
Long Beach, California
July 21, 2015

TRAFFIC IMPACT ANALYSIS
NEW LONG BEACH CIVIC CENTER PROJECT
Long Beach, California
July 21, 2015

Prepared for:

PLENARY EDGEMOOR CIVIC PARTNERS
10100 SANTA MONICA BOULEVARD, SUITE 410
Los Angeles, CA 90067

and

THE CITY OF LONG BEACH
Department of Development Services
333 West Ocean Boulevard
Long Beach, California 90802

LLG Ref. 2-15-3567



Prepared by:

Shane S. Green, P.E.
Transportation Engineer III

Under the Supervision of:

Richard E. Barretto, P.E.
Principal

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APPENDIX

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TRAFFIC IMPACT ANALYSIS
NEW LONG BEACH CIVIC CENTER PROJECT

Long Beach, California
July 21, 2015

1.0 INTRODUCTION

This Traffic Impact Analysis report addresses the potential traffic impacts and circulation needs associated with the development of the New Long Beach Civic Center Project (hereinafter referred to as Project). The Project includes redevelopment of the 14.98 acre civic center block located north of Ocean Boulevard and south of Broadway, between Magnolia Avenue and Pacific Avenue, as well as a 0.89 acre parcel located south of 3rd Street, between Cedar Avenue and Pacific Avenue in downtown Long Beach. The current Long Beach Civic Center consists of the former 334,000 square-foot (SF) Los Angeles County Superior Courthouse, which is now vacant, the 283,000 SF City Hall office tower, the 138,000 SF Long Beach Main Library, Lincoln Park and associated parking structures.

This report documents the findings and recommendations of a traffic impact analysis, conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential impacts associated with the proposed Project.

1.1 Scope of Work

The traffic analysis evaluates the existing operating conditions at ten (10) key study intersections within the project vicinity, estimates the trip generation potential of the proposed Project, and forecasts future operating conditions without and with the Project. Where necessary, intersection improvements/mitigation measures are identified to offset the impact of the proposed Project. For comparison purposes, the Project's trip generation potential was compared to the traffic forecast associated with the development potential of the civic center block as evaluated in the *Long Beach Downtown Community Plan EIR Traffic Impact Analysis, dated February 4, 2010, prepared by Iteris*, and *Downtown Plan Draft Program Environmental Impact Report (Downtown Plan Draft PEIR), dated December 2010, prepared by AECOM*. A review of these two documents indicates that up to 800 residential units, 460,000 SF of office/commercial floor area, 64,000 SF of retail space and 16,000 SF of restaurant uses were assumed and assessed for the Civic Center area in the Downtown Community Plan traffic analysis.

This traffic report satisfies the traffic impact requirements of the City of Long Beach and is consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Los Angeles County*.

The Project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing peak hour traffic information has been collected at the ten (10) key study locations on a "typical" weekday for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity

of the project has been researched at the City of Long Beach. Based on our research, twelve (12) cumulative projects were considered in the cumulative traffic analysis for this project.

Based on City of Long Beach requirement's, this traffic report analyzes existing and future (near-term) weekday AM and PM peak hour traffic conditions for existing and Year 2020 traffic conditions without and with the proposed Project. Peak hour traffic forecasts for the Year 2020 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of one percent (1.0%) per year and adding traffic volumes generated by twelve (12) cumulative projects.

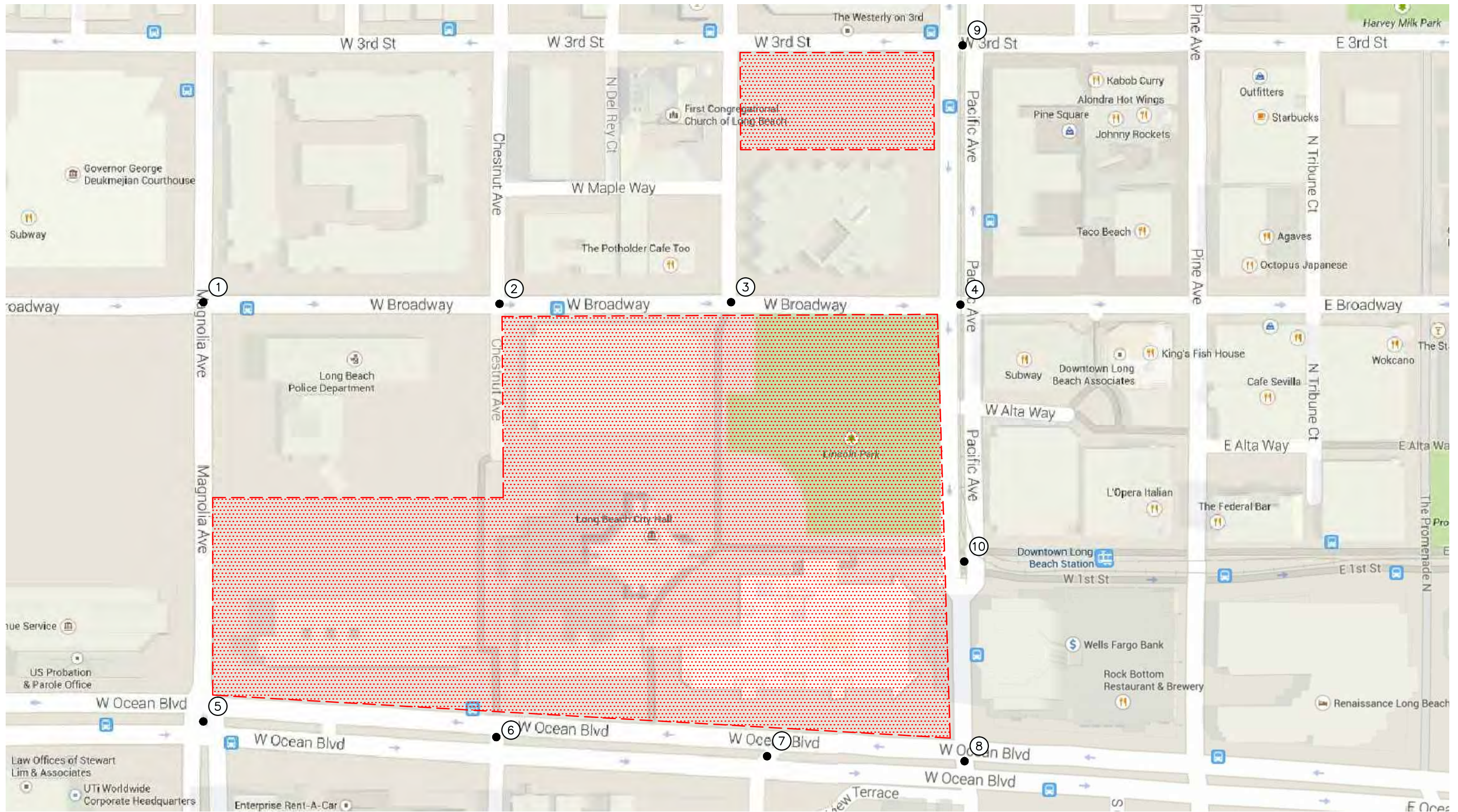
1.2 Study Area

The ten (10) key study intersections selected for evaluation in this report provide local access within the project study area. They consist of the following:

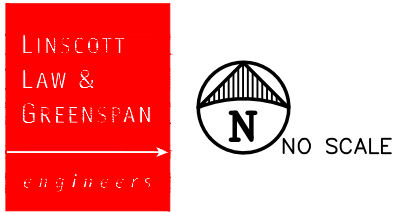
1. Magnolia Avenue at Broadway
2. Chestnut Avenue at Broadway
3. Cedar Avenue at Broadway
4. Pacific Avenue at Broadway
5. Magnolia Avenue at Ocean Boulevard
6. Chestnut Avenue at Ocean Boulevard
7. Cedar Avenue at Ocean Boulevard
8. Pacific Avenue at Ocean Boulevard
9. Pacific Avenue at 3rd Street
10. Pacific Avenue at 1st Street

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the project and depicts the study locations and surrounding street system. The Volume-Capacity (V/C) and Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with the proposed Project. Included in this traffic study report are:

- Existing traffic counts,
- Estimated project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- AM and PM peak hour capacity analyses for existing conditions,
- AM and PM peak hour capacity analyses for existing plus project conditions,
- AM and PM peak hour capacity analyses for future (Year 2020) conditions without and with project traffic,
- Recommended Improvements, and
- Congestion Management Program Compliance Assessment.



n:\3500\2153567 - new long beach civic center\dwg\3567f1-1.dwg LDP 09:02:3 05-08-2015 lam



SOURCE: GOOGLE
 KEY
 # = STUDY INTERSECTION
 [Red Dotted Box] = PROJECT SITE

FIGURE 1-1

VICINITY MAP
 NEW LONG BEACH CIVIC CENTER, LONG BEACH

2.0 PROJECT DESCRIPTION

The Long Beach Civic Center is located north of Ocean Boulevard and south of Broadway, between Magnolia Avenue and Pacific Avenue in downtown Long Beach. The 0.89 acre parcel Third & Pacific site is currently a surface parking lot and is located south of 3rd Street, between Cedar Avenue and Pacific Avenue. The current Civic Center consists of the former 334,000 SF Los Angeles County Superior Courthouse, which is now vacant, the 283,000 SF City Hall office tower, the 138,000 SF Long Beach Main Library, 2.60 acre Lincoln Park and associated parking structures. *Figure 2-1* presents an existing aerial of the Project site.

The proposed New Long Beach Civic Center Project provides a New City Hall, a New Harbor Department administration building, a New Main Library, a relocated and redeveloped Lincoln Park and a vibrant commercial mixed use development. In total, six (6) new buildings, three (3) new parking garages, including a new subterranean garage below the New City Hall and Harbor Department buildings, and related infrastructure and landscaping are proposed. The major project elements include the following:

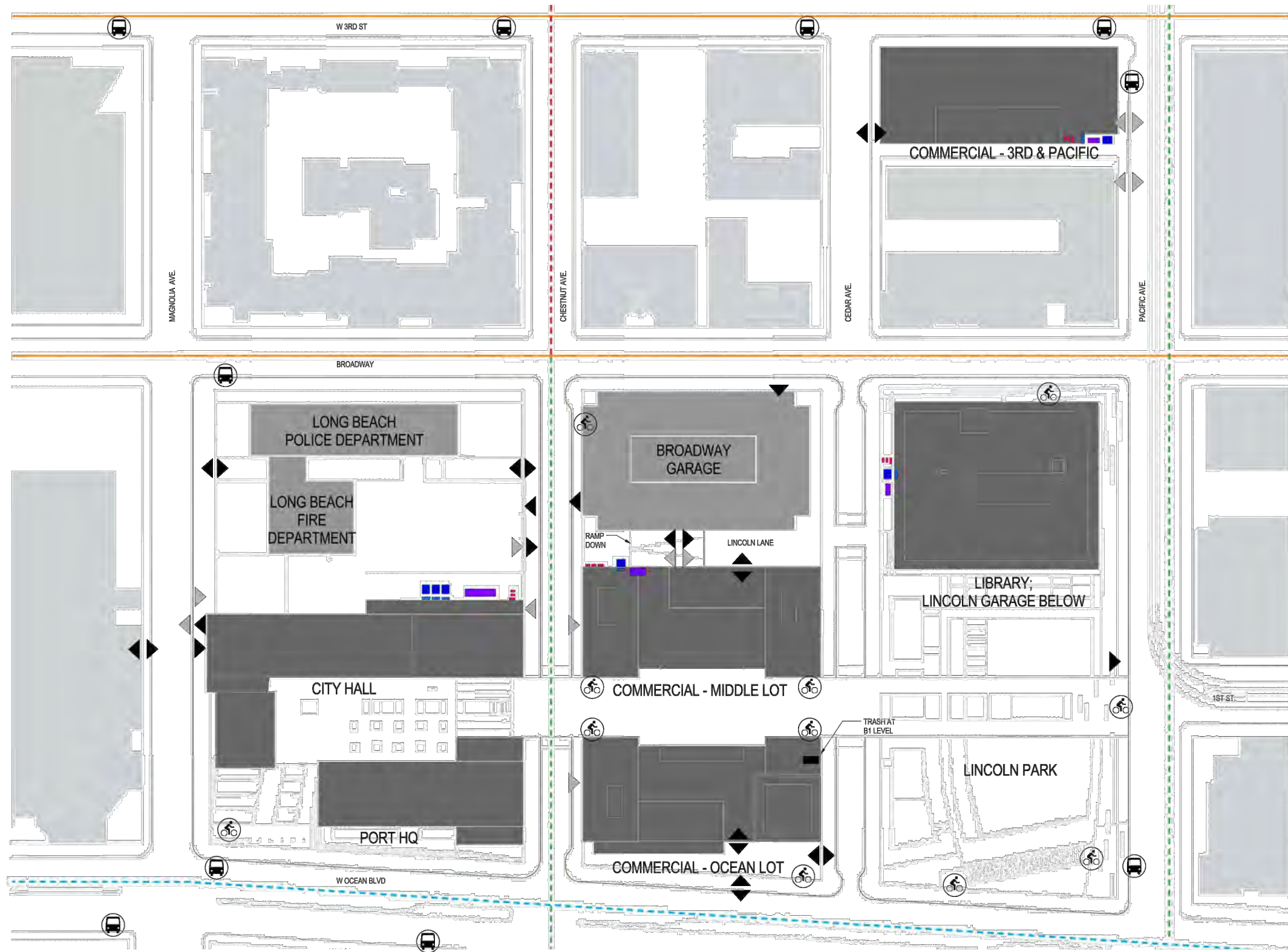
- Civic Block: development of a 270,000 SF, 11-story office building to house the New City Hall, a 240,000 SF, 11-story office building to house the New Harbor Department and a subterranean parking structure with approximately 510 spaces. Vehicular access to the subterranean parking structure will be provided from the proposed extension of Chestnut Avenue from Broadway to Ocean, and from Magnolia Avenue. Access to the existing Broadway garage will continue to be provided from Broadway and Chestnut Avenue.
- Center Block: Development of residential and commercial uses within a mixed-use setting to include up to 580 residential units and a 200-room boutique hotel, with approximately 40,000 SF of ground floor commercial space consisting of 32,000 SF of retail space and 8,000 SF restaurant uses. A new subterranean parking structure with approximately 725 spaces will serve the mixed use development in the Center Block. Primary vehicular access to the mixed-used development parking structure will be provided from the future extension of Cedar Avenue between Broadway and Ocean Boulevard.
- Lincoln Park Block: a New Main Library with 92,000 SF of floor area and a new 3.17 acre Lincoln Park will be constructed in place of the current development. Access to the existing Lincoln garage will continue to be provided from the Cedar Street and Pacific Avenue access ramps in the interim, but will ultimately be served by the “Lincoln Alley”.
- Third & Pacific Block: Development of up to 200 residential units and parking garage in place of the existing surface parking lot. Primary vehicular access to this site’s parking garage will be provided from Cedar Avenue.
- Street Extensions/Infrastructure Improvements: To facilitate vehicular, bicycle and pedestrian access within the New Civic Center, Chestnut Avenue and Cedar Avenue will be extended to connect Broadway to Ocean Boulevard. A traffic signal installation is now in place at the Ocean/Chestnut intersection with the latter forming the south leg. Project implementation should complete this as a four-legged intersection with necessary signal modifications to integrate the fourth leg. Additionally, an eastbound left turn lane should be added. It is recognized that its addition is also likely to use a “best fit” approach, and will require landscape modification/removal as well as the likely relocation of the existing sculpture at the center of the median. However, to provide a conservative assessment, it was assumed that an eastbound left-



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turn is not provided due to existing constraints. The extension of Cedar Avenue to Ocean Boulevard is expected to align with the existing southerly terminus, which now provides a median break and westbound left turn lane to service the existing street segment south of Ocean. The northbound approach of that segment to Ocean is STOP controlled and posted with a right-turn-only restriction (left turns are prohibited). Due to intersection spacing and current turn restrictions at this location, it was assumed that access to and from the future north leg of Cedar Avenue will be restricted to right-turn only movements at Ocean Boulevard. A section of First Street with non-traditional paving and a curb less design will be developed between Chestnut and Cedar as part of the Center Block development. First Street, between Cedar and Pacific as well as within the Civic Plaza area, will consist of pedestrian walkways.

Figure 2-2 presents the overall site plan for the proposed Project as prepared by Skidmore Owings & Merrill, LLP (SOM) dated April 2015. **Figure 2-3** presents overall vehicular access and service access for the Project, with a focus to the site's parking structures upon completion of the Project.



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SOURCE: SKIDMORE, OWINGS & MERRILL, LLP (SOM)

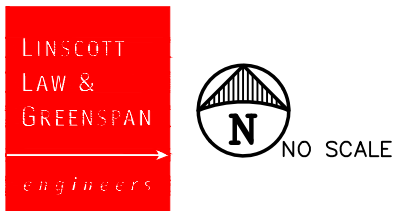
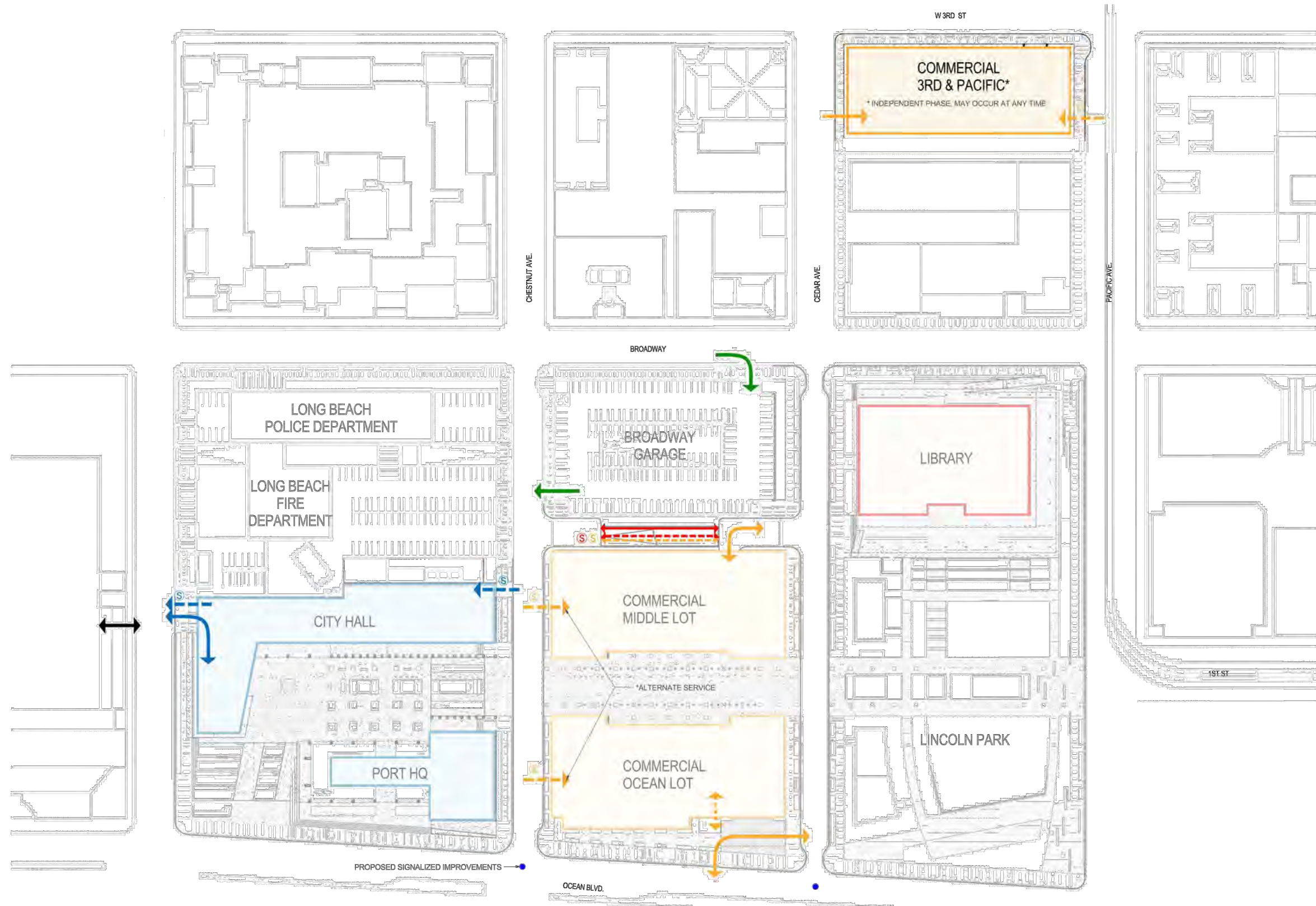


FIGURE 2-2

PROPOSED SITE PLAN
NEW LONG BEACH CIVIC CENTER, LONG BEACH



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SOURCE: SKIDMORE, OWINGS & MERRILL, LLP (SOM)

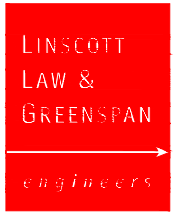


FIGURE 2-3

VEHICULAR AND SERVICE ACCESS
NEW LONG BEACH CIVIC CENTER, LONG BEACH

3.0 EXISTING CONDITIONS

3.1 Existing Street System

The principal local network of streets serving the project site includes 3rd Street, Broadway, Ocean Boulevard, 1st Street, Magnolia Avenue, Chestnut Avenue, Cedar Avenue, and Pacific Avenue. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

3rd Street is a two-lane, one-way roadway (westbound travel only) oriented in the east-west direction. Parking is generally permitted on both sides of the roadway, except for a segment between Chestnut Avenue and Cedar Avenue. The posted speed limit is 25 mph. The intersection of 3rd Street and Pacific Avenue is controlled by a traffic signal.

Broadway is a two-lane, one-way divided roadway (eastbound travel only) oriented in the east-west direction. West of Magnolia Avenue, parking is restricted on both the north and south side of the roadway. West of Pine Avenue, parking is generally permitted on the north side of the roadway and restricted on the south side. East of Pine Avenue, parking is permitted on both sides of the roadway. The posted speed limit on Broadway is 30 mph. The intersections of Broadway at Magnolia Avenue, Chestnut Avenue, Cedar Avenue, and Pacific Avenue are controlled by traffic signals.

Ocean Boulevard is primarily a six-lane, divided roadway oriented in the east-west direction. West of Magnolia Avenue, Ocean Boulevard is a seven-lane, divided roadway, with three travel lanes in the eastbound direction and four travel lanes in the westbound direction. Parking is permitted on both sides of the roadway. The posted speed limit on Ocean Boulevard is 30 mph. The intersections of Ocean Boulevard at Magnolia Avenue, Chestnut Avenue, and Pacific Avenue are controlled by traffic signals. The intersection of Ocean Boulevard at Cedar Avenue is controlled by a one-way stop.

1st Street is primarily is a two-lane, divided roadway oriented in the east-west direction. Parking is not permitted on both sides of the roadway. The posted speed limit on 1st Street is 25 mph. The intersection of Pacific Avenue at 1st Street is controlled by a traffic signal.

Magnolia Avenue is primarily a four-lane, divided roadway oriented in the north-south direction. South of Ocean Boulevard, Magnolia Avenue is a six-lane, divided roadway. North of 3rd Street, Magnolia Avenue is a two-lane, divided roadway. Parking is permitted on both sides of the roadway north of Broadway. South of Broadway, parking is generally not permitted on both sides of the roadway, except for a segment between Broadway and Ocean Avenue where parking is permitted on the west side of the roadway. North of Ocean Boulevard, the posted speed limit is 25 mph; south of Ocean Boulevard, the posted speed limit is 45 mph. The intersections of Magnolia Avenue at Broadway and Ocean Boulevard are controlled by traffic signals.

Chestnut Avenue is primarily a two-lane, undivided roadway oriented in the north-south direction. Between 3rd Street and Broadway, Chestnut is a two-lane, divided roadway. Between Broadway and Ocean Boulevard, Chestnut is a 3-lane, undivided roadway. Parking is permitted on both sides of

the roadway, north of Ocean Boulevard. Parking is not permitted on both sides of the roadway south of Ocean Boulevard. The posted speed limit on Chestnut Avenue is 25 mph. The intersections of Chestnut Avenue at Broadway and Ocean Boulevard are controlled by traffic signals.

Cedar Avenue is a primarily two-lane, undivided roadway oriented in the north-south direction. South of Broadway and north of Ocean Boulevard, Cedar Avenue is a two-lane, divided roadway. Parking is permitted on both sides of the roadway, north of Broadway. Parking is not permitted on both sides of the roadway, south of Broadway. The posted speed limit on Cedar Avenue is 25 mph. The intersection of Cedar Avenue at Broadway is controlled by a traffic signal. The intersection of Cedar Avenue at Ocean Boulevard is controlled by a one-way stop.

Pacific Avenue is primarily a four-lane, divided roadway oriented in the north-south direction. South of Ocean Boulevard, Pacific Avenue is a two-lane, undivided roadway. Parking is not permitted on either side of the roadway within the vicinity of the Project site. The posted speed limit on Pacific Avenue is 25 mph. The intersections of Pacific Avenue at 3rd Street, Broadway, 1st Street and Ocean Boulevard are controlled by traffic signals.

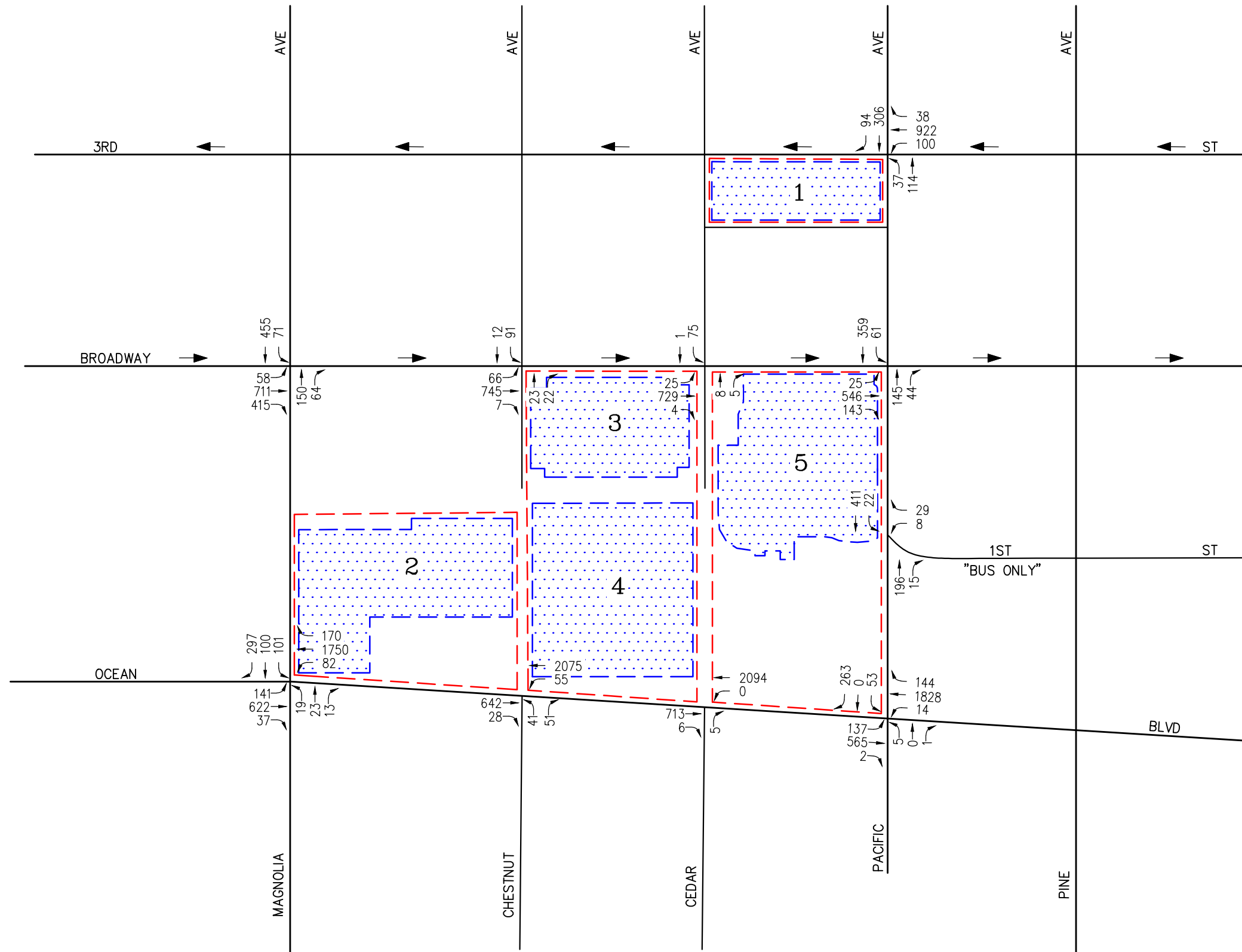
Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. The number of travel lanes and intersection controls for the key area intersections are identified.

3.2 Existing Traffic Volumes

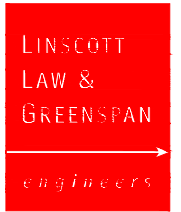
Ten (10) key study intersections have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential project-related traffic will pass through each of these intersections, and their analysis will reveal the expected impact associated with the proposed Project.

Existing weekday peak hour traffic volumes for the ten (10) key study intersections evaluated in this report were obtained from manual turning movement counts conducted by National Data & Surveying Services (NDS) in March 2015.

Figures 3-2 and *3-3* illustrate the existing weekday AM and PM peak hour traffic volumes at the ten (10) key study intersections evaluated in this report, respectively. *Appendix A* contains the detailed peak hour count sheets for the key intersections evaluated in this report.



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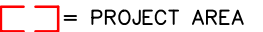

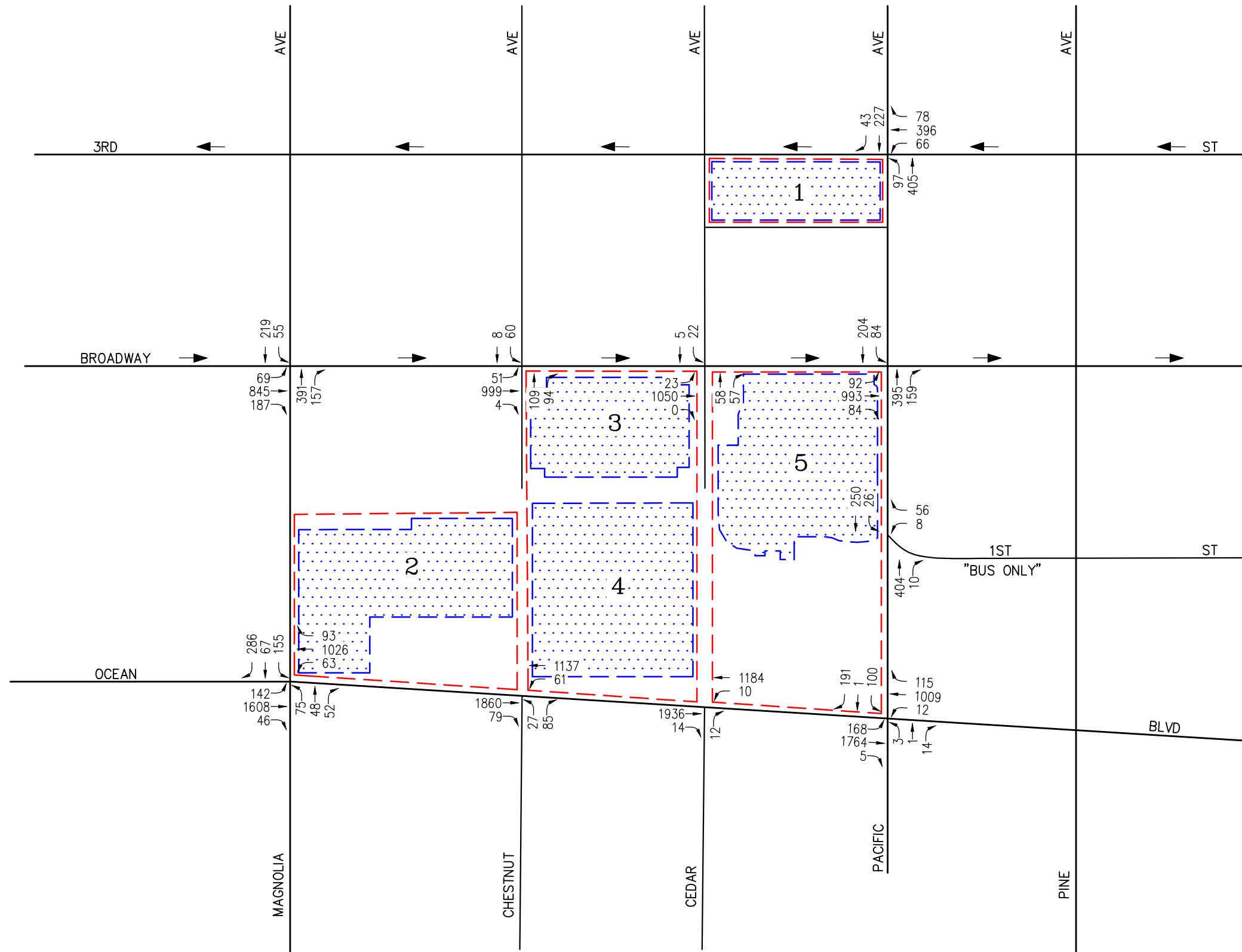
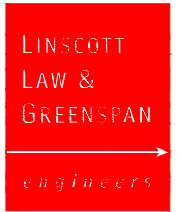
KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES
NEW LONG BEACH CIVIC CENTER, LONG BEACH



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KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 3-3

EXISTING PM PEAK HOUR TRAFFIC VOLUMES
NEW LONG BEACH CIVIC CENTER, LONG BEACH

3.3 Existing Public Transit

The Los Angeles County Metropolitan Transportation Authority and Long Beach Transit (LBT) provide public transit services in the vicinity of the proposed Project. In the vicinity of the Project, the Metro Blue Line currently serves Pacific Avenue. The Los Angeles Department of Transportation (LADOT) Commuter Express 142 currently serves Ocean Boulevard. In addition to the Metro routes, LBT Route 151 serves Broadway, 3rd Street, and Pacific Avenue; Route 121 serves Ocean Boulevard and Pacific Avenue; LBT Route 181, 191 and 192 serve Broadway, 3rd Street, and Magnolia Avenue; LBT Route 21, 22, 61, and Passport serve Pacific Avenue. **Figure 3-4** graphically illustrates the transit routes of Long Beach Transit within the vicinity of the Project site. **Figure 3-5** identifies the location of the existing LBT bus stops, including the downtown Long Beach Transit Mall on 1st Street between Pacific Avenue and Long Beach Boulevard, in proximity to the Project site. From the westerly edge of the Project site, the Long Beach Transit Mall that is located directly east of the civic center block across Pacific Avenue.

3.4 Existing Bicycle Master Plan

The City of Long Beach promotes bicycling as a means of mobility and a way in which to improve the quality of life within its community. The Bicycle Master Plan recognizes the needs of bicycle users and aims to create a complete and safe bicycle network throughout the City. The City of Long Beach Bicycle Facilities in the vicinity of the Project site (existing and proposed) is shown on **Figure 3-6**.

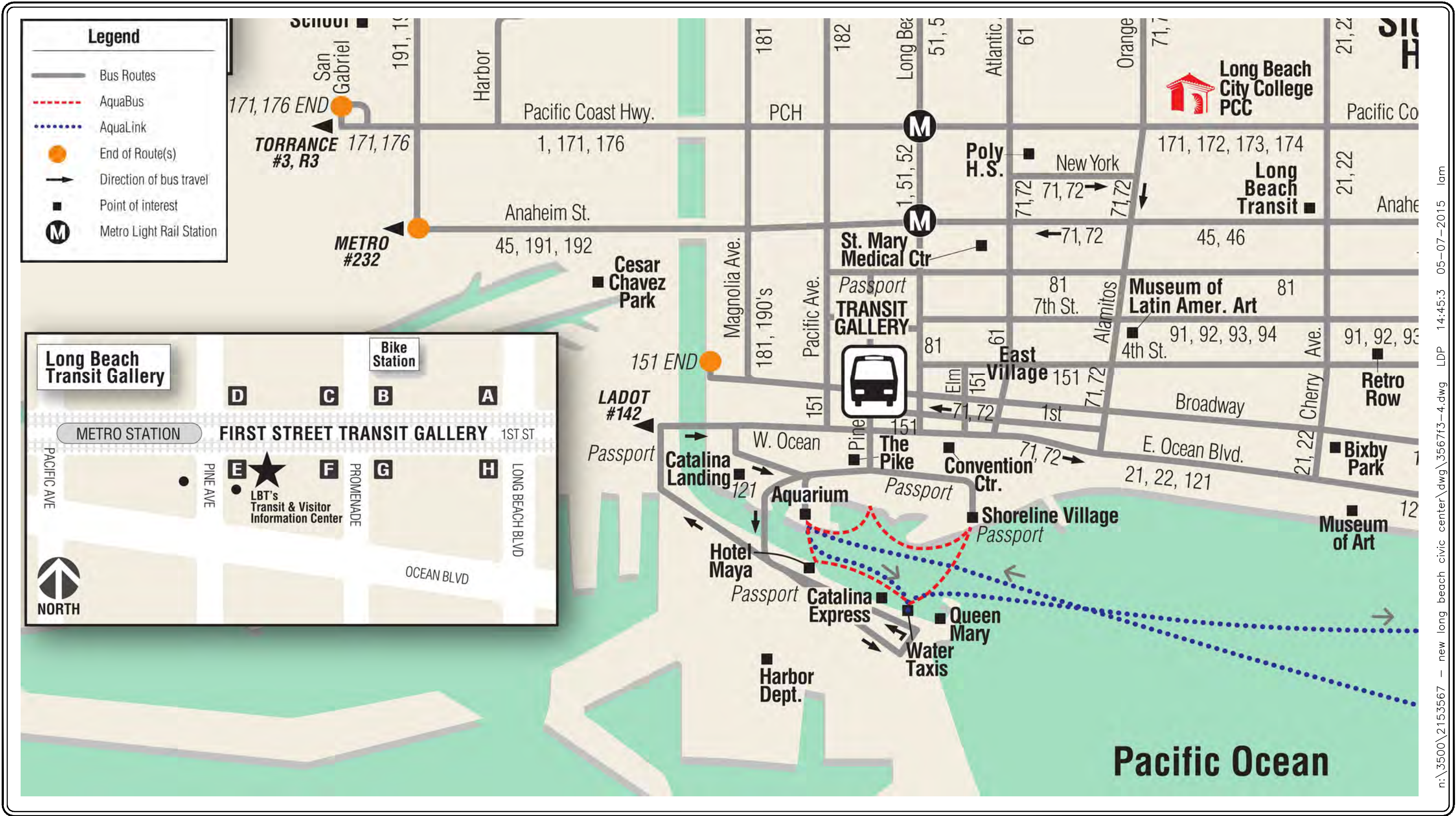
3.5 Existing Intersection Conditions

Existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the *Intersection Capacity Utilization* (ICU) methodology for signalized intersections.

3.5.1 *Intersection Capacity Utilization (ICU) Method of Analysis*

In conformance with City of Long Beach and LA County CMP requirements, existing weekday peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per LA County CMP requirements, the ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left-turn, through, and right-turn lanes, and dual left turn capacity of 2,880 vph. A clearance interval is also added to each Level of Service calculation. Per City of Long Beach requirements, clearance intervals are based on the number of phases in the intersection and whether the left turning movements are all fully protected or whether some of them are permitted with other



Legend

- Bus Routes
- AquaBus
- AquaLink
- End of Route(s)
- Direction of bus travel
- Point of interest
- Metro Light Rail Station

Long Beach Transit Gallery

FIRST STREET TRANSIT GALLERY

METRO STATION

PACIFIC AVE

PINE AVE

OCEAN BLVD

LONG BEACH BLVD

1ST ST

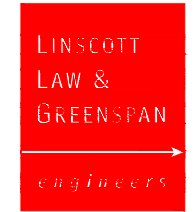
Bike Station

LBT's Transit & Visitor Information Center

North arrow

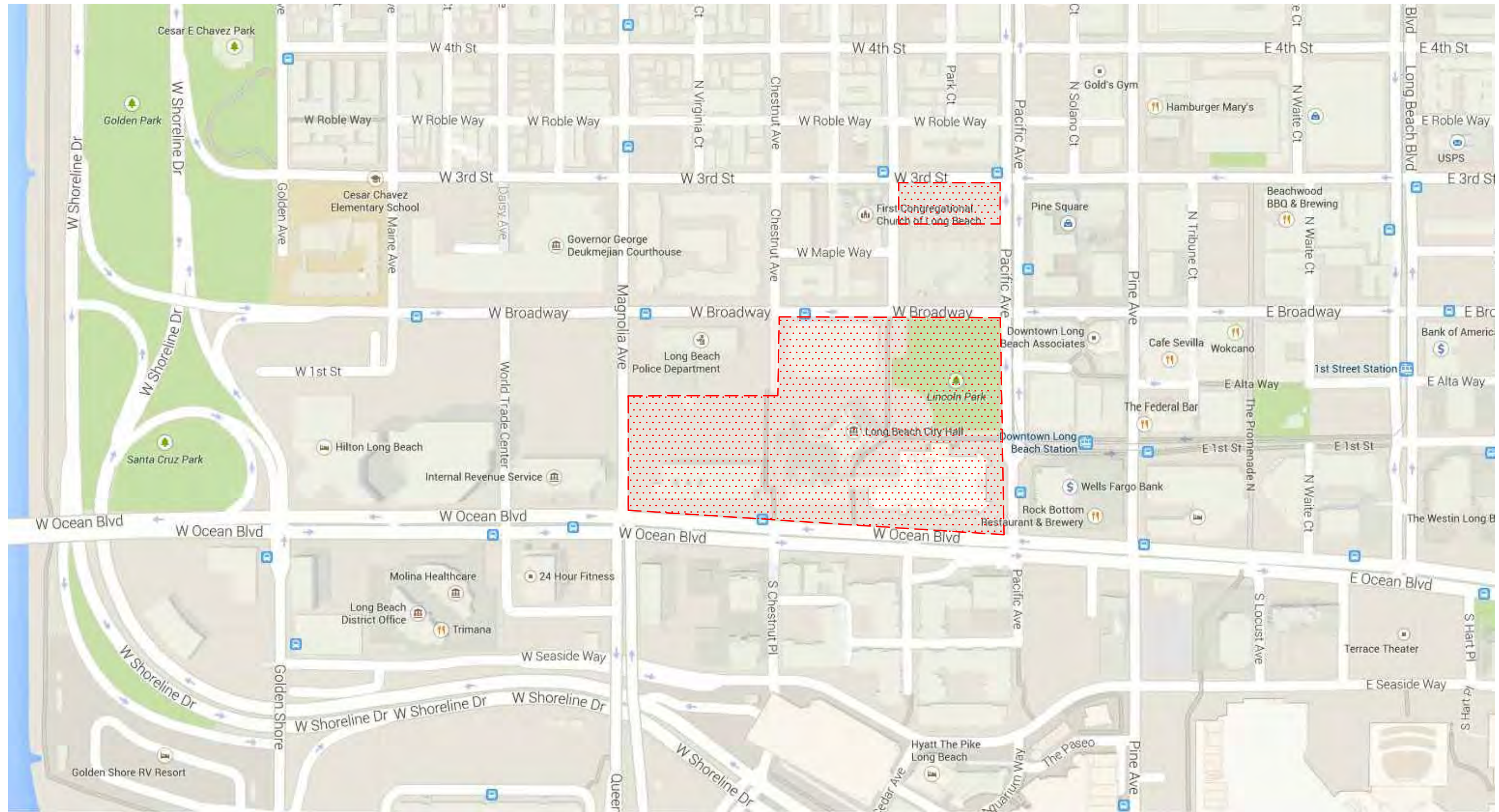
SOURCE: LONG BEACH TRANSIT

FIGURE 3-4

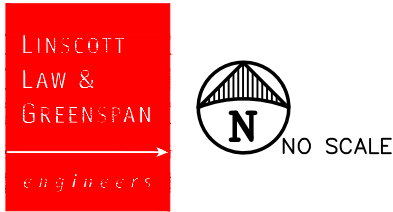


LONG BEACH TRANSIT MAP
NEW LONG BEACH CIVIC CENTER, LONG BEACH

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SOURCE: GOOGLE
KEY
 = PROJECT SITE
 = TRANSIT STOP

FIGURE 3-5

TRANSIT STOP LOCATIONS
NEW LONG BEACH CIVIC CENTER, LONG BEACH



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SOURCE: CITY OF LONG BEACH


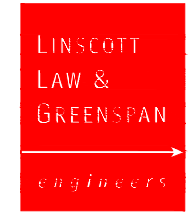
KEY
 = PROJECT SITE

FIGURE 3-6

LONG BEACH BIKEWAY FACILITIES
 NEW LONG BEACH CIVIC CENTER, LONG BEACH



left-turn movements being protected. **Table 3-1** shows the clearance intervals used in the analysis of the key study intersections within the City of Long Beach.

The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in **Table 3-2**. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements.

3.5.2 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

The 2000 HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the key unsignalized intersections. This methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. For all-way stop controlled intersections, the overall average control delay measured in seconds per vehicle, and level of service is then calculated for the entire intersection. For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach. The HCM control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in **Table 3-3**.

3.5.3 *Level of Service Criteria*

According to the City of Long Beach, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours, or the current LOS if the existing LOS is worse than LOS D (i.e. LOS E or F).

3.6 Existing Level of Service Results

Table 3-4 summarizes the existing peak hour service level calculations for the ten (10) key study intersections based on existing traffic volumes and current street geometrics. Review of **Table 3-4** indicates that all ten (10) key study intersections currently operate at LOS C or better during the weekday AM and PM peak hours.

Appendix B contains the detailed peak hour count sheets for the key intersections evaluated in this report

TABLE 3-1
CITY OF LONG BEACH CLEARANCE INTERVALS¹

Number of Signal Phases	Left-turn Phasing Type	Clearance Interval (Percent)
2	Permitted	10%
3	Protected and Permitted	12%
3	Fully Protected	15%
4	Protected and Permitted	14%
4	Fully Protected	18%

¹ Source: *City of Long Beach Guidelines for Signalized Intersection Analysis, 2004.*

TABLE 3-2
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	≤ 0.600	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.601 – 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 – 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 – 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

TABLE 3-3
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

TABLE 3-4
EXISTING PEAK HOUR LEVELS OF SERVICE

Key Intersections		Time Period	Control Type	ICU/HCM	LOS
1.	Magnolia Avenue at	AM	2Ø Traffic	0.502	A
	Broadway	PM	Signal	0.570	A
2.	Chestnut Avenue at	AM	3Ø Traffic	0.432	A
	Broadway	PM	Signal	0.553	A
3.	Cedar Avenue at	AM	3Ø Traffic	0.432	A
	Broadway	PM	Signal	0.531	A
4.	Pacific Avenue at	AM	3Ø Traffic	0.478	A
	Broadway	PM	Signal	0.663	B
5.	Magnolia Avenue at	AM	3Ø Traffic	0.770	C
	Ocean Boulevard	PM	Signal	0.730	C
6.	Chestnut Avenue at	AM	2Ø Traffic	0.564	A
	Ocean Boulevard	PM	Signal	0.595	A
7.	Cedar Avenue at	AM	One- Way	9.7 s/v	A
	Ocean Boulevard	PM	Stop	17.2 s/v	C
8.	Pacific Avenue at	AM	6Ø Traffic	0.689	B
	Ocean Boulevard	PM	Signal	0.559	A
9.	Pacific Avenue at	AM	3Ø Traffic	0.569	A
	3 rd Street	PM	Signal	0.430	A
10.	Pacific Avenue at	AM	3Ø Traffic	0.302	A
	1 st Street	PM	Signal	0.336	A

Notes:

- ICU = Intersection Capacity Utilization
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-2* and *3-3* for the LOS definitions
- Ø = Phase

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the Ninth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2012].

Trip generation rates/equations for ITE Land Use 230: Residential Condominium/Townhouse, ITE Land Use 310: Hotel, ITE Land Use 411: City Park, ITE Land Use 590: Library, ITE Land Use 710: General Office Building, ITE Land Use 820: Shopping Center and ITE Land Use 932: High-Turnover (Sit Down) Restaurant have been applied appropriately to the existing development and proposed Project uses.

As shown in the upper half of **Table 5-1**, the proposed Project is forecast to generate 18,582 daily trips, with 1,185 trips (795 inbound, 390 outbound) produced in the AM peak hour and 1,668 trips (693 inbound, 975 outbound) produced in the PM peak hour on a typical weekday.

For the existing land use, a review of lower portion of *Table 5-1* shows the existing trip generation potential of the current civic center (i.e. City Hall office tower, Main Library and Lincoln Park) totals 7,659 daily trips, with 514 trips (418 inbound, 96 outbound) produced in the AM peak hour and 1,116 trips (446 inbound, 670 outbound) produced in the PM peak hour.

Comparison of the trips generated by the proposed Project to the trip generation potential of the Existing Land Use shows that the implementation of the proposed Project will result in an additional 10,923 daily trips, 671 net AM peak hour trips and 552 net PM peak hour trips. The potential traffic impact of these added trips are assessed in this report.

5.2 Downtown Plan Land Use Trip Generation Comparison

As mentioned previously, the *Long Beach Downtown Community Plan EIR Traffic Impact Analysis, dated February 4, 2010, prepared by Iteris*, and *Downtown Plan Draft Program Environmental Impact Report (Downtown Plan Draft PEIR), dated December 2010, prepared by AECOM* assumed development of up to 800 residential units, 460,000 SF of office/commercial floor area, 64,000 SF of retail space and 16,000 SF of restaurant uses for the Civic Center area in the Downtown Community Plan traffic analysis.

As shown in **Table 5-2**, the trip generation potential of mix of uses assumed for the Civic Center totals generate 16,998 daily trips, with 1,036 trips (623 inbound, 413 outbound) produced in the AM peak hour, and 1,132 trips (489 inbound, 643 outbound) produced in the PM peak hour.

A comparison of the trips generated by the proposed Project to the trips generated by the mix of uses assumed in the Downtown Plan shows that that the implementation of the proposed Project will result in 6,075 fewer daily trips, 365 fewer AM peak hour trips, and 580 fewer PM peak hour trips.

**TABLE 5-1
PROJECT TRIP GENERATION FORECAST²**

No.	Name	Description	Land Use	Sub Land Use	ITE Code	Units	Data Type	Size	Rates						Trips							
									AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour				
									Daily	Enter	Exit	Total	Enter	Exit	Total	Daily	Enter	Exit	Total	Enter	Exit	Total
Proposed Project Trip Generation																						
1	Third & Pacific Block	Apartment	Residential	Residential Condominium/Townhouse	230	Dwelling Units	Equation	200	5.88	17%	83%	0.45	67%	33%	0.53	1,176	15	75	90	71	35	106
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
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												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
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												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
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												0.26			0.26	0	-4	-19	-23	-18	-10	-28
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												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
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												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18	-10	-28
												0.26			0.26	0	-4	-19	-23	-18		

5.3 Project Traffic Distribution and Assignment

Figure 5-1 illustrates the general, directional traffic distribution pattern for the existing civic center uses, whereas *Figure 5-2A*, *Figure 5-2B*, *Figure 5-2C*, *Figure 5-2D* and *Figure 5-2E* present the trip distribution patterns for various components of the proposed Project. Project traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- location of site access points in relation to the surrounding street system,
- the site's proximity to major traffic carriers and regional access routes,
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns,
- presence of traffic congestion in the surrounding vicinity, and
- ingress/egress availability at the Project's parking structures, including turn restrictions to and from Ocean Boulevard.

The AM and PM peak hour traffic volumes associated with the current civic center uses are presented in *Figures 5-3* and *5-4*, respectively. The anticipated AM and PM peak hour project traffic volumes associated with the proposed Project are presented in *Figures 5-5* and *5-6*, respectively. The traffic volume assignments presented in *Figures 5-3* and *5-4* reflect the traffic distribution characteristics for the existing development as shown in *Figure 5-1* and the traffic generation potential presented in *Table 5-1 (Row B)*.

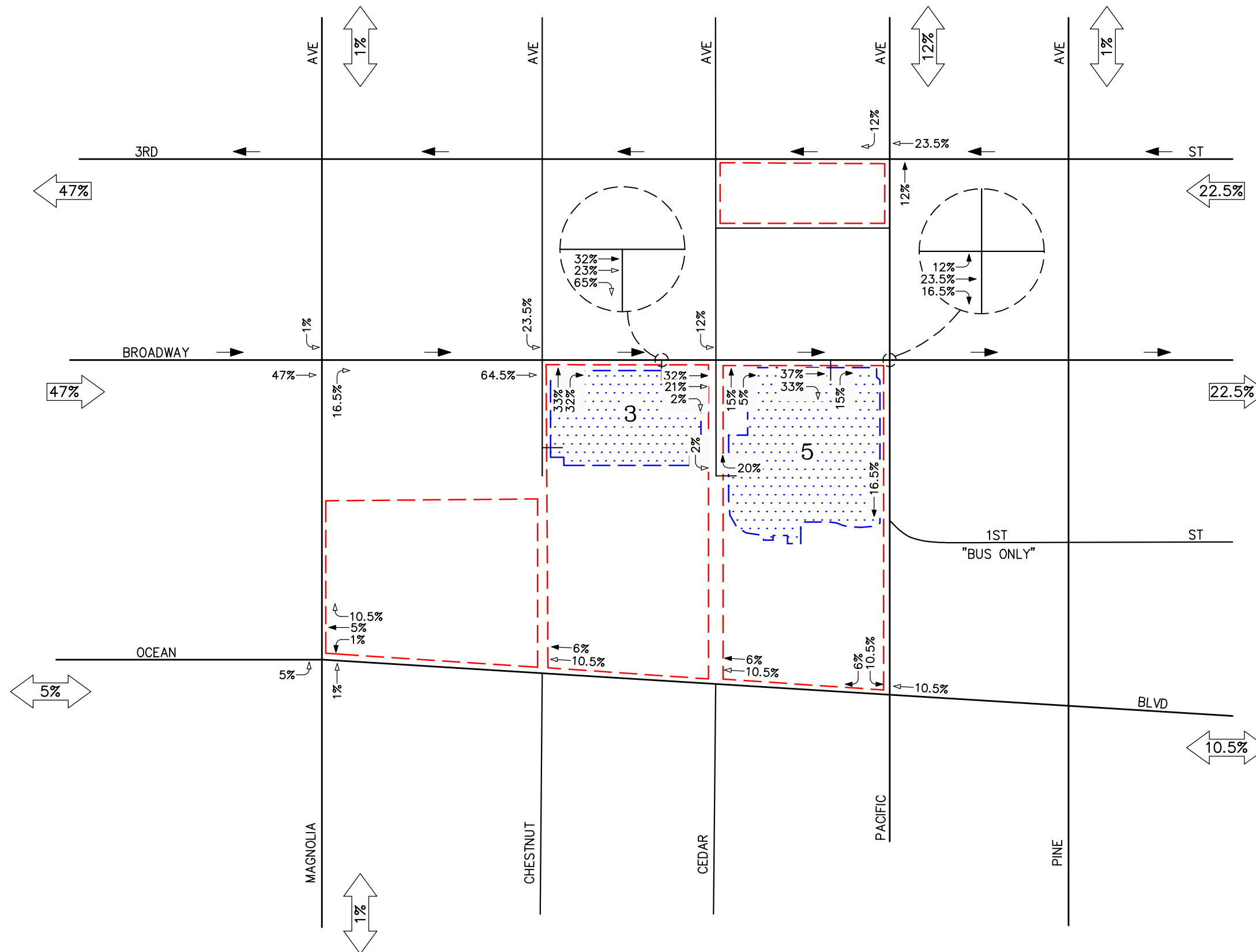
The Project's traffic volume forecasts illustrated in *Figures 5-5* and *5-6* reflect the traffic distribution characteristics of the proposed Project as shown in *Figures 5-2A through 5-2E* and the Project traffic generation potential presented in *Table 5-1 (Row C)*.

It should be noted that the trip generation methodology and forecasts were approved by City staff prior to proceeding with further analyses.

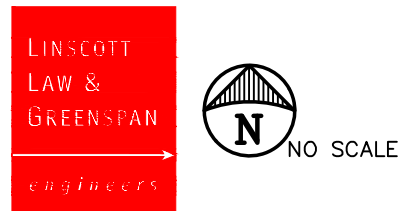
5.4 Existing Plus Project Traffic Conditions

The existing plus project traffic conditions have been generated based upon existing conditions and the estimated project traffic. These forecast traffic conditions have been prepared pursuant to the California Environmental Quality Act (CEQA) guidelines, which require that the potential impacts of a Project be evaluated upon the circulation system as it currently exists. This traffic volume scenario and the related intersection capacity analyses will identify the roadway improvements necessary to mitigate the direct traffic impacts of the Project, if any.

Figures 5-7 and *5-8* present projected AM and PM peak hour traffic volumes at the ten (10) key study intersections with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively.

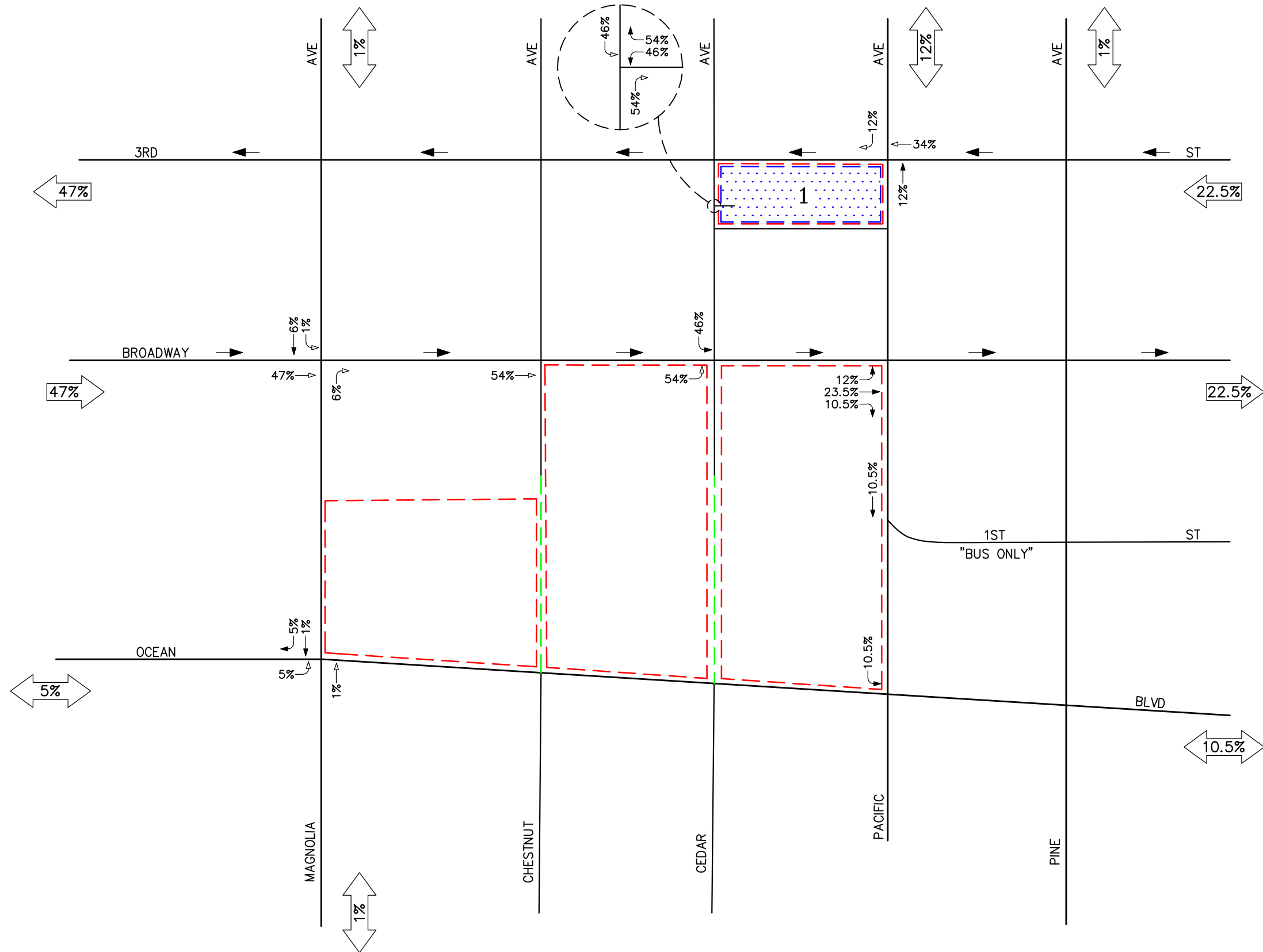


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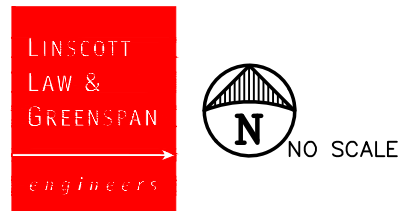


- KEY
- ← = INBOUND PERCENTAGE
 - = OUTBOUND PERCENTAGE
 - [Red Dotted Box] = PROJECT SITE
 - [Blue Dotted Box] = PROJECT AREA

FIGURE 5-1
EXISTING CIVIC CENTER
TRAFFIC DISTRIBUTION PATTERN
 NEW LONG BEACH CIVIC CENTER, LONG BEACH

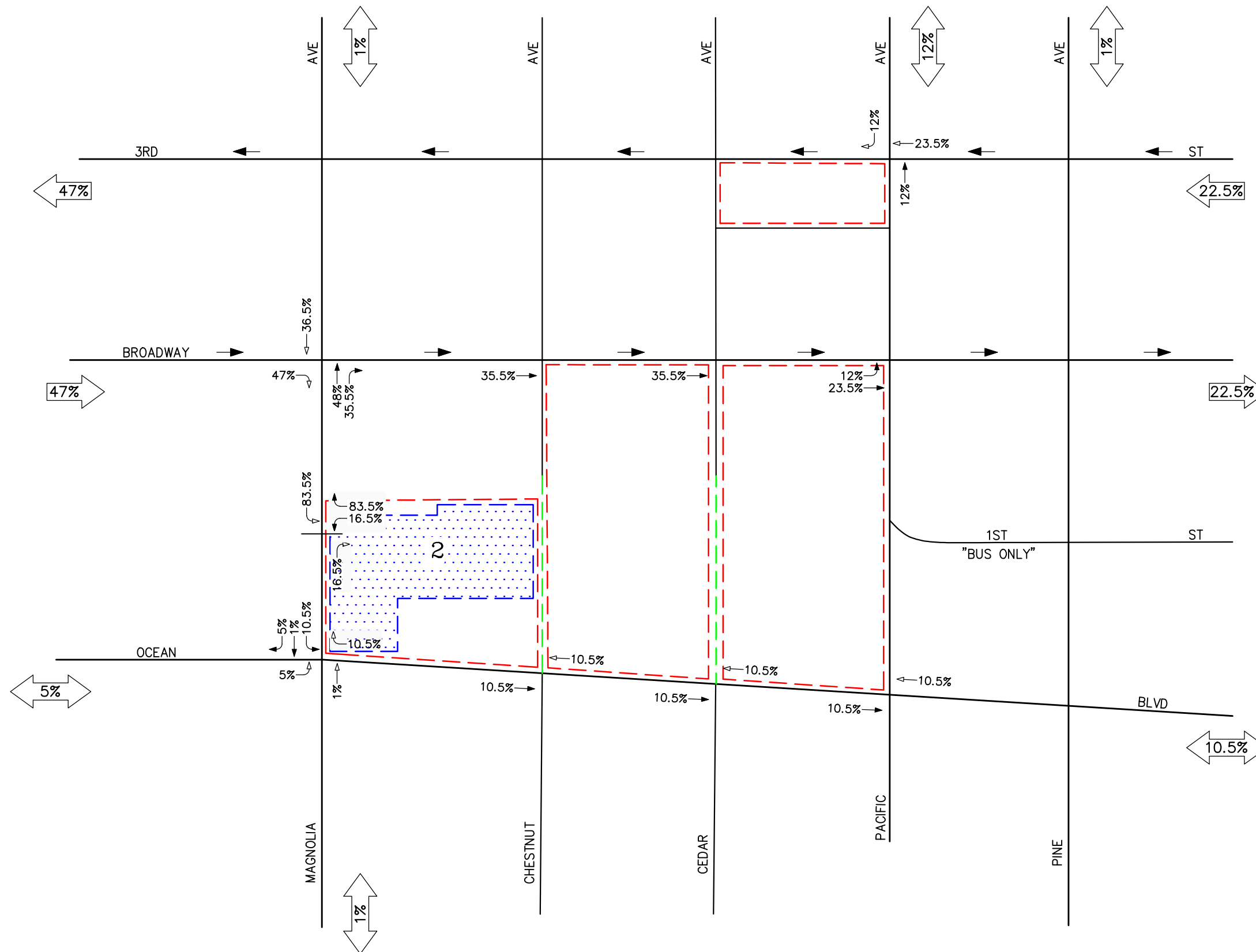


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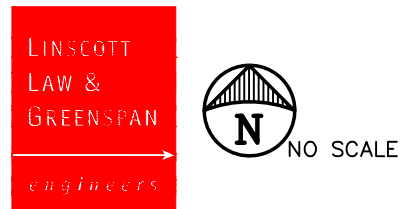


- KEY
- ← = INBOUND PERCENTAGE
 - = OUTBOUND PERCENTAGE
 - [Red Dashed Box] = PROJECT SITE
 - [Blue Dotted Box] = PROJECT AREA
 - [Green Dashed Line] = FUTURE ROAD

FIGURE 5-2A
THIRD & PACIFIC BLOCK
PROJECT TRAFFIC DISTRIBUTION PATTERN
 NEW LONG BEACH CIVIC CENTER, LONG BEACH



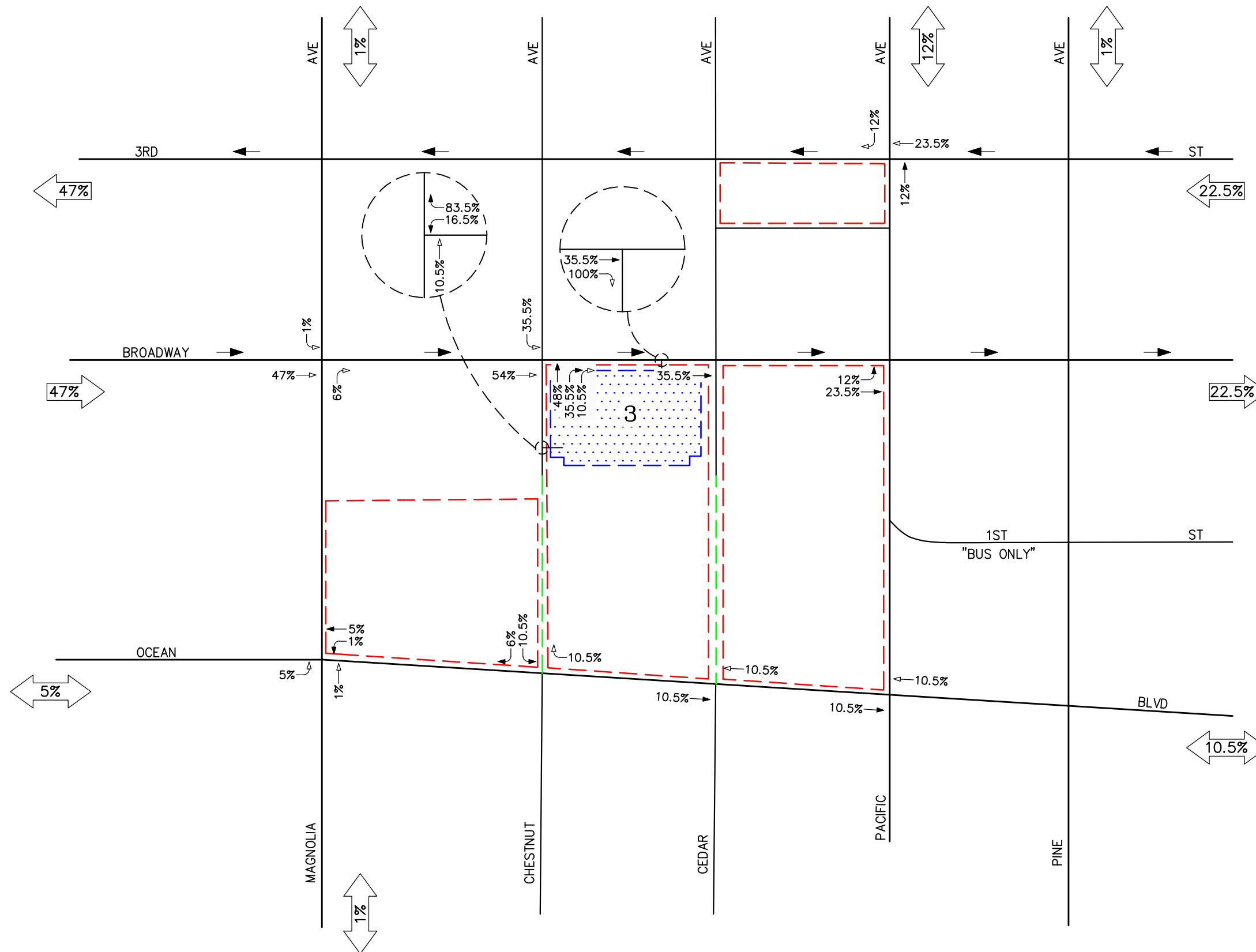
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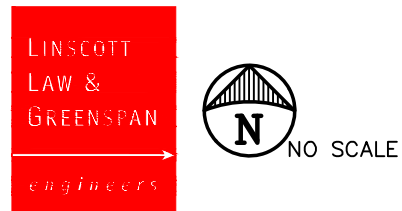
- KEY
- ← = INBOUND PERCENTAGE
 - = OUTBOUND PERCENTAGE
 - [Red Dashed Box] = PROJECT SITE
 - [Blue Dotted Box] = PROJECT AREA
 - [Green Dashed Line] = FUTURE ROAD

FIGURE 5-2B

CIVIC BLOCK
PROJECT TRAFFIC DISTRIBUTION PATTERN
NEW LONG BEACH CIVIC CENTER, LONG BEACH



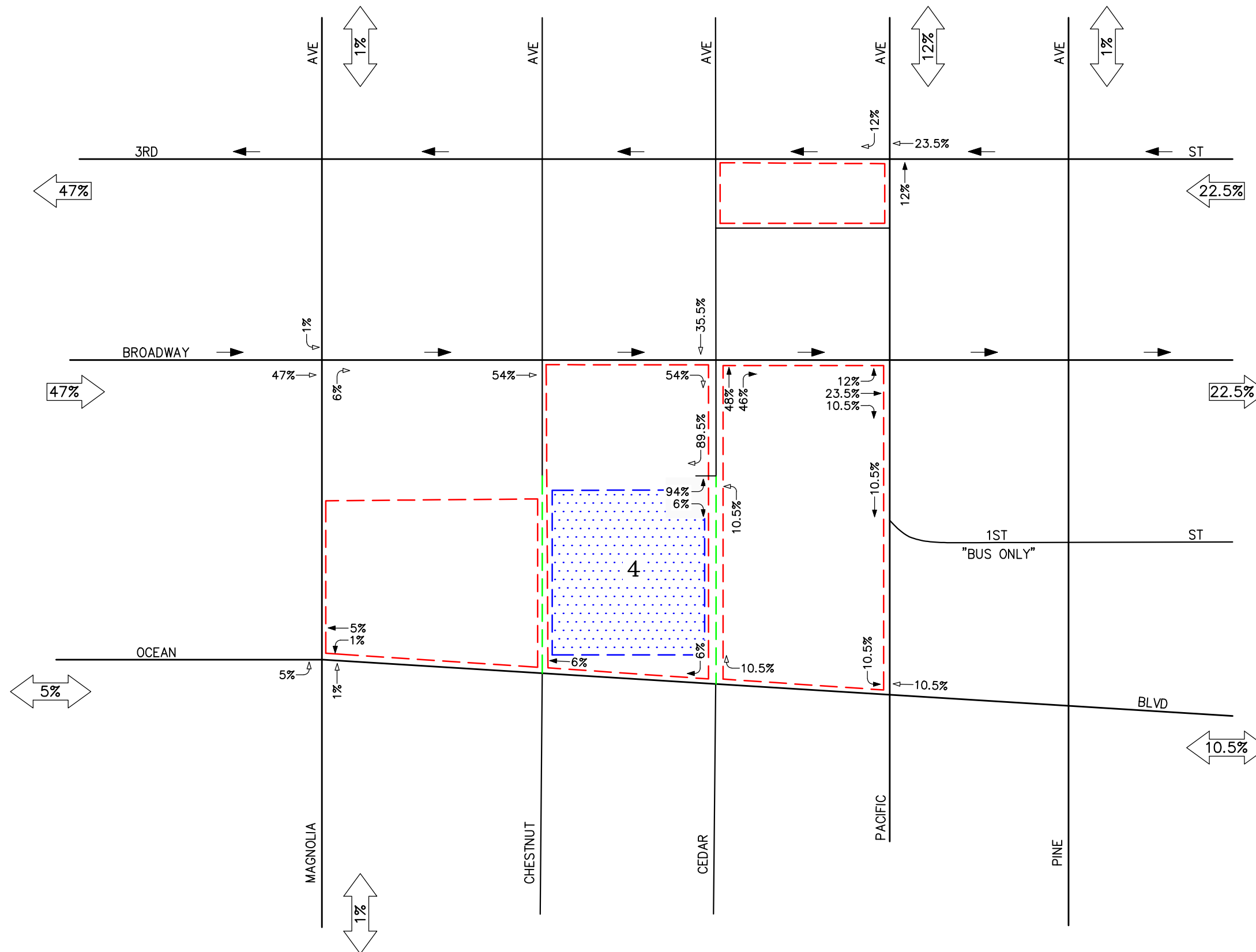
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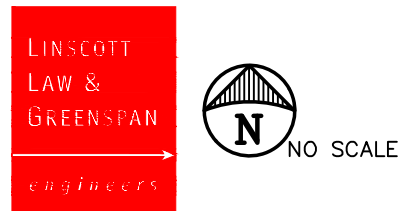
- KEY**
- ← = INBOUND PERCENTAGE
 - = OUTBOUND PERCENTAGE
 - [Red dashed box] = PROJECT SITE
 - [Blue hatched box] = PROJECT AREA
 - [Green dashed line] = FUTURE ROAD

FIGURE 5-2C

**CENTER BLOCK BROADWAY GARAGE
PROJECT TRAFFIC DISTRIBUTION PATTERN
NEW LONG BEACH CIVIC CENTER, LONG BEACH**



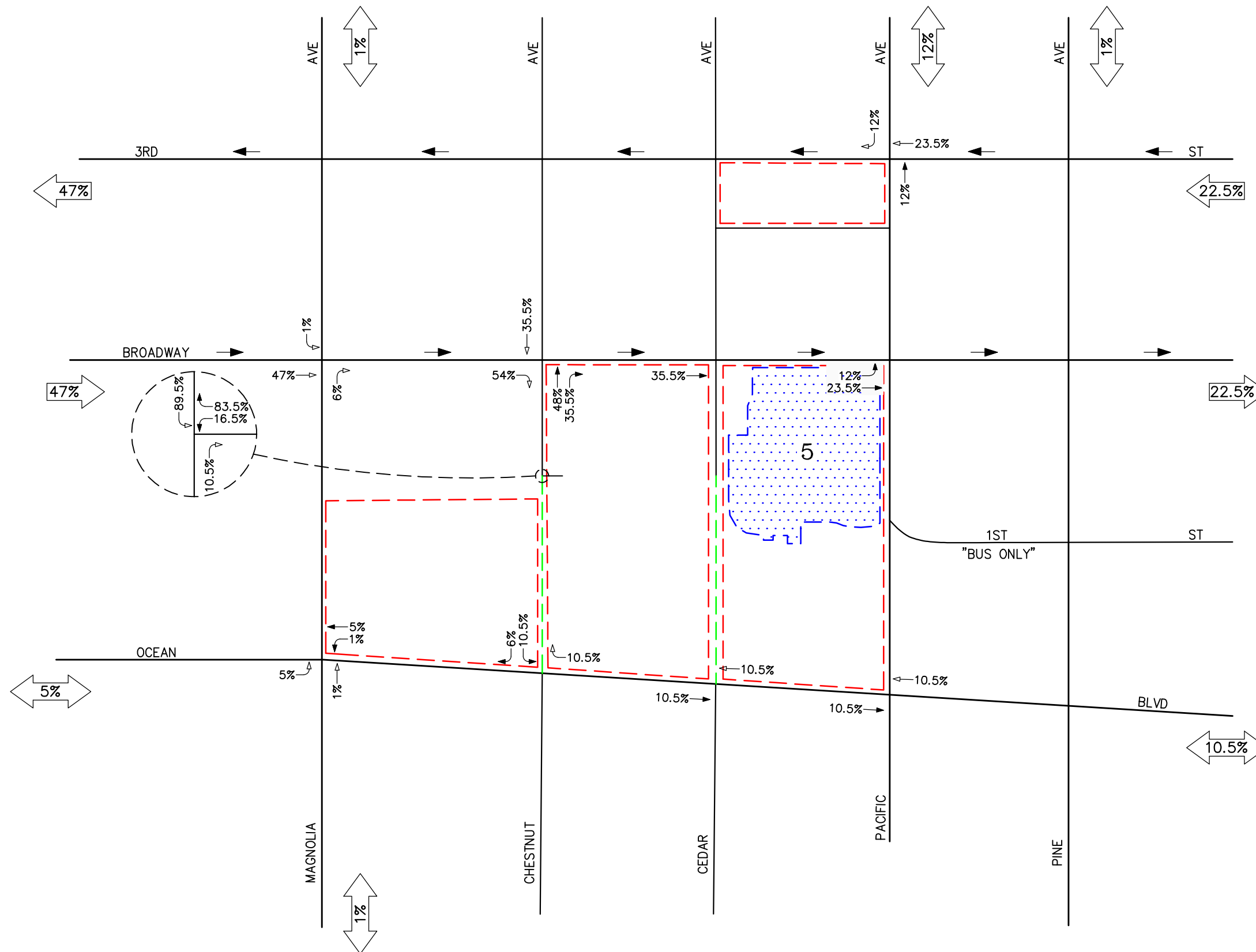
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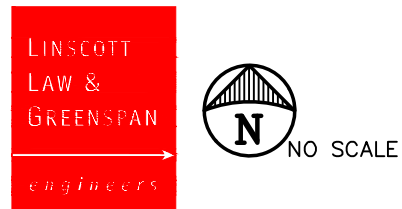
- KEY**
- ← = INBOUND PERCENTAGE
 - = OUTBOUND PERCENTAGE
 - [Red dashed box] = PROJECT SITE
 - [Blue grid pattern] = PROJECT AREA
 - [Dashed green line] = FUTURE ROAD

FIGURE 5-2D

**CENTER BLOCK COMMERCIAL GARAGE
PROJECT TRAFFIC DISTRIBUTION PATTERN
NEW LONG BEACH CIVIC CENTER, LONG BEACH**

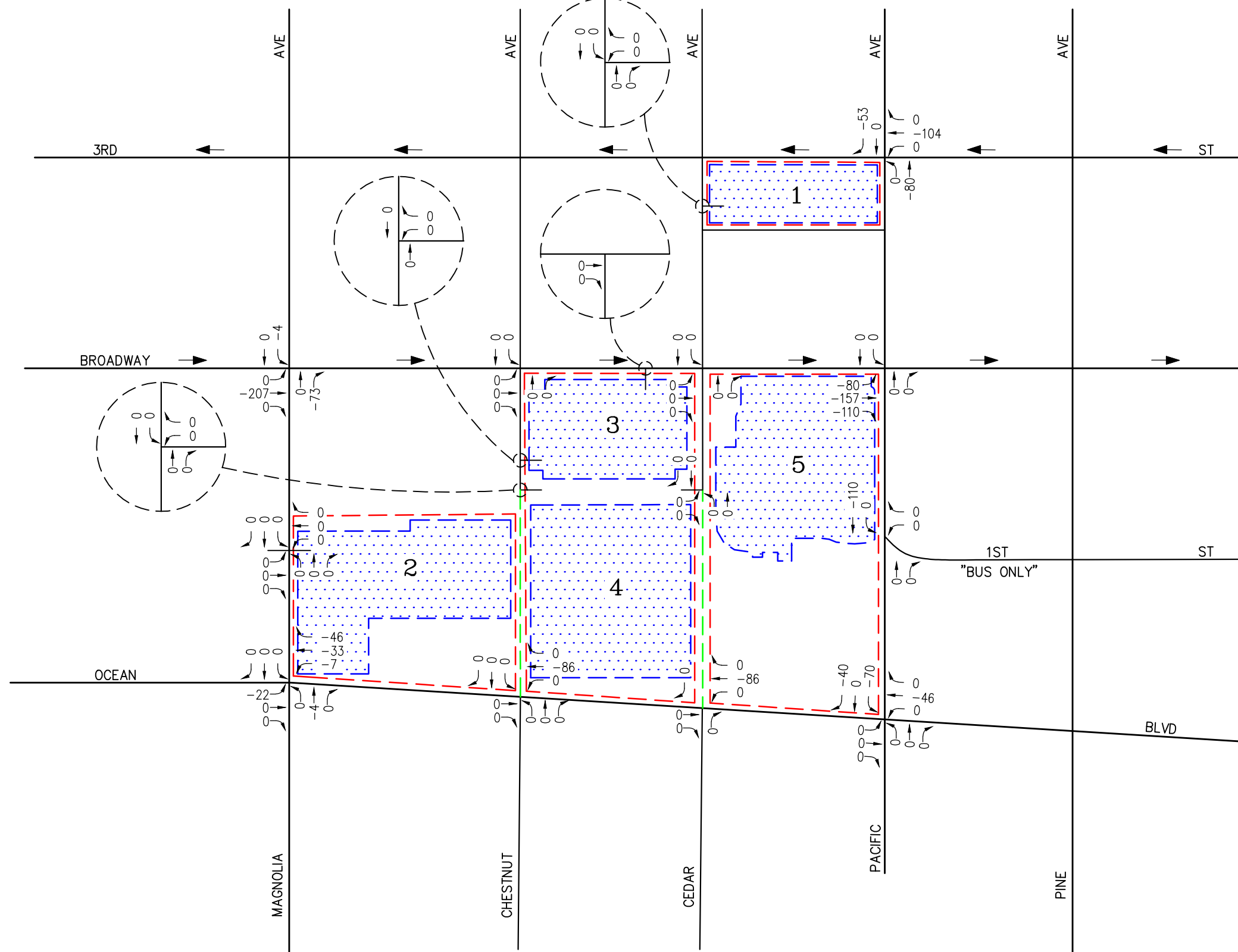


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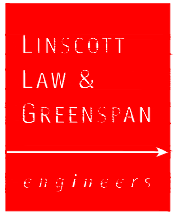


- KEY**
- ← = INBOUND PERCENTAGE
 - = OUTBOUND PERCENTAGE
 - ▭ (red dashed) = PROJECT SITE
 - ▭ (blue dotted) = PROJECT AREA
 - ▭ (green dashed) = FUTURE ROAD

FIGURE 5-2E
LINCOLN PARK BLOCK
PROJECT TRAFFIC DISTRIBUTION PATTERN
 NEW LONG BEACH CIVIC CENTER, LONG BEACH



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


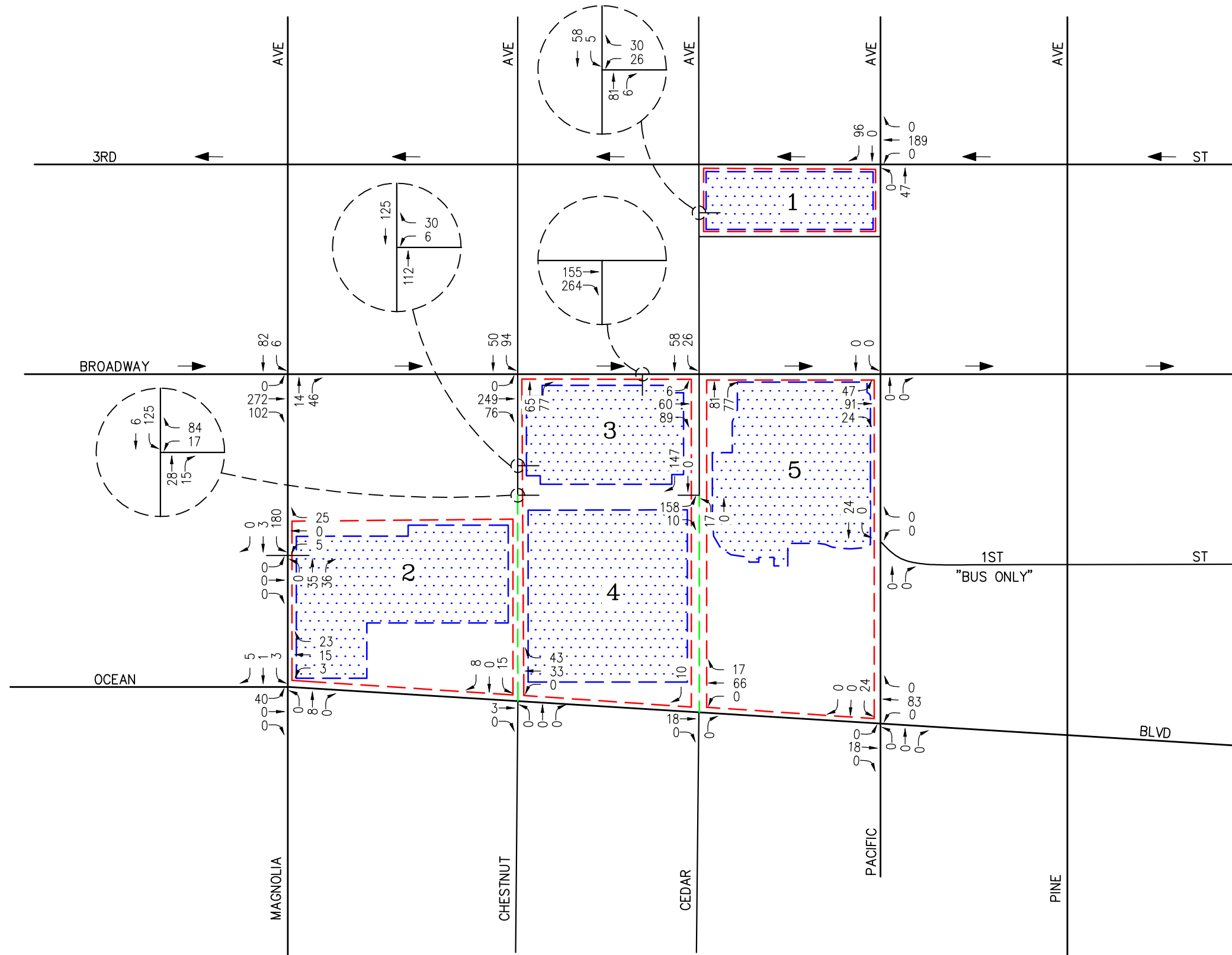
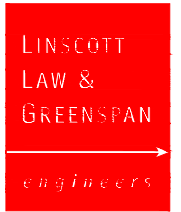
KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
	= FUTURE ROAD
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 5-4
PM PEAK HOUR
EXISTING CIVIC CENTER TRAFFIC VOLUMES
 NEW LONG BEACH CIVIC CENTER, LONG BEACH



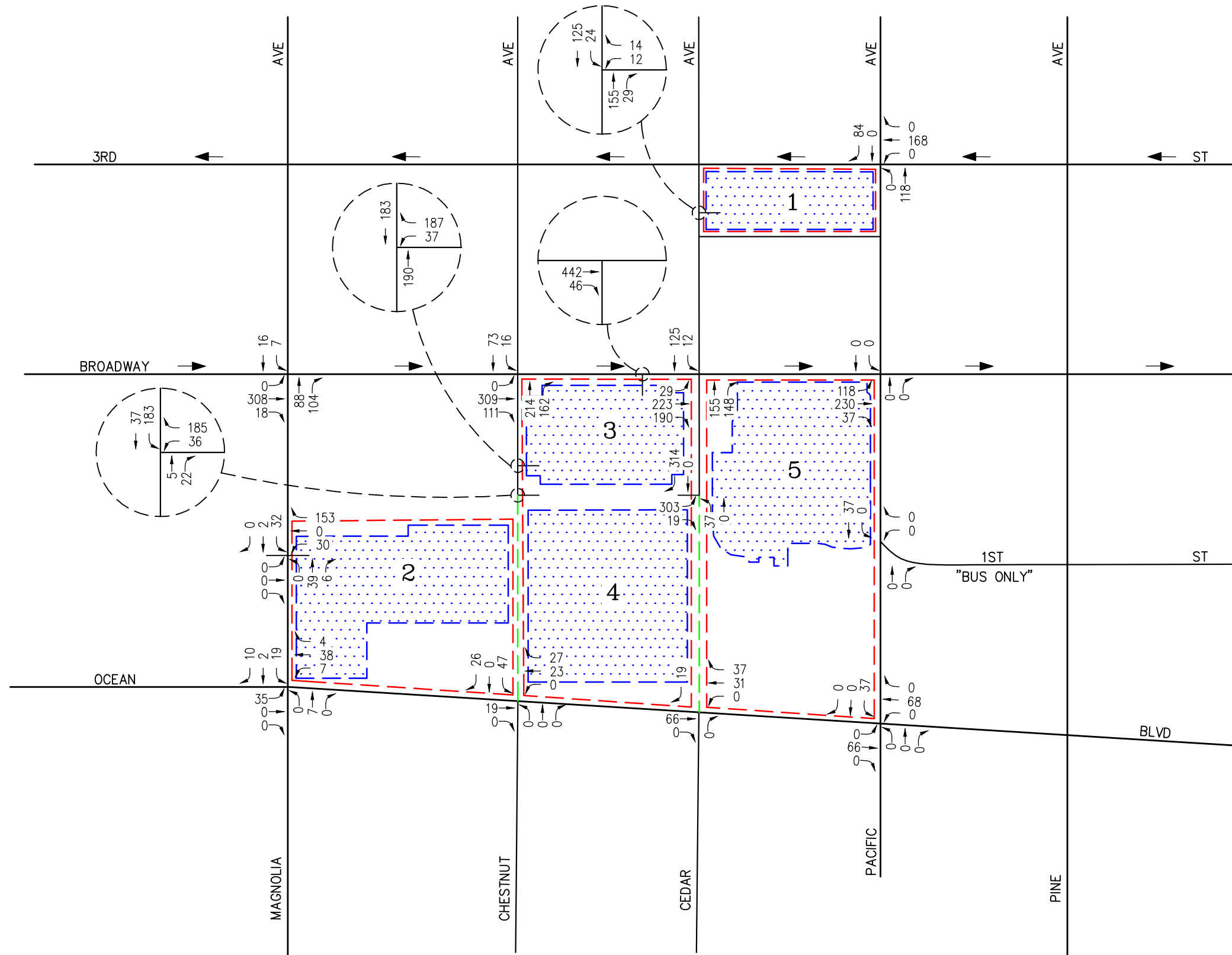
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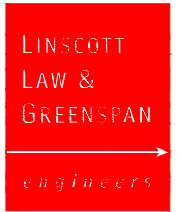
KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
	= FUTURE ROAD
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 5-5

AM PEAK HOUR PROJECT TRAFFIC VOLUMES
NEW LONG BEACH CIVIC CENTER, LONG BEACH



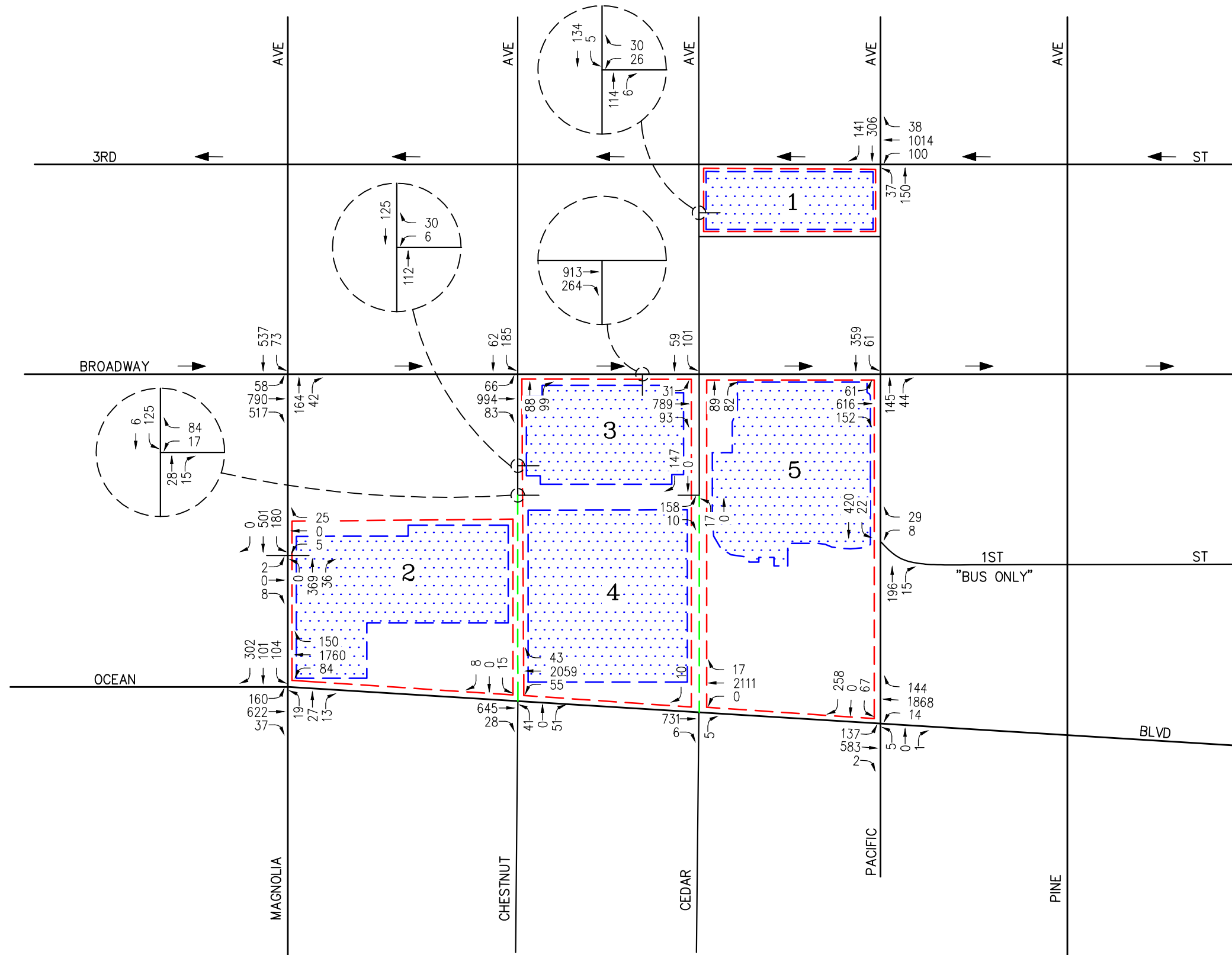
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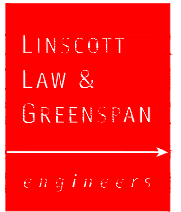
KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
	= FUTURE ROAD
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 5-6

PM PEAK HOUR PROJECT TRAFFIC VOLUMES
NEW LONG BEACH CIVIC CENTER, LONG BEACH

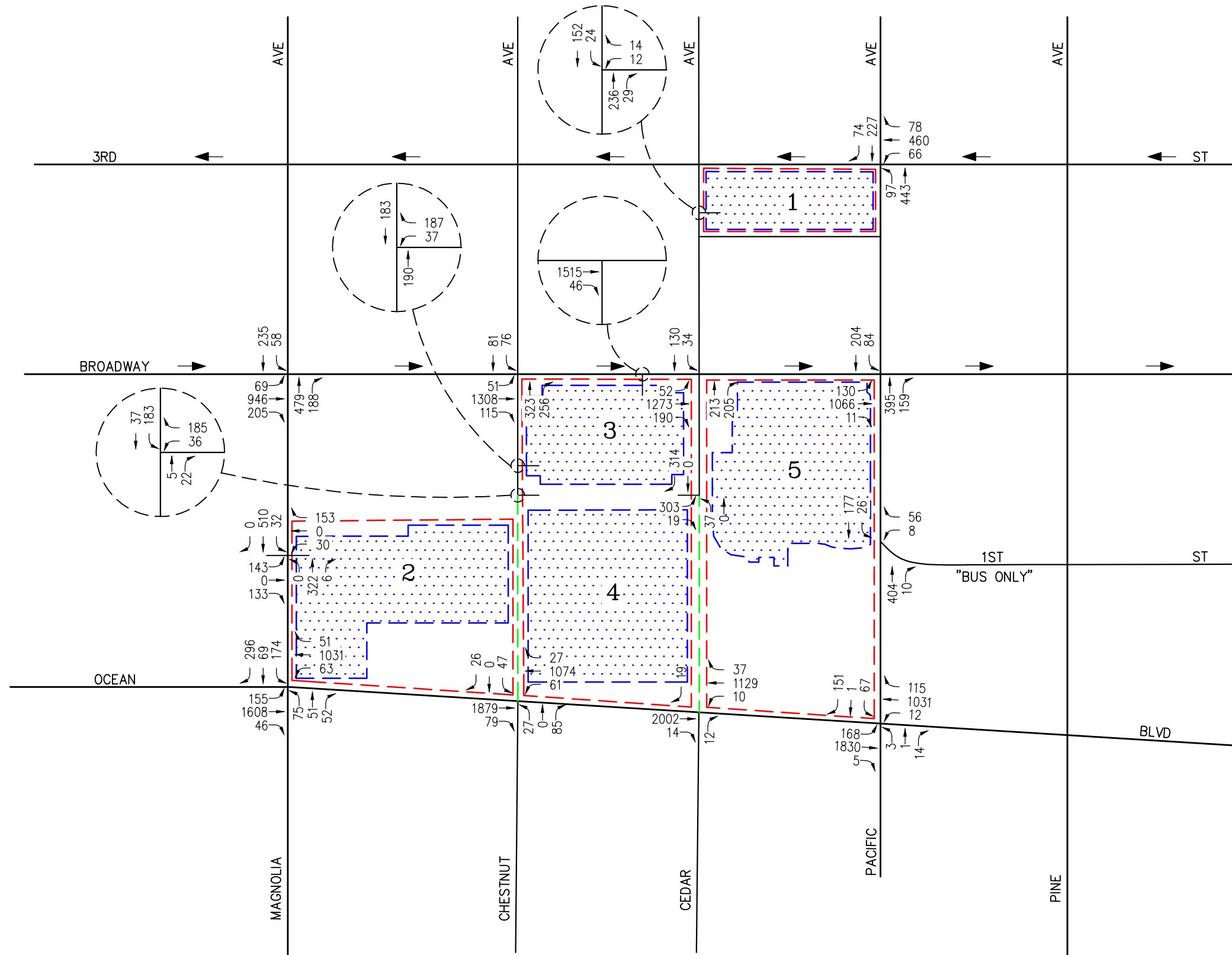


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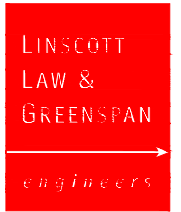


KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
	= FUTURE ROAD
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 5-7
EXISTING PLUS PROJECT
AM PEAK HOUR TRAFFIC VOLUMES
 NEW LONG BEACH CIVIC CENTER, LONG BEACH



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KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
	= FUTURE ROAD
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 5-8
EXISTING PLUS PROJECT
PM PEAK HOUR TRAFFIC VOLUMES
 NEW LONG BEACH CIVIC CENTER, LONG BEACH

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Ambient Traffic Growth

Cumulative traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at one percent (1%) per year. Applied to existing Year 2015 traffic volumes results in a five percent (5%) increase of growth in existing volumes to horizon year 2020.

Please note that the recommended ambient growth factor is generally consistent with the background traffic growth estimates contained in the most current *Congestion Management Program for Los Angeles County*. It should be further noted that the 1.0% per year ambient growth factor was approved by City of Long Beach staff.

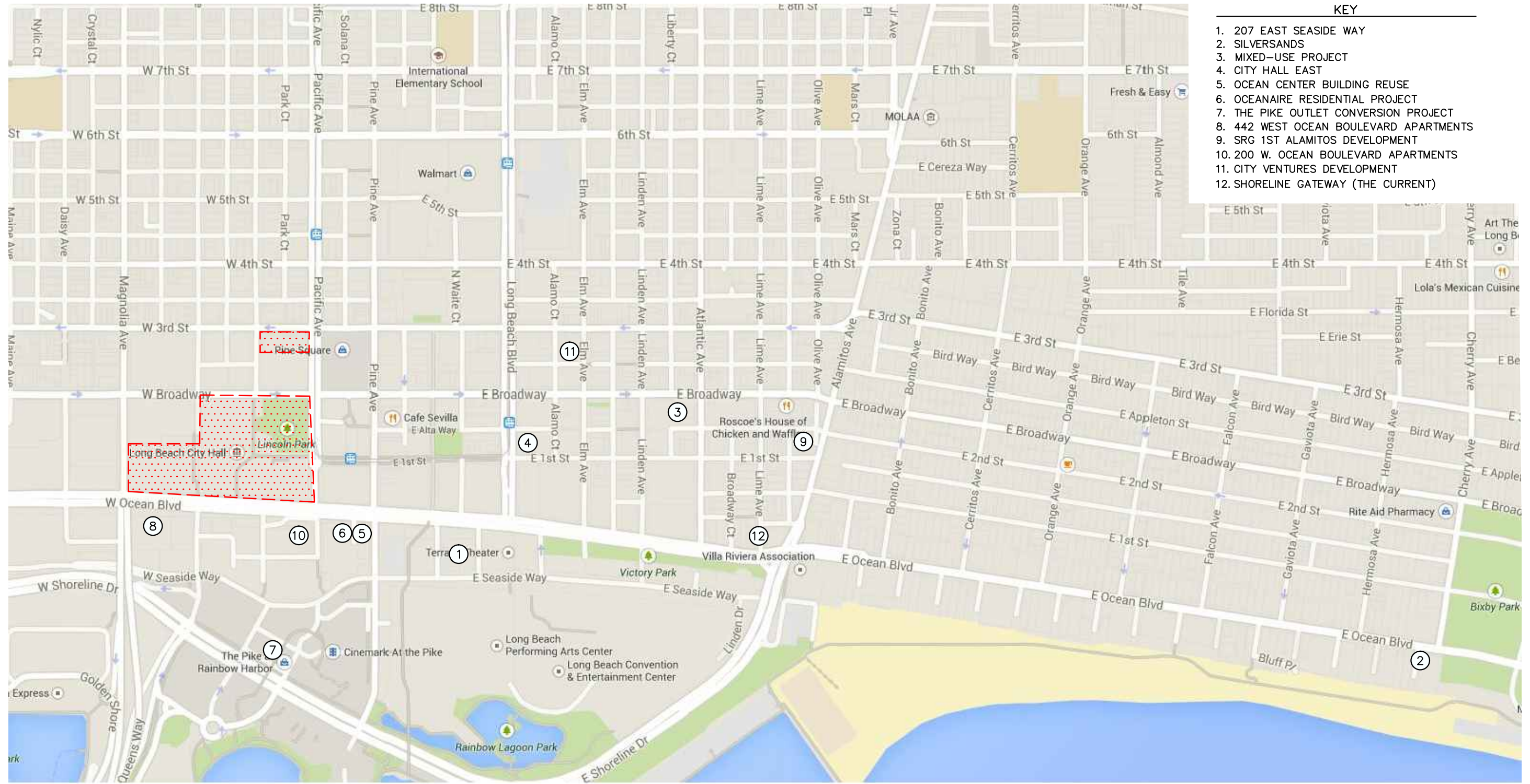
6.2 Cumulative Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (cumulative projects) in the area has been researched. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. Based on our research, there are twelve (12) cumulative projects within a two-mile radius of the project site that are located in the City of Long Beach. These cumulative projects have either been built, but not yet fully occupied, or are being processed for approval and have been included as part of the cumulative background setting.

Table 6-1 provides the location and a brief description for each of the twelve (12) cumulative projects. **Figure 6-1** graphically illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

Table 6-2 presents the development totals and resultant trip generation for the twelve (12) cumulative projects. As shown in **Table 6-2**, the twelve (12) cumulative projects are expected to generate a combined total of 14,732 daily trips, 891 AM peak hour trips (251 inbound and 640 outbound) and 1,306 PM peak hour trips (761 inbound and 545 outbound) on a typical weekday.

The AM and PM peak hour traffic volumes associated with the twelve (12) cumulative projects are presented in **Figures 6-2** and **6-3** respectively.



- KEY**
1. 207 EAST SEASIDE WAY
 2. SILVERSANDS
 3. MIXED-USE PROJECT
 4. CITY HALL EAST
 5. OCEAN CENTER BUILDING REUSE
 6. OCEANAIRE RESIDENTIAL PROJECT
 7. THE PIKE OUTLET CONVERSION PROJECT
 8. 442 WEST OCEAN BOULEVARD APARTMENTS
 9. SRG 1ST ALAMITOS DEVELOPMENT
 10. 200 W. OCEAN BOULEVARD APARTMENTS
 11. CITY VENTURES DEVELOPMENT
 12. SHORELINE GATEWAY (THE CURRENT)

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SOURCE: GOOGLE

- KEY**
- ⊕ = CUMULATIVE PROJECT LOCATION
 - ▨ = PROJECT SITE

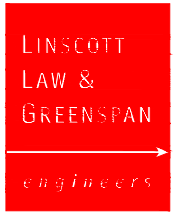
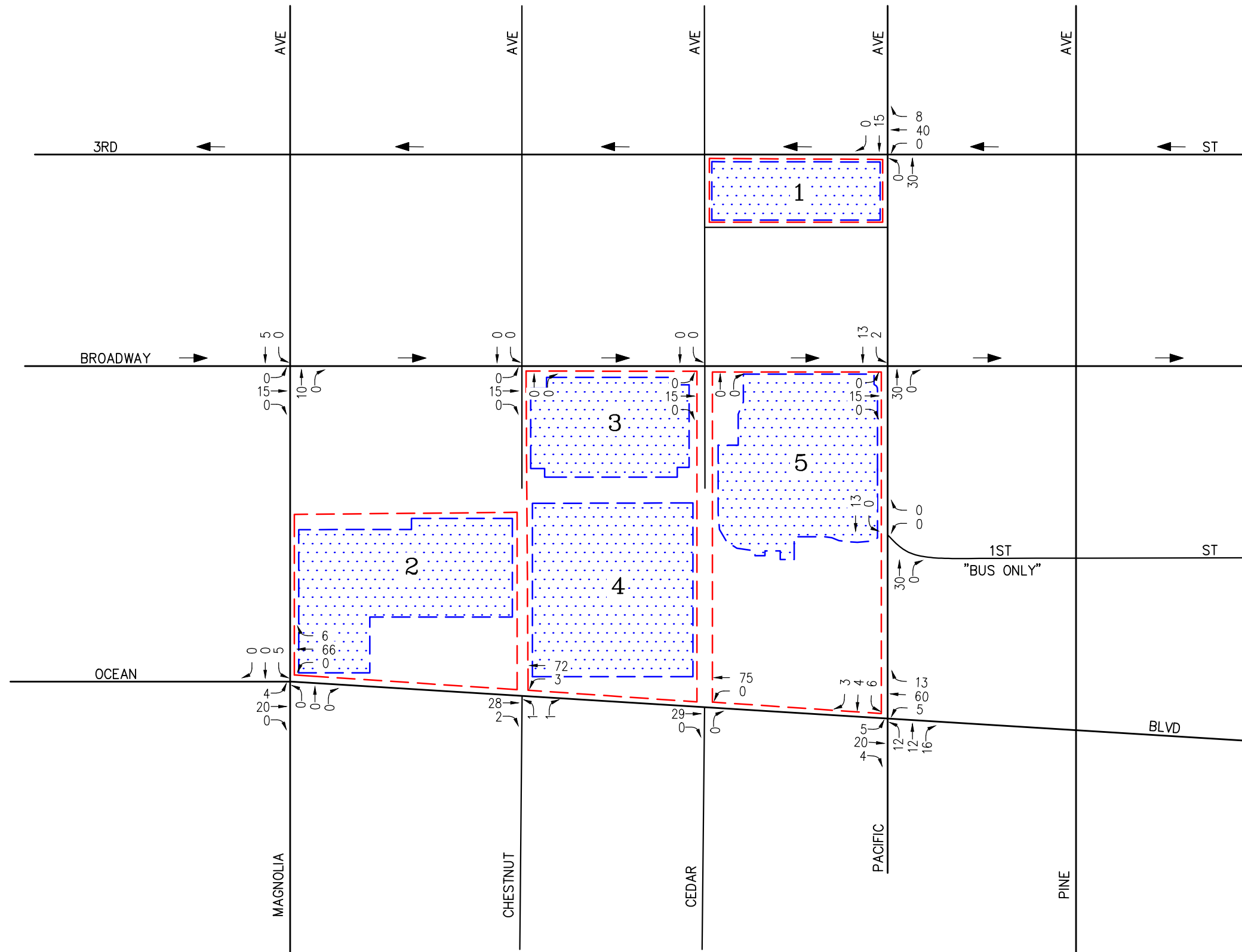
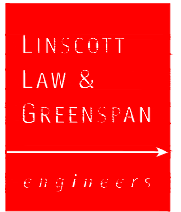


FIGURE 6-1

LOCATION OF CUMULATIVE PROJECTS
NEW LONG BEACH CIVIC CENTER, LONG BEACH

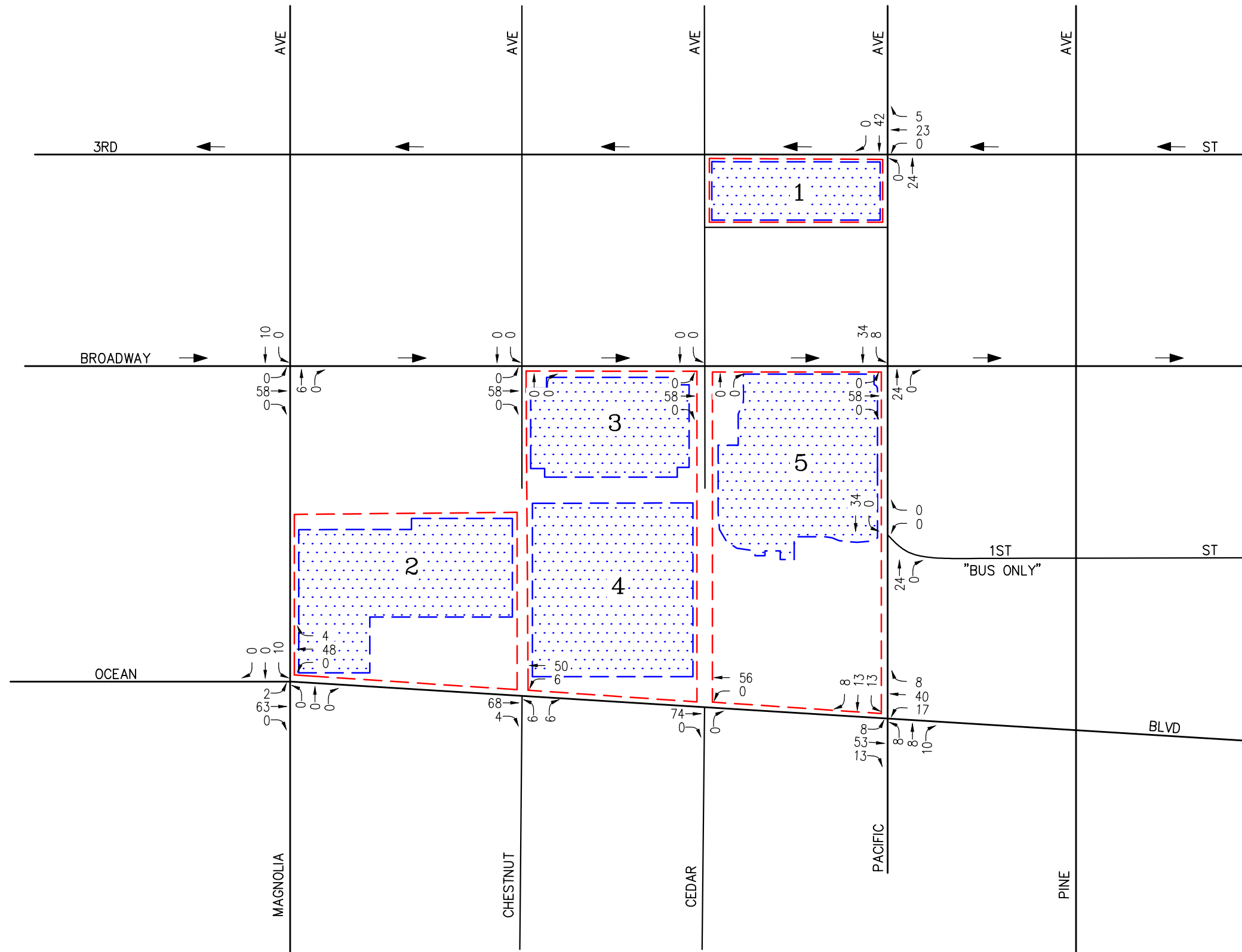


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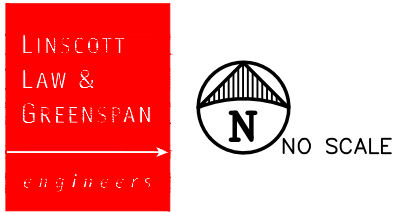


- KEY**
- = PROJECT AREA
 - = PARKING LOCATIONS
 - 1 = THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
 - 2 = CIVIC CENTER BLOCK PARKING
 - 3 = CENTER BLOCK BROADWAY PARKING GARAGE
 - 4 = CENTER BLOCK COMMERCIAL PARKING GARAGE
 - 5 = LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 6-2
AM PEAK HOUR CUMULATIVE
PROJECT TRAFFIC VOLUMES
 NEW LONG BEACH CIVIC CENTER, LONG BEACH



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- KEY**
- = PROJECT AREA
 - = PARKING LOCATIONS
- 1 = THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
 - 2 = CIVIC CENTER BLOCK PARKING
 - 3 = CENTER BLOCK BROADWAY PARKING GARAGE
 - 4 = CENTER BLOCK COMMERCIAL PARKING GARAGE
 - 5 = LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 6-3
PM PEAK HOUR CUMULATIVE
PROJECT TRAFFIC VOLUMES
 NEW LONG BEACH CIVIC CENTER, LONG BEACH

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS⁴

No.	Cumulative Project	Location	Description
1.	207 East Seaside Way Apartments	207 East Seaside Way	113 Apartments
2.	Silversands	2010 East Ocean Boulevard	40 Hotel Rooms and 56 DU Condominiums
3.	Mixed-Use Project	125 Linden Avenue	25 Apartments and 1,257 SF Retail
4.	City Hall East	100 Long Beach Boulevard	156 Apartments and 3,621 SF Retail
5.	Ocean Center Building Reuse	110 West Ocean Boulevard	81 Apartments, 5,000 SF Restaurant and 5,400 SF Retail
6.	Oceanaire Residential Project	150 West Ocean Boulevard	216 Apartments
7.	The Pike Outlet Conversion Project	Generally south of Seaside Way between Cedar Ave and Pine Ave	Conversion of Retail/Entertainment Center to Retail Outlet Center and the Construction of 49,825 SF of New Retail Space
8.	442 West Ocean Boulevard Apartments	442 West Ocean Boulevard	95 DU Apartments
9.	SRG 1st Alamitos Development	101 Alamitos Avenue	141 DU Condominiums and 2,700 SF Commercial
10.	200 W. Ocean Boulevard Apartments	200 W. Ocean Boulevard	94 DU Apartments and 4,597 SF Commercial
11.	City Ventures Development	227 Elm Avenue	40 DU Townhomes
12.	Shoreline Gateway (The Current)	777 E. Ocean Boulevard, north of Ocean Boulevard and east of Alamitos Boulevard	445 residential condominium units and 15,549 SF retail

⁴ Source: City of Long Beach Planning Department.

TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST⁵

Cumulative Project Description	Daily 2-way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1. 207 East Seaside Way Apartments ⁶	751	11	47	58	45	25	70
2. Silversands	652	16	30	46	31	22	53
3. Mixed-Use Project	220	4	10	14	12	9	21
4. City Hall East	1,192	18	65	83	69	41	110
5. Ocean Center Building Reuse	1,247	41	59	100	60	38	98
6. Oceanaire Residential Project ⁷	1,436	22	89	111	86	48	134
7. The Pike Outlet Conversion Project	2,266	41	22	63	85	124	209
8. 442 West Ocean Boulevard Apartments ⁸	632	10	38	48	38	21	59
9. SRG 1 st Alamitos Development	922	13	52	65	52	28	80
10. 200 W. Ocean Boulevard	801	12	40	52	43	26	69
11. City Ventures Development	232	3	15	18	14	7	21
12. Shoreline Gateway ⁹	4,381	60	173	233	226	156	382
Total Cumulative Projects Trip Generation Potential	14,732	251	640	891	761	545	1,306

⁵ Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE) [Washington, D.C. (2012)].

⁶ Source: *207 East Seaside Way Apartments Project Traffic Impact Analysis*, prepared by LLG Irvine.

⁷ Source: *Oceanaire Apartments Traffic Impact Analysis*, prepared by Michael Baker International.

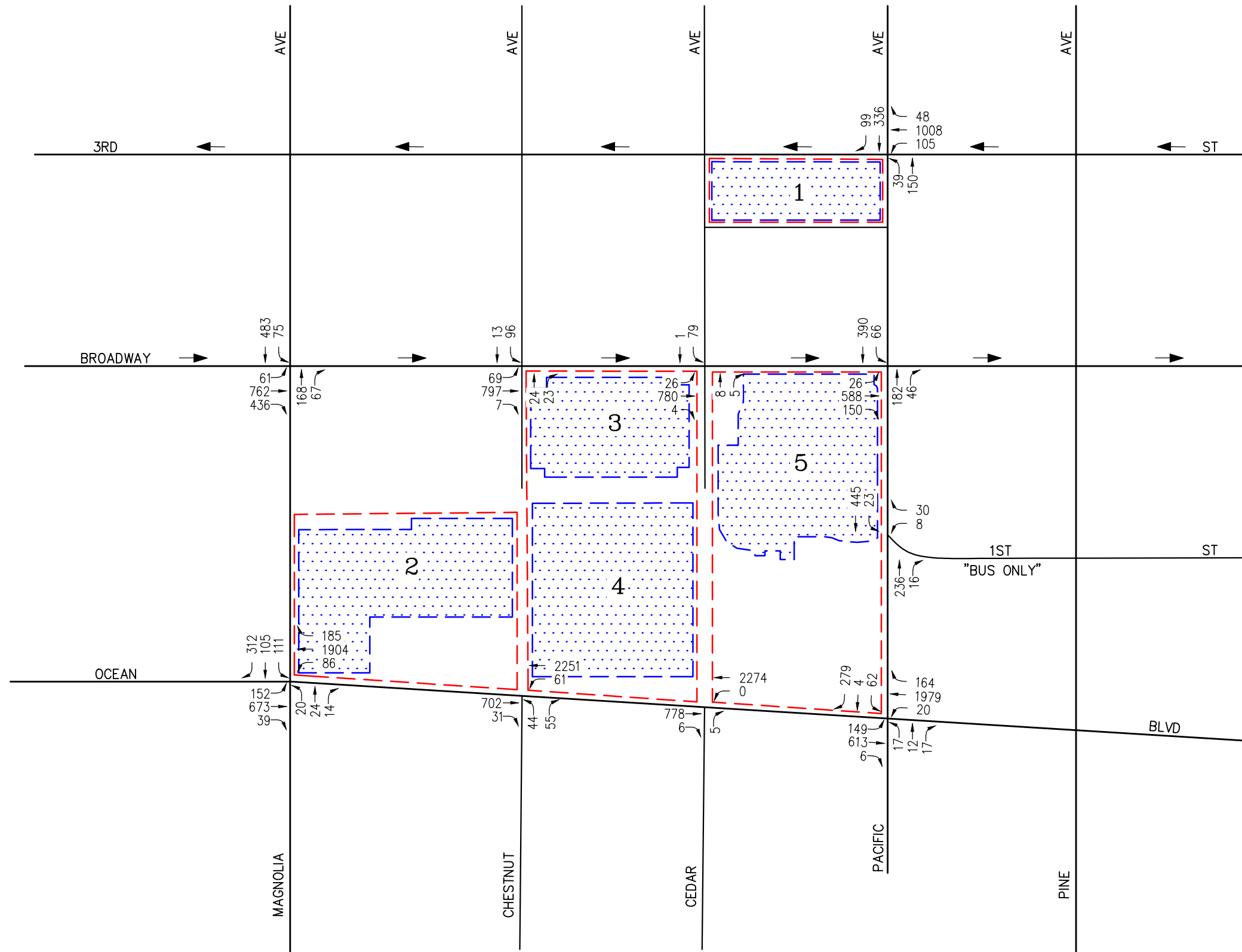
⁸ Source: *442 West Ocean Boulevard Apartments Project Traffic Impact Analysis*, prepared by LLG Irvine.

⁹ Trip Generation forecast based on the approach published in the *City of Long Beach Shoreline Gateway EIR Traffic Impact Study, June 2006*, prepared by MMA. Project Development Totals based on information provided by the City of Long Beach.

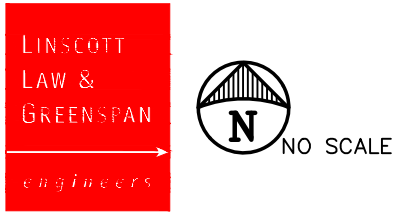
6.3 Year 2020 Traffic Volumes

Figures 6-4 and *6-5* present future AM and PM peak hour cumulative traffic volumes at the ten (10) key study intersections for the Year 2020, respectively. Please note that the cumulative traffic volumes represent the accumulation of existing traffic, ambient growth traffic and cumulative projects traffic.

Figures 6-6 and *6-7* illustrate Year 2020 forecast AM and PM peak hour traffic volumes with the inclusion of the trips generated by the proposed Project, respectively.



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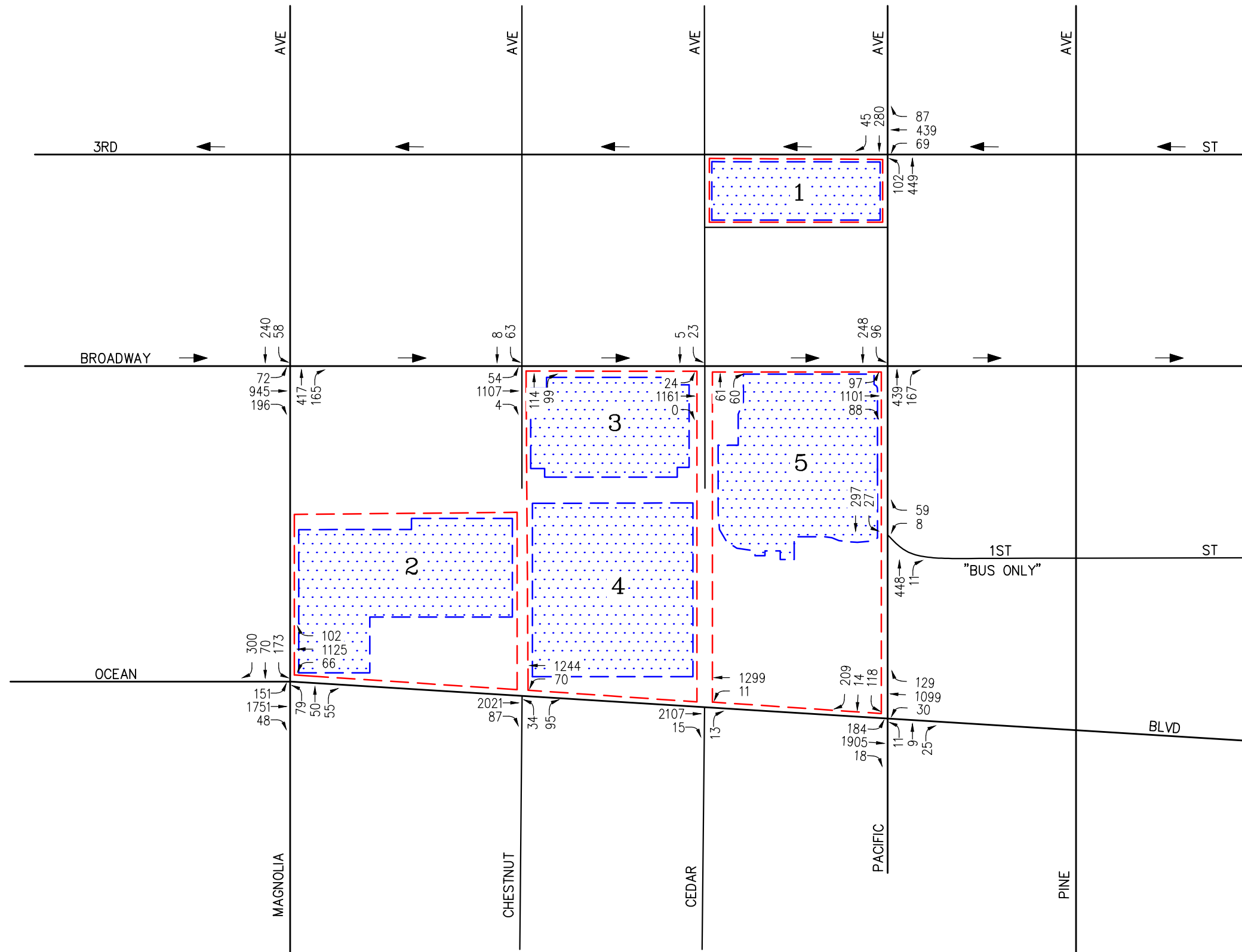
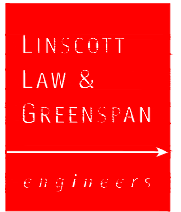
KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 6-4
YEAR 2020 CUMULATIVE
AM PEAK HOUR TRAFFIC VOLUMES
 NEW LONG BEACH CIVIC CENTER, LONG BEACH

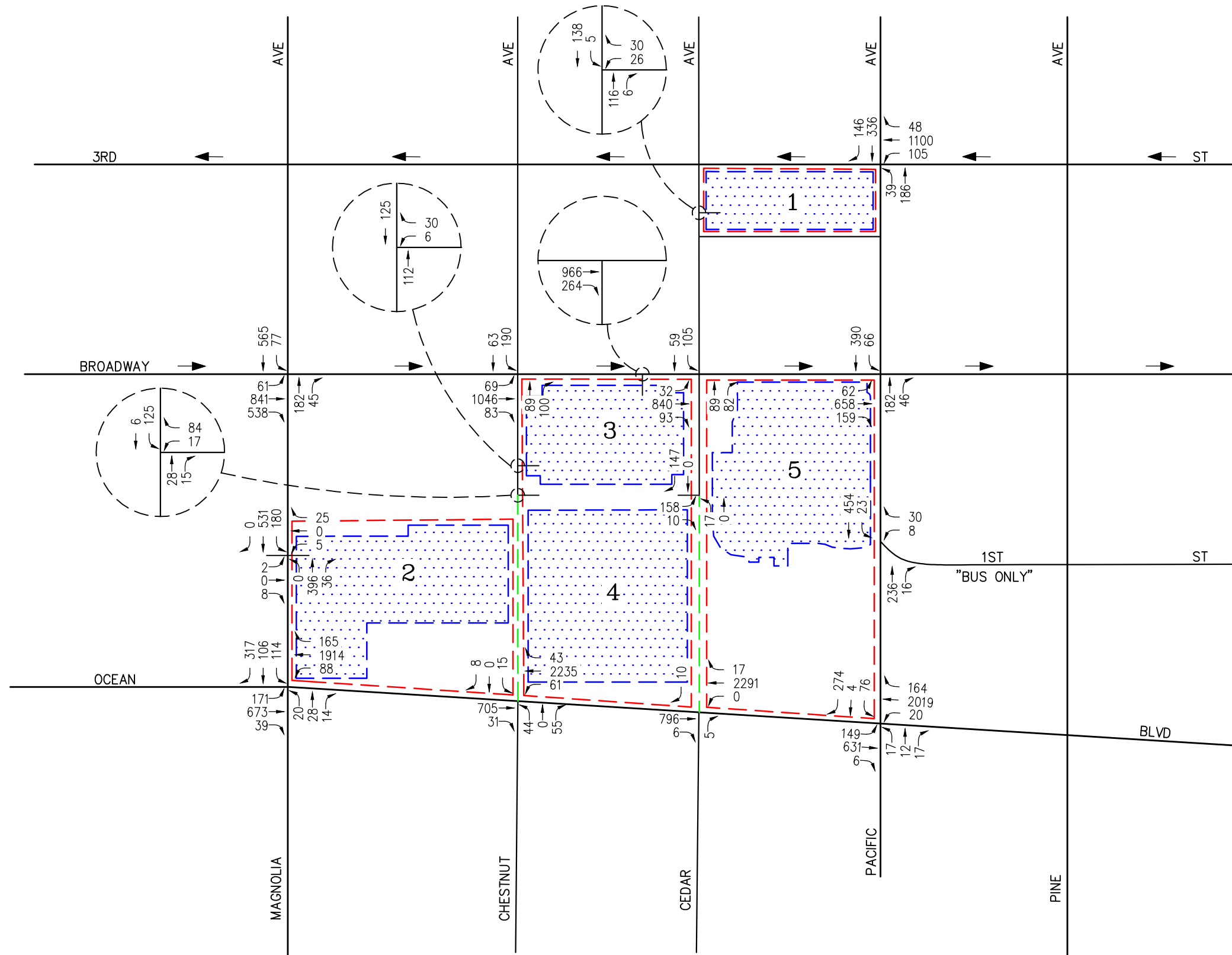


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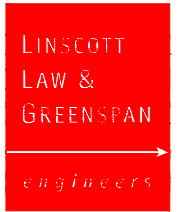


KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 6-5
YEAR 2020 CUMULATIVE
PM PEAK HOUR TRAFFIC VOLUMES
 NEW LONG BEACH CIVIC CENTER, LONG BEACH



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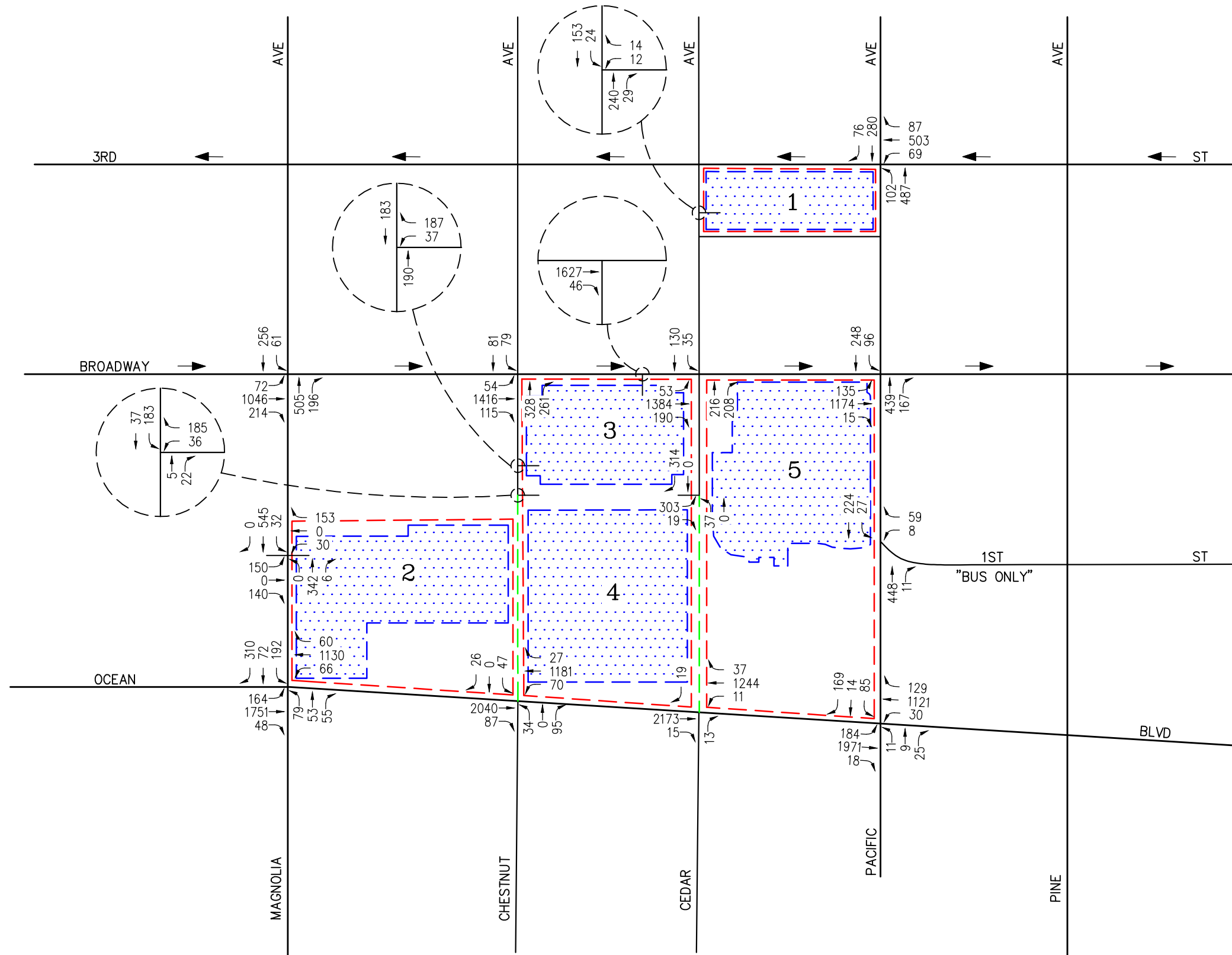
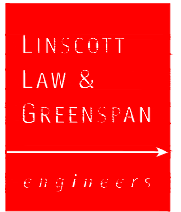
KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
	= FUTURE ROAD
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 6-6

**YEAR 2020 CUMULATIVE PLUS PROJECT
AM PEAK HOUR TRAFFIC VOLUMES
NEW LONG BEACH CIVIC CENTER, LONG BEACH**



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KEY	
	= PROJECT AREA
	= PARKING LOCATIONS
	= FUTURE ROAD
1 =	THIRD & PACIFIC BLOCK RESIDENTIAL PARKING
2 =	CIVIC CENTER BLOCK PARKING
3 =	CENTER BLOCK BROADWAY PARKING GARAGE
4 =	CENTER BLOCK COMMERCIAL PARKING GARAGE
5 =	LINCOLN PARK BLOCK PARKING GARAGE

FIGURE 6-7

**YEAR 2020 CUMULATIVE PLUS PROJECT
PM PEAK HOUR TRAFFIC VOLUMES
NEW LONG BEACH CIVIC CENTER, LONG BEACH**

7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

7.1 Impact Criteria and Thresholds

The relative impact of the added project traffic volumes generated by the proposed Project during the weekday peak hours was evaluated based on analysis of future operating conditions at the ten (10) key study intersections, without, then with, the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection. The significance of the potential impacts of the project at each key intersection was then evaluated using the following traffic impact criteria.

7.1.1 City of Long Beach

Impacts to local and regional transportation systems are considered significant if:

- An unacceptable peak hour Level of Service (LOS) (i.e. LOS E or F) at any of the key intersections is projected. The City of Long Beach considers LOS D (ICU = 0.801 - 0.900) to be the minimum acceptable LOS for all intersections. For the City of Long Beach, the current LOS, if worse than LOS D (i.e. LOS E or F), should also be maintained; and
- The project increases traffic demand at the study intersection by 2% of capacity (ICU increase ≥ 0.020), causing or worsening LOS E or F (ICU > 0.901).

7.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which volume/capacity calculations have been performed using the ICU/HCM methodologies:

- A. Existing Traffic Conditions;
- B. Existing Plus Project Traffic Conditions;
- C. Scenario (B) with Improvements, if necessary;
- D. Year 2020 Cumulative Traffic Conditions;
- E. Year 2020 Cumulative Plus Project Traffic Conditions; and
- F. Scenario (E) with Improvements, if necessary.

8.0 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

8.1 Existing Plus Project Traffic Conditions

Table 8-1 summarizes the peak hour Level of Service results at the ten (10) key study intersections for existing plus project traffic conditions. The first column (1) of ICU/LOS and HCM/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-4*). The second column (2) lists existing plus project traffic conditions. The third column (3) shows the increase in ICU/HCM value due to the added peak hour project trips and indicates whether the traffic associated with the Project will have a significant impact based on the significant impact criteria defined in this report.

8.1.1 Existing Traffic Conditions

Review of Column 1 of *Table 8-1* indicates that the ten (10) key study intersections will operate at acceptable LOS C or better during the AM and PM peak under existing conditions.

8.1.2 Existing Plus Project Traffic Conditions

Review of Columns 2 and 3 of *Table 8-1* indicates that the traffic associated with the proposed project ***will not*** significantly impact any of the ten (10) key study intersections. The ten (10) key study intersections will continue to operate at acceptable LOS D or better during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

Appendix B presents the existing plus project weekday ICU/LOS and HCM/LOS calculations for the ten (10) key study intersections.

TABLE 8-1
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY¹¹

Key Intersection	Control Type	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact	
				ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No
1. Magnolia Avenue at Broadway	2Ø Traffic Signal	D	AM	0.502	A	0.591	A	0.089	No
			PM	0.570	A	0.640	B	0.070	No
2. Chestnut Avenue at Broadway	3Ø Traffic Signal	D	AM	0.432	A	0.626	B	0.194	No
			PM	0.553	A	0.847	D	0.294	No
3. Cedar Avenue at Broadway	3Ø Traffic Signal	D	AM	0.432	A	0.581	A	0.149	No
			PM	0.531	A	0.843	D	0.312	No
4. Pacific Avenue at Broadway	3Ø Traffic Signal	D	AM	0.478	A	0.502	A	0.024	No
			PM	0.663	B	0.663	B	0.000	No
5. Magnolia Avenue at Ocean Boulevard	3Ø Traffic Signal	D	AM	0.770	C	0.787	C	0.017	No
			PM	0.730	C	0.736	C	0.006	No
6. Chestnut Avenue at Ocean Boulevard	2Ø Traffic Signal	D	AM	0.564	A	0.584	A	0.020	No
			PM	0.595	A	0.645	B	0.050	No
7. Cedar Avenue at Ocean Boulevard	One-Way Stop	D	AM	9.7 s/v	A	14.7 s/v	B	5.0 s/v	No
			PM	17.2 s/v	C	18.0 s/v	C	0.8 s/v	No
8. Pacific Avenue at Ocean Boulevard	6Ø Traffic Signal	D	AM	0.689	B	0.694	B	0.005	No
			PM	0.559	A	0.562	A	0.003	No

Notes:

- LOS = Level of Service, please refer to *Tables 3-2* and *3-3* for the LOS definitions
- s/v = seconds per vehicle (delay)
- **Bold ICU/LOS and HCM/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

¹¹ *Appendix B* contains the Existing plus Project ICU/LOS calculation worksheets for all study intersections.

TABLE 8-1 (CONTINUED)
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY¹²

Key Intersection	Control Type	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact	
				ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No
9. Pacific Avenue at 3 rd Street	3Ø Traffic Signal	D	AM	0.569	A	0.598	A	0.029	No
			PM	0.430	A	0.457	A	0.027	No
10. Pacific Avenue at 1 st Street	3Ø Traffic Signal	D	AM	0.302	A	0.304	A	0.002	No
			PM	0.336	A	0.336	A	0.000	No

Notes:

- LOS = Level of Service, please refer to *Tables 3-2 and 3-3* for the LOS definitions
- s/v = seconds per vehicle (delay)
- **ICU/LOS and HCM/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

¹² Appendix B contains the Existing plus Project ICU/LOS calculation worksheets for all study intersections.

8.2 Year 2020 Traffic Conditions

Table 8-2 summarizes the peak hour Level of Service results at the ten (10) key study intersections for the Year 2020 horizon year. The first column (1) of ICU/LOS and HCM/LOS values in *Table 8-2* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-4*). The second column (2) lists future Year 2020 cumulative traffic conditions (existing plus ambient growth traffic plus cumulative projects traffic) based on existing intersection geometry, but without any traffic generated by the proposed Project. The third column (3) presents future forecast traffic conditions with the addition of traffic generated by the proposed Project. The fourth column (4) shows the increase in ICU/HCM value due to the added peak hour project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report.

8.2.1 Year 2020 Cumulative Traffic Conditions

Review of Column 2 of *Table 8-2* indicates that all ten (10) key study intersections will operate at an acceptable LOS D or better during the AM and PM peak hour with the addition of ambient traffic growth and cumulative projects traffic, when compared to the LOS standards and significant impact criteria in this report.

8.2.2 Year 2020 Cumulative Plus Project Conditions

Review of Columns 3 and 4 of *Table 8-2* indicates that the traffic associated with the proposed project ***will not*** significantly impact any of the ten (10) key study intersections. The ten (10) key study intersections are forecast to continue to operate at acceptable LOS D or better during the AM and PM peak hours with the addition of project generated traffic in the Year 2020.

Appendix B presents the Year 2020 ICU/LOS and HCM/LOS calculations for the ten (10) key study intersections.

TABLE 8-2
YEAR 2020 CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY¹³

Key Intersection	Control Type	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2020 Cumulative Traffic Conditions		(3) Year 2020 Cumulative Plus Project Traffic Conditions		(4) Significant Impact	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No
1. Magnolia Avenue at Broadway	2Ø Traffic Signal	D	AM	0.502	A	0.523	A	0.613	B	0.090	No
			PM	0.570	A	0.613	B	0.684	B	0.071	No
2. Chestnut Avenue at Broadway	3Ø Traffic Signal	D	AM	0.432	A	0.450	A	0.644	B	0.194	No
			PM	0.553	A	0.591	A	0.884	D	0.293	No
3. Cedar Avenue at Broadway	3Ø Traffic Signal	D	AM	0.432	A	0.450	A	0.600	A	0.150	No
			PM	0.531	A	0.568	A	0.880	D	0.312	No
4. Pacific Avenue at Broadway	3Ø Traffic Signal	D	AM	0.478	A	0.503	A	0.527	A	0.024	No
			PM	0.663	B	0.719	C	0.719	C	0.000	No
5. Magnolia Avenue at Ocean Boulevard	3Ø Traffic Signal	D	AM	0.770	C	0.819	D	0.836	D	0.017	No
			PM	0.730	C	0.773	C	0.779	C	0.006	No
6. Chestnut Avenue at Ocean Boulevard	2Ø Traffic Signal	D	AM	0.564	A	0.603	B	0.623	B	0.020	No
			PM	0.595	A	0.642	B	0.692	B	0.050	No
7. Cedar Avenue at Ocean Boulevard	One-Way Stop	D	AM	9.7 s/v	A	9.9 s/v	A	15.7 s/v	C	5.8 s/v	No
			PM	17.2 s/v	C	19.4 s/v	C	20.3 s/v	C	0.9 s/v	No
8. Pacific Avenue at Ocean Boulevard	6Ø Traffic Signal	D	AM	0.689	B	0.755	C	0.761	C	0.006	No
			PM	0.559	A	0.629	B	0.632	B	0.003	No

Notes:

- LOS = Level of Service, please refer to *Tables 3-2* and *3-3* for the LOS definitions
- s/v = seconds per vehicle (delay)
- **Bold ICU/LOS and HCM/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

¹³ Appendix B contains the Year 2020 Cumulative plus Project ICU/LOS and HCM/LOS calculation worksheets for all study intersections.

TABLE 8-2 (CONTINUED)
YEAR 2020 CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY¹⁴

Key Intersection	Control Type	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2020 Cumulative Traffic Conditions		(3) Year 2020 Cumulative Plus Project Traffic Conditions		(4) Significant Impact	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No
				9. Pacific Avenue at 3 rd Street	3Ø Traffic Signal	D	AM	0.569	A	0.609	B
			PM	0.430	A	0.466	A	0.486	A	0.020	No
10. Pacific Avenue at 1 st Street	3Ø Traffic Signal	D	AM	0.302	A	0.313	A	0.316	A	0.003	No
			PM	0.336	A	0.352	A	0.352	A	0.000	No

Notes:

- LOS = Level of Service, please refer to *Tables 3-2 and 3-3* for the LOS definitions
- s/v = seconds per vehicle (delay)
- **Bold ICU/LOS and HCM/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

¹⁴ Appendix B contains the Year 2020 Cumulative plus Project ICU/LOS and HCM/LOS calculation worksheets for all study intersections.

9.0 SITE ACCESS EVALUATION

9.1 Level of Service Analysis For Project Access Locations

The proposed Project will provide three (3) new parking garages which also includes a new subterranean garage below the New City Hall and Harbor Department buildings. Vehicular access for the proposed Project includes the following:

- Civic Block: Primary access to the Civic Block subterranean parking structure will be provided from Magnolia Avenue (Project Driveway F). Access to the existing Broadway garage will continue to be provided by an ingress-only driveway on Broadway (Project Driveway B) as well as an egress-only driveway along Chestnut (Project Driveway C).
- Center Block: A new subterranean parking structure will be constructed, with primary vehicular access provided by the future extension of Cedar Avenue between Broadway and Ocean Boulevard (Project Driveway E).
- Lincoln Park Block: Access to the existing Lincoln garage will continue to be provided from the Cedar Avenue and Pacific Avenue access ramps in the interim, but will ultimately be served by the “Lincoln Alley” (Project Driveway D).
- Third & Pacific Block: Access to the site’s parking garage will be provided from Cedar Avenue (Project Driveway A).

Table 9-1 summarizes the Year 2020 Cumulative plus Project peak hour level of service results for the six (6) project driveways. Review of **Table 9-1** shows that the project driveways are forecast to operate at an acceptable LOS C or better during the AM and PM peak hours in the Year 2020. As such, motorists entering and exiting the Project site will be able to do so comfortably, safely, and without undue congestion.

Appendix C presents the Year 2020 plus project HCM/LOS calculations for the six (6) project driveways.

TABLE 9-1
YEAR 2020 CUMULATIVE PLUS PROJECT
DRIVEWAY PEAK HOUR LEVELS OF SERVICE SUMMARY

Driveway	Time Period	Intersection Control	Year 2020 Cumulative Plus Project	
			HCM	LOS
A. Cedar Avenue at Project Driveway A	AM	One-Way	9.7 s/v	A
	PM	Stop	10.7 s/v	B
B. Project Driveway B ¹⁵ at Broadway	AM	Uncontrolled	--	--
	PM	Ingress Only	--	--
C. Chestnut Avenue at Project Driveway C	AM	One-Way	9.0 s/v	A
	PM	Stop	10.2 s/v	B
D. Chestnut Avenue at Project Driveway D	AM	One-Way	9.2 s/v	A
	PM	Stop	10.1 s/v	B
E. Cedar Avenue at Project Driveway E	AM	One-Way	9.4 s/v	A
	PM	Stop	11.0 s/v	B
F. Magnolia Avenue at Project Driveway F	AM	Two-Way	12.0 s/v	B
	PM	Stop	21.4 s/v	C

Notes:

- **Bold Delay/LOS** values indicate adverse service levels based on City of Long Beach LOS standards
- s/v = seconds per vehicle

¹⁵ Project Driveway B is a “right-turn in only” driveway and therefore no delay is expected.

10.0 RECOMMEND IMPROVEMENTS

10.1 Existing Plus Project Traffic Conditions

The results of the intersection capacity analysis presented previously in *Table 8-1* shows that the proposed Project will not significantly impact any of the ten (10) key study intersections under the “Existing Plus Project” traffic scenario. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

10.2 Year 2020 Plus Project Traffic Conditions

The results of the intersection capacity analysis presented previously in *Table 8-2* shows that the proposed Project will not significantly impact any of the ten (10) key study intersections under the “Year 2020 Plus Project” traffic scenario. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

11.0 SUMMARY OF FINDINGS AND CONCLUSIONS

- **Project Description** – The Long Beach Civic Center is located north of Ocean Boulevard and south of Broadway, between Magnolia Avenue and Pacific Avenue in downtown Long Beach. The 0.89 acre parcel Third & Pacific site is currently a surface parking lot and is located south of 3rd Street, between Cedar Avenue and Pacific Avenue. The current Civic Center consists of the former 334,000 SF Los Angeles County Superior Courthouse, which is now vacant, the 283,000 SF City Hall office tower, the 138,000 SF Long Beach Main Library, 2.60 acre Lincoln Park and associated parking structures.

The proposed New Long Beach Civic Center Project provides a New City Hall, a New Harbor Department administration building, a New Main Library, a relocated and redeveloped Lincoln Park and a vibrant commercial mixed use development. In total six (6) new buildings, three (3) new parking garages, including a new subterranean garage below the New City Hall and Harbor Department buildings, and related infrastructure and landscaping are proposed. Please refer to Chapter 2.0 for more project description details.

- **Study Scope** – The ten (10) key study intersections selected for evaluation in this report provide local access within the project study area. They consist of the following:

- | | |
|---------------------------------------|--|
| 1. Magnolia Avenue at Broadway | 6. Chestnut Avenue at Ocean Boulevard |
| 2. Chestnut Avenue at Broadway | 7. Cedar Avenue at Ocean Boulevard |
| 3. Cedar Avenue at Broadway | 8. Pacific Avenue at Ocean Boulevard |
| 4. Pacific Avenue at Broadway | 9. Pacific Avenue at 3 rd Street |
| 5. Magnolia Avenue at Ocean Boulevard | 10. Pacific Avenue at 1 st Street |

The analysis is focused on assessing potential traffic impacts during the morning and evening commute peak hours on a typical weekday.

- **Existing Traffic Conditions** – All ten (10) key study intersections currently operate at LOS C or better during the weekday AM and PM peak hours.
- **Project Trip Generation** – The proposed Project is forecast to generate 18,582 daily trips, with 1,185 trips (795 inbound, 390 outbound) produced in the AM peak hour and 1,668 trips (693 inbound, 975 outbound) produced in the PM peak hour on a typical weekday.

The existing trip generation potential of the current civic center (i.e. City Hall office tower and Main Library) totals 7,659 daily trips, with 514 trips (418 inbound, 96 outbound) produced in the AM peak hour and 1,116 trips (446inbound, 670 outbound) produced in the PM peak hour.

Comparison of the trips generated by the proposed Project to the trip generation potential of the Existing Land Use shows that that the implementation of the proposed Project will result in an additional 10,923 daily trips, 671 net AM peak hour trips and 552 net PM peak hour trips. The potential traffic impact of these added trips are assessed in this report.

A comparison of the trips generated by the proposed Project to the trips generated by the mix of uses assumed in the Downtown Plan shows that the implementation of the proposed Project will result in 6,075 fewer daily trips, 365 fewer AM peak hour trips, and 580 fewer PM peak hour trips.

- ***Cumulative Projects Traffic Characteristics*** – The twelve (12) cumulative projects are expected to generate a combined total of 14,732 daily trips, 891 AM peak hour trips (251 inbound and 640 outbound) and 1,306 PM peak hour trips (761 inbound and 545 outbound) on a typical weekday.
- ***Existing Plus Project Traffic Characteristics*** – The traffic associated with the proposed project ***will not*** significantly impact any of the ten (10) key study intersections. The ten (10) key study intersections will continue to operate at acceptable LOS D or better during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.
- ***Year 2020 Cumulative Plus Project Traffic Characteristics*** – The traffic associated with the proposed project ***will not*** significantly impact any of the ten (10) key study intersections. The ten (10) key study intersections are forecast to continue to operate at acceptable LOS D or better during the AM and PM peak hours with the addition of project generated traffic in the Year 2020.
- ***Site Access Evaluation*** – The project driveways are forecast to operate at an acceptable LOS C or better during the AM and PM peak hours in the Year 2020. As such, motorists entering and exiting the Project site will be able to do so comfortably, safely, and without undue congestion.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

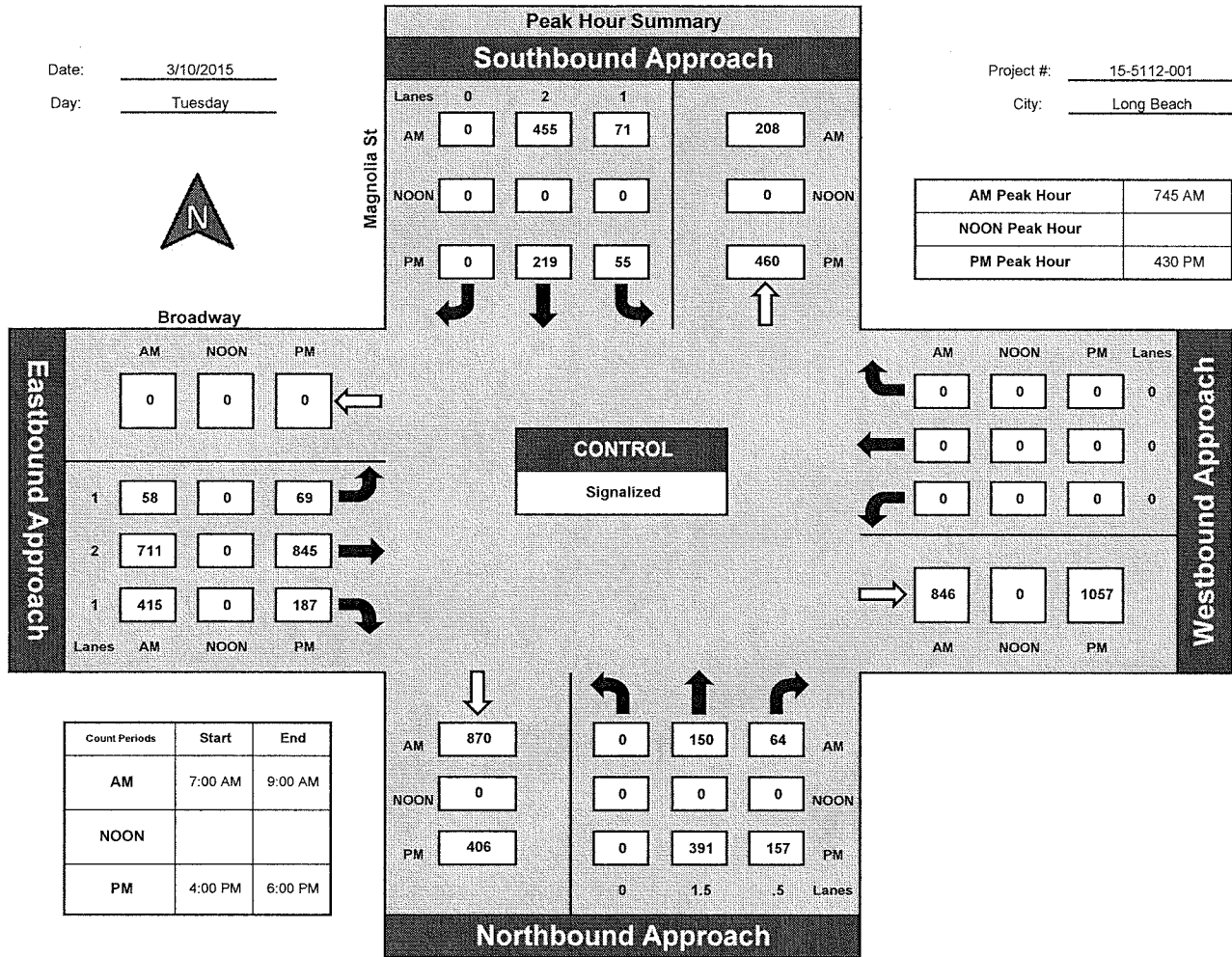
Magnolia St and Broadway, Long Beach

Date: 3/10/2015

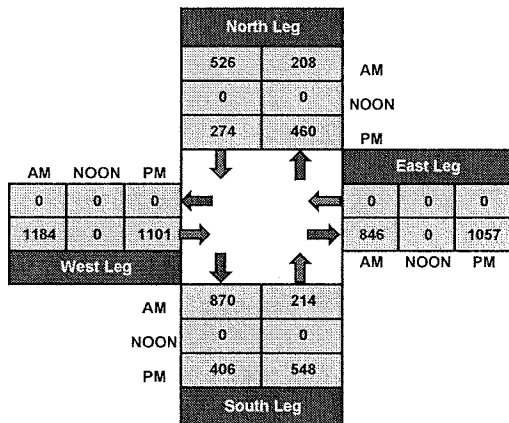
Day: Tuesday

Project #: 15-5112-001

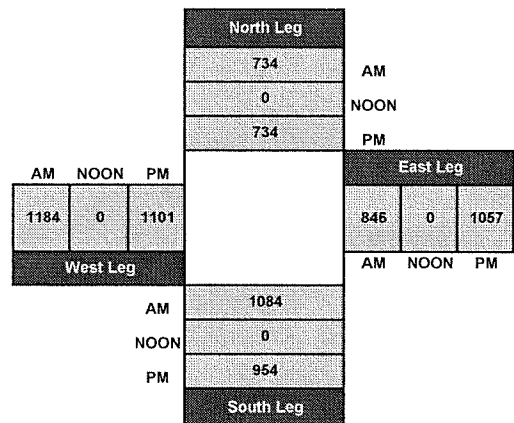
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-001

Day: Tuesday

City: Long Beach

Date: 3/10/2015

AM

NS/EW Streets:	Magnolia St		Magnolia St			Broadway			Broadway			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1.5	NR .5	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 0	WT 0	WR 0	
7:00 AM	0	18	15	15	93	0	7	132	57	0	0	0	337
7:15 AM	0	24	24	15	94	0	14	144	89	0	0	0	404
7:30 AM	0	33	14	7	108	0	12	137	69	0	0	0	380
7:45 AM	0	40	12	19	124	0	11	186	109	0	0	0	501
8:00 AM	0	52	17	17	114	0	14	168	92	0	0	0	474
8:15 AM	0	29	20	19	109	0	18	170	104	0	0	0	469
8:30 AM	0	29	15	16	108	0	15	187	110	0	0	0	480
8:45 AM	0	39	11	22	97	0	18	169	92	0	0	0	448

UTURNS			
NB	SB	EB	WB
0	0	0	0
0	1	0	0
0	0	0	0
0	1	0	0
0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0

TOTAL VOLUMES :	NL 0	NT 264	NR 128	SL 130	ST 847	SR 0	EL 109	ET 1293	ER 722	WL 0	WT 0	WR 0	TOTAL 3493
APPROACH %'s :	0.00%	67.35%	32.65%	13.31%	86.69%	0.00%	5.13%	60.88%	33.99%	#DIV/0!	#DIV/0!	#DIV/0!	

NB	SB	EB	WB
0	4	0	0

PEAK HR START TIME :	7:45 AM												TOTAL
PEAK HR VOL :	0	150	64	71	455	0	58	711	415	0	0	0	1924
PEAK HR FACTOR :	0.775			0.920			0.949			0.000			0.960

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-001

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Magnolia St		Magnolia St			Broadway			Broadway			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1.5	.5	1	2	0	1	2	1	0	0	0	
4:00 PM	0	72	28	11	52	0	15	170	41	0	0	0	389
4:15 PM	0	71	46	19	45	0	13	200	43	0	0	0	437
4:30 PM	0	106	54	15	64	0	17	192	51	0	0	0	499
4:45 PM	0	103	36	11	60	0	20	224	50	0	0	0	504
5:00 PM	0	119	33	13	49	0	14	207	39	0	0	0	474
5:15 PM	0	63	34	16	46	0	18	222	47	0	0	0	446
5:30 PM	0	58	27	8	42	0	12	218	43	0	0	0	408
5:45 PM	0	45	23	15	40	0	14	199	39	0	0	0	375

UTURNS			
NB	SB	EB	WB
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	3	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	637	281	108	398	0	123	1632	353	0	0	0	3532
APPROACH %'s :	0.00%	69.39%	30.61%	21.34%	78.66%	0.00%	5.83%	77.42%	16.75%	#DIV/0!	#DIV/0!	#DIV/0!	

NB	SB	EB	WB
0	3	0	0

PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	391	157	55	219	0	69	845	187	0	0	0	1923
PEAK HR FACTOR :		0.856		0.867			0.936			0.000			0.954

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

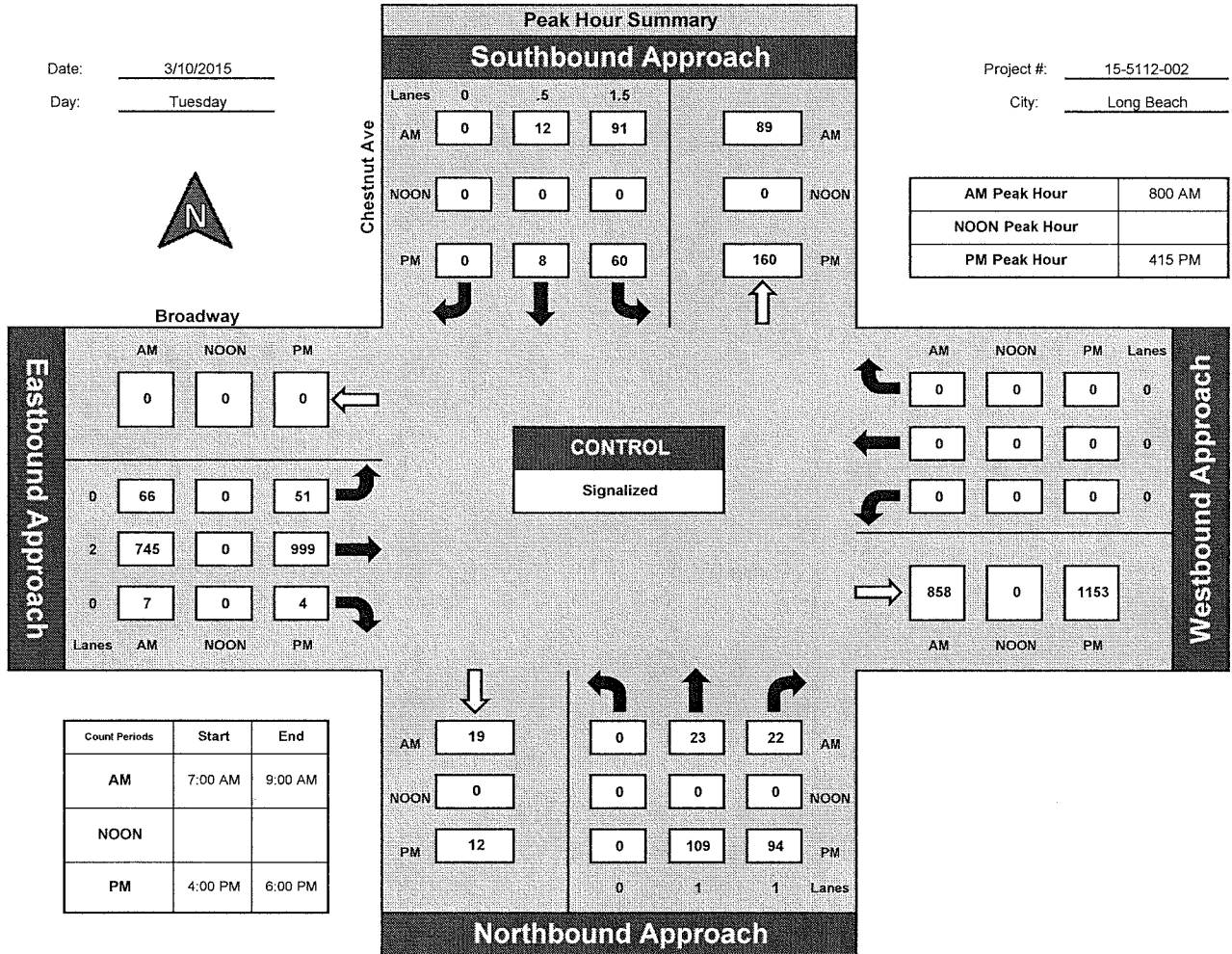


National Data & Surveying Services

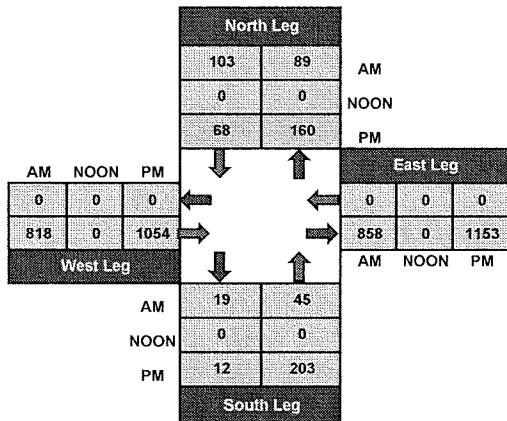
Chestnut Ave and Broadway, Long Beach

Date: 3/10/2015
Day: Tuesday

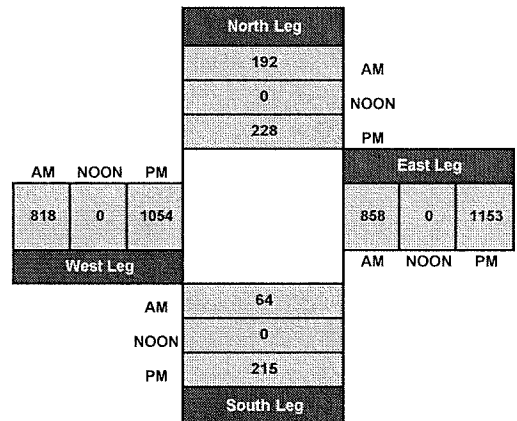
Project #: 15-5112-002
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-002

Day: Tuesday

City: Long Beach

Date: 3/10/2015

AM

NS/EW Streets:	Chestnut Ave			Chestnut Ave			Broadway			Broadway			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 1	SL 1.5	ST .5	SR 0	EL 0	ET 2	ER 0	WL 0	WT 0	WR 0	
7:00 AM	0	9	0	15	2	0	3	153	1	0	0	0	183
7:15 AM	0	4	3	38	1	0	7	167	4	0	0	0	224
7:30 AM	0	4	3	24	2	0	5	154	0	0	0	0	192
7:45 AM	0	3	1	17	3	0	6	200	1	0	0	0	231
8:00 AM	0	4	9	22	3	0	13	189	1	0	0	0	241
8:15 AM	0	2	2	27	2	0	14	190	2	0	0	0	239
8:30 AM	0	7	4	23	2	0	15	194	0	0	0	0	245
8:45 AM	0	10	7	19	5	0	24	172	4	0	0	0	241

TOTAL VOLUMES :	NL 0	NT 43	NR 29	SL 185	ST 20	SR 0	EL 87	ET 1419	ER 13	WL 0	WT 0	WR 0	TOTAL 1796
APPROACH %'s :	0.00%	59.72%	40.28%	90.24%	9.76%	0.00%	5.73%	93.42%	0.86%	#DIV/0!	#DIV/0!	#DIV/0!	

PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	23	22	91	12	0	66	745	7	0	0	0	966
PEAK HR FACTOR :		0.662			0.888			0.978		0.000			0.986

CONTROL : Signalized

UTURNS			
NB	SB	EB	WB

NB 0	SB 0	EB 0	WB 0
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Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-002

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Chestnut Ave		Chestnut Ave			Broadway			Broadway			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 1	SL 1.5	ST .5	SR 0	EL 0	ET 2	ER 0	WL 0	WT 0	WR 0	
4:00 PM	0	21	29	9	1	0	6	200	0	0	0	0	266
4:15 PM	0	11	12	21	5	0	18	246	0	0	0	0	313
4:30 PM	0	44	37	19	1	0	11	257	1	0	0	0	370
4:45 PM	0	23	22	8	2	0	13	253	2	0	0	0	323
5:00 PM	0	31	23	12	0	0	9	243	1	0	0	0	319
5:15 PM	0	25	10	7	1	0	13	253	0	0	0	0	309
5:30 PM	0	22	18	10	1	0	10	245	1	0	0	0	307
5:45 PM	0	15	15	8	2	0	8	239	0	0	0	0	287

UTURNS			
NB	SB	EB	WB

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	192	166	94	13	0	88	1936	5	0	0	0	2494
APPROACH %'s :	0.00%	53.63%	46.37%	87.85%	12.15%	0.00%	4.34%	95.42%	0.25%	#DIV/0!	#DIV/0!	#DIV/0!	

NB	SB	EB	WB
0	0	0	0

PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	0	109	94	60	8	0	51	999	4	0	0	0	1325
PEAK HR FACTOR :		0.627			0.654			0.980		0.000			0.895

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-003

Day: Tuesday

City: Long Beach

Date: 3/10/2015

AM

NS/EW Streets:	Cedar Ave		Cedar Ave			Broadway			Broadway			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 1	SL .5	ST .5	SR 0	EL 1	ET 2	ER 0	WL 0	WT 0	WR 0	
7:00 AM	0	0	0	13	0	0	1	133	0	0	0	0	147
7:15 AM	0	0	0	33	1	0	1	150	0	0	0	0	185
7:30 AM	0	1	1	25	1	0	2	134	0	0	0	0	164
7:45 AM	0	2	1	23	0	0	5	180	1	0	0	0	212
8:00 AM	0	2	1	19	0	0	5	186	2	0	0	0	215
8:15 AM	0	3	2	14	0	0	8	175	0	0	0	0	202
8:30 AM	0	1	1	19	1	0	7	188	1	0	0	0	218
8:45 AM	0	1	0	13	3	0	9	173	1	0	0	0	200

TOTAL VOLUMES :	NL 0	NT 10	NR 6	SL 159	ST 6	SR 0	EL 38	ET 1319	ER 5	WL 0	WT 0	WR 0	TOTAL 1543
APPROACH %'s :	0.00%	62.50%	37.50%	96.36%	3.64%	0.00%	2.79%	96.84%	0.37%	#DIV/0!	#DIV/0!	#DIV/0!	

UTURNS			
NB	SB	EB	WB
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
NB	SB	EB	WB
0	2	0	0

PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	8	5	75	1	0	25	729	4	0	0	0	847
PEAK HR FACTOR :	0.650			0.826			0.967			0.000			0.971

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-003

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Cedar Ave		Cedar Ave			Broadway			Broadway			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 1	SL .5	ST .5	SR 0	EL 1	ET 2	ER 0	WL 0	WT 0	WR 0	
4:00 PM	0	9	8	6	2	0	10	215	0	0	0	0	250
4:15 PM	0	2	2	7	1	0	7	253	0	0	0	0	272
4:30 PM	0	15	16	9	0	0	5	281	0	0	0	0	326
4:45 PM	0	11	11	6	1	0	6	260	0	0	0	0	295
5:00 PM	0	19	20	3	4	0	4	255	0	0	0	0	305
5:15 PM	0	13	10	4	0	0	8	254	0	0	0	0	289
5:30 PM	0	9	14	6	0	0	5	258	0	0	0	0	292
5:45 PM	0	9	10	2	0	0	5	240	0	0	0	0	266

UTURNS			
NB	SB	EB	WB
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0

TOTAL VOLUMES :	NL 0	NT 87	NR 91	SL 43	ST 8	SR 0	EL 50	ET 2016	ER 0	WL 0	WT 0	WR 0	TOTAL 2295
APPROACH %'s :	0.00%	48.88%	51.12%	84.31%	15.69%	0.00%	2.42%	97.58%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	

NB	SB	EB	WB
0	1	0	0

PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	58	57	22	5	0	23	1050	0	0	0	0	1215
PEAK HR FACTOR :	0.737			0.750			0.938			0.000			0.932

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

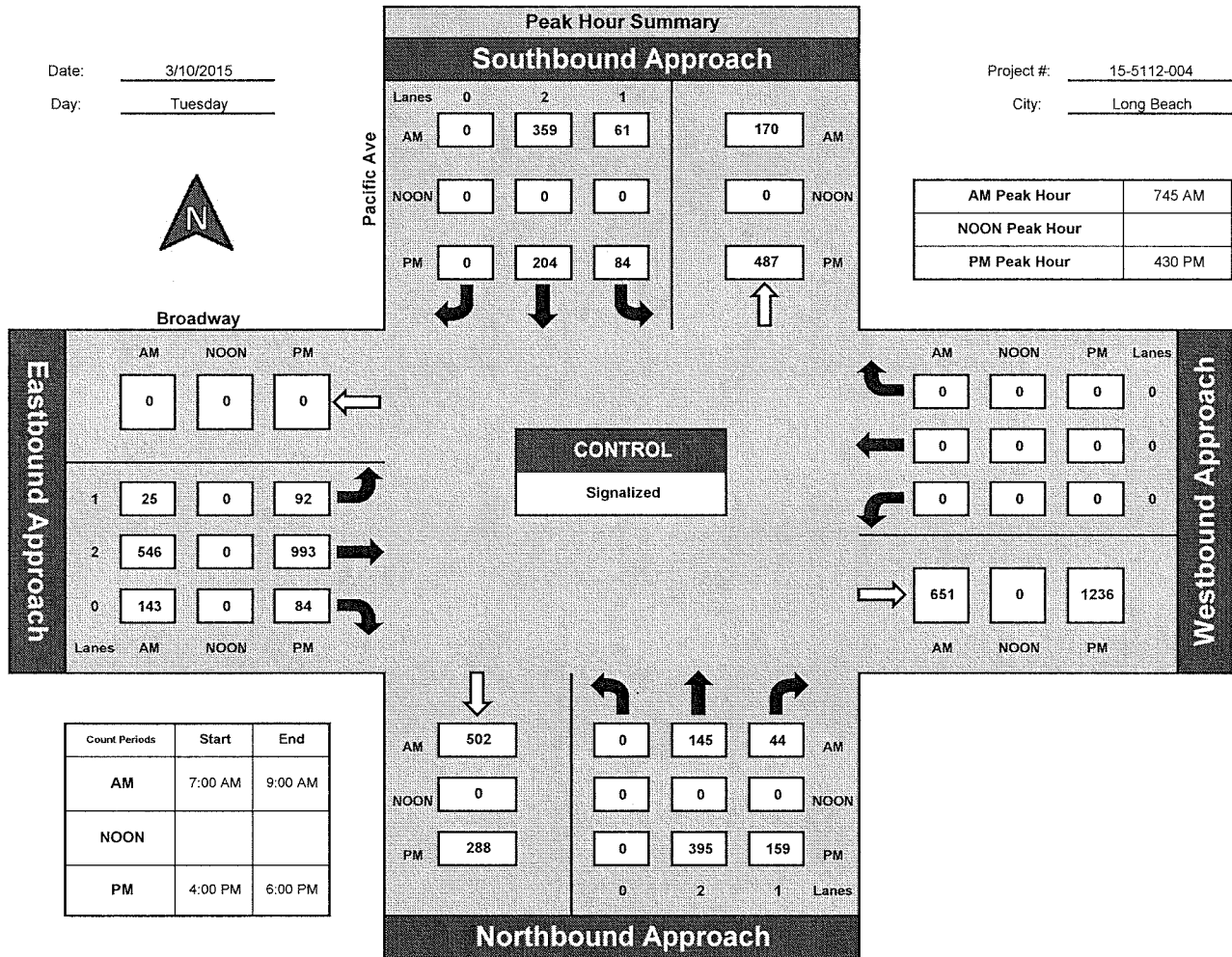
Pacific Ave and Broadway, Long Beach

Date: 3/10/2015

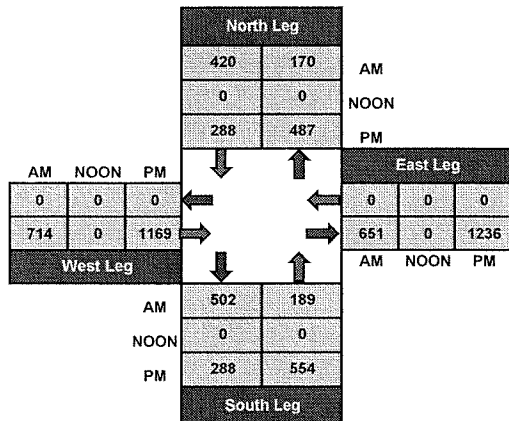
Day: Tuesday

Project #: 15-5112-004

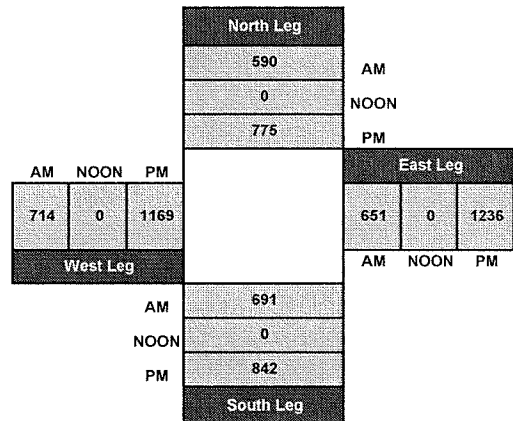
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-004

Day: Tuesday

City: Long Beach

Date: 3/10/2015

AM

NS/EW Streets:	Pacific Ave		Pacific Ave			Broadway			Broadway			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 0	WT 0	WR 0	
7:00 AM	0	21	9	10	64	0	7	96	12	0	0	0	219
7:15 AM	0	29	7	6	85	0	6	105	17	0	0	0	255
7:30 AM	0	19	5	15	82	0	11	87	17	0	0	0	236
7:45 AM	0	33	9	20	102	0	8	141	27	0	0	0	340
8:00 AM	0	40	6	10	93	0	5	139	35	0	0	0	328
8:15 AM	0	36	12	19	94	0	4	132	35	0	0	0	332
8:30 AM	0	36	17	12	70	0	8	134	46	0	0	0	323
8:45 AM	0	35	17	12	103	0	11	115	37	0	0	0	330

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	249	82	104	693	0	60	949	226	0	0	0	2363
APPROACH %'s :	0.00%	75.23%	24.77%	13.05%	86.95%	0.00%	4.86%	76.84%	18.30%	#DIV/0!	#DIV/0!	#DIV/0!	

PEAK HR START TIME :	7:45 AM												TOTAL
PEAK HR VOL :	0	145	44	61	359	0	25	546	143	0	0	0	1323
PEAK HR FACTOR :		0.892			0.861			0.949		0.000			0.973

UTURNS			
NB	SB	EB	WB
0	1	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	2	0	0
0	2	0	0
0	3	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-004

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Pacific Ave		Pacific Ave			Broadway			Broadway			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
	0	2	1	1	2	0	1	2	0	0	0	0
4:00 PM	0	83	32	17	50	0	14	210	22	0	0	0
4:15 PM	0	63	29	15	47	0	16	228	16	0	0	0
4:30 PM	0	94	35	22	52	0	23	261	19	0	0	0
4:45 PM	0	88	37	24	53	0	26	259	21	0	0	0
5:00 PM	0	117	43	22	51	0	23	222	25	0	0	0
5:15 PM	0	96	44	16	48	0	20	251	19	0	0	0
5:30 PM	0	89	34	12	46	0	26	256	11	0	0	0
5:45 PM	1	62	26	23	37	0	15	219	13	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	692	280	151	384	0	163	1906	146	0	0	0	3723
APPROACH %'s :	0.10%	71.12%	28.78%	28.22%	71.78%	0.00%	7.36%	86.05%	6.59%	#DIV/0!	#DIV/0!	#DIV/0!	

PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	395	159	84	204	0	92	993	84	0	0	0	2011
PEAK HR FACTOR :		0.866			0.935			0.955			0.000		0.990

CONTROL : Signalized

UTURNS			
NB	SB	EB	WB
0	1	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	2	0	0
0	2	0	0
1	0	0	0

NB	SB	EB	WB
1	6	0	0

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

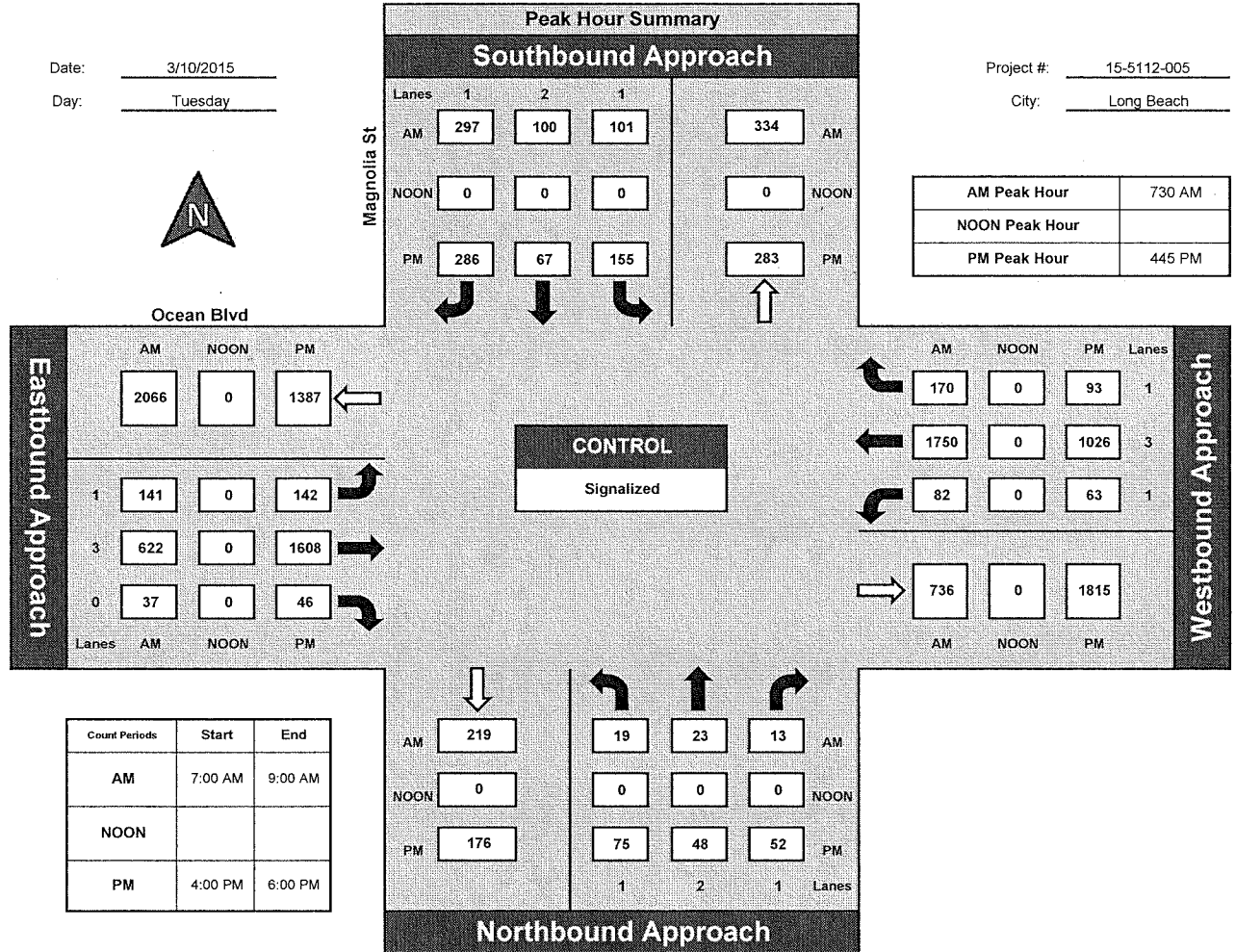
Magnolia St and Ocean Blvd, Long Beach

Date: 3/10/2015

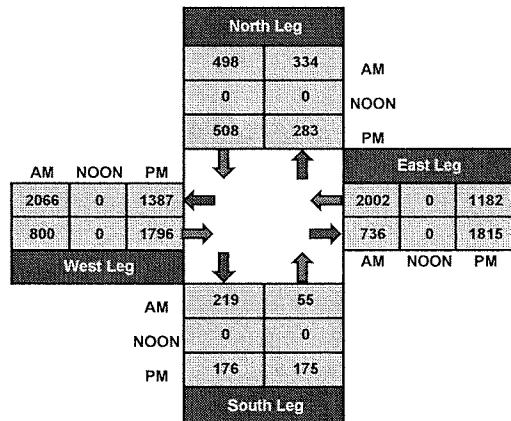
Day: Tuesday

Project #: 15-5112-005

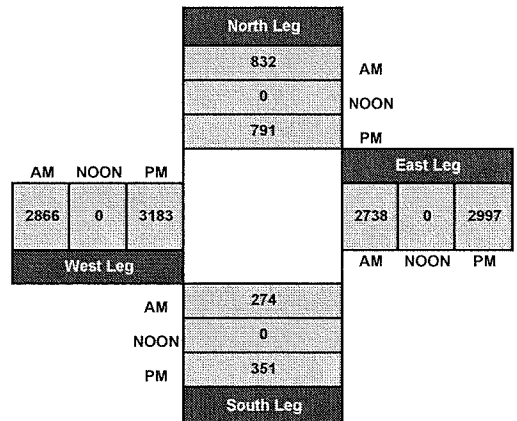
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-005

Day: Tuesday

City: Long Beach

Date: 3/10/2015

AM

NS/EW Streets:	Magnolia St		Magnolia St			Ocean Blvd			Ocean Blvd			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	
7:00 AM	1	3	1	14	21	68	13	92	7	17	446	22	705
7:15 AM	4	1	4	23	23	78	23	130	9	21	436	43	795
7:30 AM	5	4	6	18	22	66	25	137	13	18	483	52	849
7:45 AM	5	9	1	29	30	86	36	138	9	26	425	30	824
8:00 AM	4	8	2	21	19	80	45	188	10	18	438	42	875
8:15 AM	5	2	4	33	29	65	35	159	5	20	404	46	807
8:30 AM	7	1	6	42	25	74	40	150	3	27	316	37	728
8:45 AM	4	5	6	36	25	76	29	134	6	24	321	35	701

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	35	33	30	216	194	593	246	1128	62	171	3269	307	6284
APPROACH %'s :	35.71%	33.67%	30.61%	21.54%	19.34%	59.12%	17.13%	78.55%	4.32%	4.56%	87.24%	8.19%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	19	23	13	101	100	297	141	622	37	82	1750	170	3355
PEAK HR FACTOR :	0.917			0.859			0.823			0.905			0.959

UTURNS			
NB	SB	EB	WB
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	1
0	0	0	0
1	0	0	2
1	0	0	0
NB	SB	EB	WB
2	0	1	3

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-005

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Magnolia St			Magnolia St			Ocean Blvd			Ocean Blvd			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	
4:00 PM	7	9	13	44	17	74	39	313	7	15	211	22	771
4:15 PM	13	11	8	45	18	60	40	364	6	17	199	22	803
4:30 PM	12	26	16	49	16	98	30	316	5	17	216	36	837
4:45 PM	26	16	19	45	21	77	34	413	10	15	226	29	931
5:00 PM	25	15	14	29	16	84	35	426	10	15	308	31	1008
5:15 PM	12	9	10	46	17	58	33	384	13	13	240	15	850
5:30 PM	12	8	9	35	13	67	40	385	13	20	252	18	872
5:45 PM	7	3	14	30	11	47	37	342	7	10	200	14	722

TOTAL VOLUMES :	NL 114	NT 97	NR 103	SL 323	ST 129	SR 565	EL 288	ET 2943	ER 71	WL 122	WT 1852	WR 187	TOTAL 6794
APPROACH %'s :	36.31%	30.89%	32.80%	31.76%	12.68%	55.56%	8.72%	89.13%	2.15%	5.65%	85.70%	8.65%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	75	48	52	155	67	286	142	1608	46	63	1026	93	3661
PEAK HR FACTOR :	0.717			0.888			0.953			0.835			0.908

CONTROL : Signalized

UTURNS			
NB	SB	EB	WB
0	0	0	0
2	0	0	0
0	0	0	0
2	0	0	1
1	0	0	0
0	0	0	1
1	0	0	1
0	0	0	0
6	0	0	3

ITM Peak Hour Summary

Prepared by:
NDS

National Data & Surveying Services

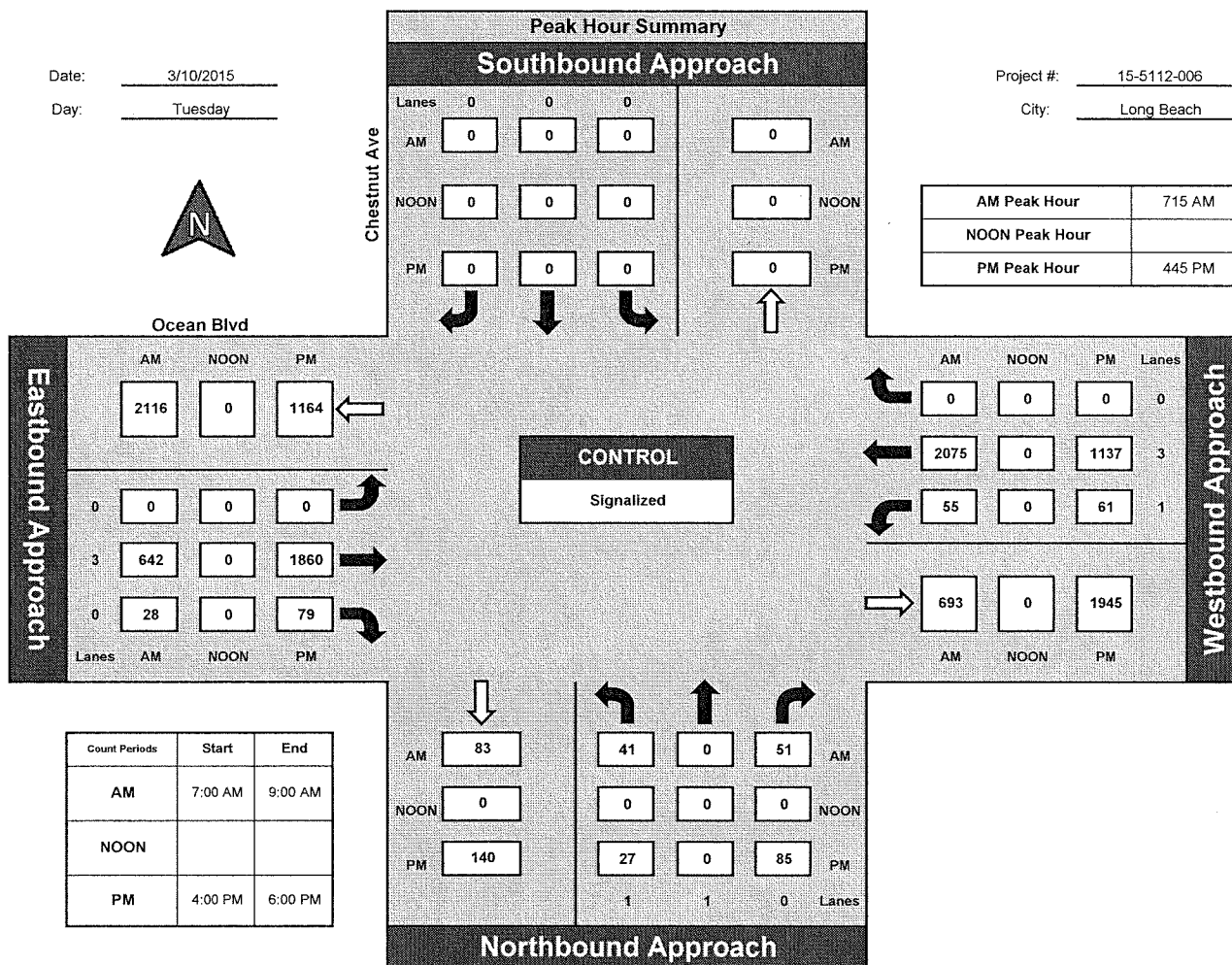
Chestnut Ave and Ocean Blvd , Long Beach

Date: 3/10/2015

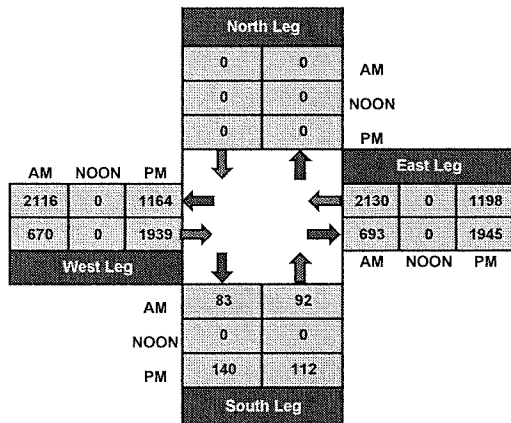
Day: Tuesday

Project #: 15-5112-006

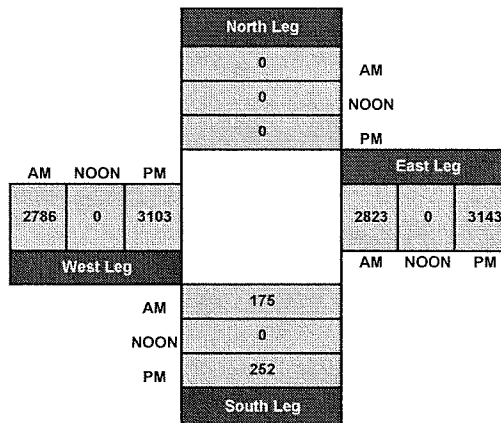
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-006

Day: Tuesday

City: Long Beach

Date: 3/10/2015

NS/EW Streets:	AM												TOTAL
	Chestnut Ave			Chestnut Ave			Ocean Blvd			Ocean Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 1	NR 0	SL 0	ST 0	SR 0	EL 0	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL
7:00 AM	5	0	7	0	0	0	0	100	3	8	500	0	623
7:15 AM	12	0	20	0	0	0	0	137	4	14	505	0	692
7:30 AM	9	0	15	0	0	0	0	151	8	10	557	0	750
7:45 AM	7	0	10	0	0	0	0	154	12	12	513	0	708
8:00 AM	13	0	6	0	0	0	0	200	4	19	500	0	742
8:15 AM	8	0	9	0	0	0	1	170	8	18	471	0	685
8:30 AM	12	0	11	0	0	0	0	185	6	15	386	0	615
8:45 AM	12	0	9	0	0	0	2	154	9	12	374	0	572

UTURNS			
NB	SB	EB	WB
0	0	0	2
0	0	0	1
0	0	0	0
0	0	0	1
0	0	0	2
0	0	1	2
0	0	0	0
0	0	2	1

NB	SB	EB	WB
0	0	3	9

TOTAL VOLUMES :	NL 78	NT 0	NR 87	SL 0	ST 0	SR 0	EL 3	ET 1251	ER 54	WL 108	WT 3806	WR 0	TOTAL 5387
APPROACH %'s :	47.27%	0.00%	52.73%	#DIV/0!	#DIV/0!	#DIV/0!	0.23%	95.64%	4.13%	2.76%	97.24%	0.00%	

PEAK HR START TIME :	7:15 AM												TOTAL
PEAK HR VOL :	41	0	51	0	0	0	0	642	28	55	2075	0	2892
PEAK HR FACTOR :	0.719			0.000			0.821			0.939			0.964

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-006

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Chestnut Ave			Chestnut Ave			Ocean Blvd			Ocean Blvd			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 1	NR 0	SL 0	ST 0	SR 0	EL 0	ET 3	ER 0	WL 1	WT 3	WR 0	
4:00 PM	10	0	17	0	0	0	0	375	13	4	244	0	663
4:15 PM	3	0	18	0	0	0	0	391	16	8	248	0	684
4:30 PM	10	0	12	0	0	0	0	373	21	13	283	0	712
4:45 PM	2	0	18	0	0	0	0	470	25	21	257	0	793
5:00 PM	14	0	27	0	0	0	0	481	20	15	324	0	881
5:15 PM	6	0	24	0	0	0	0	461	14	13	278	0	796
5:30 PM	5	0	16	0	0	0	0	448	20	12	278	0	779
5:45 PM	7	0	20	0	0	0	0	391	14	9	209	0	650

UTURNS			
NB	SB	EB	WB
0	0	0	0
0	0	0	2
0	0	1	0
0	0	1	1
0	0	1	1
0	0	0	0
0	0	2	0
0	0	1	1

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	57	0	152	0	0	0	0	3390	143	95	2121	0	5958
APPROACH %'s :	27.27%	0.00%	72.73%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	95.95%	4.05%	4.29%	95.71%	0.00%	

NB	SB	EB	WB
0	0	6	5

PEAK HR START TIME :	4:45 PM												TOTAL
PEAK HR VOL :	27	0	85	0	0	0	0	1860	79	61	1137	0	3249
PEAK HR FACTOR :	0.683			0.000			0.968			0.883			0.922

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

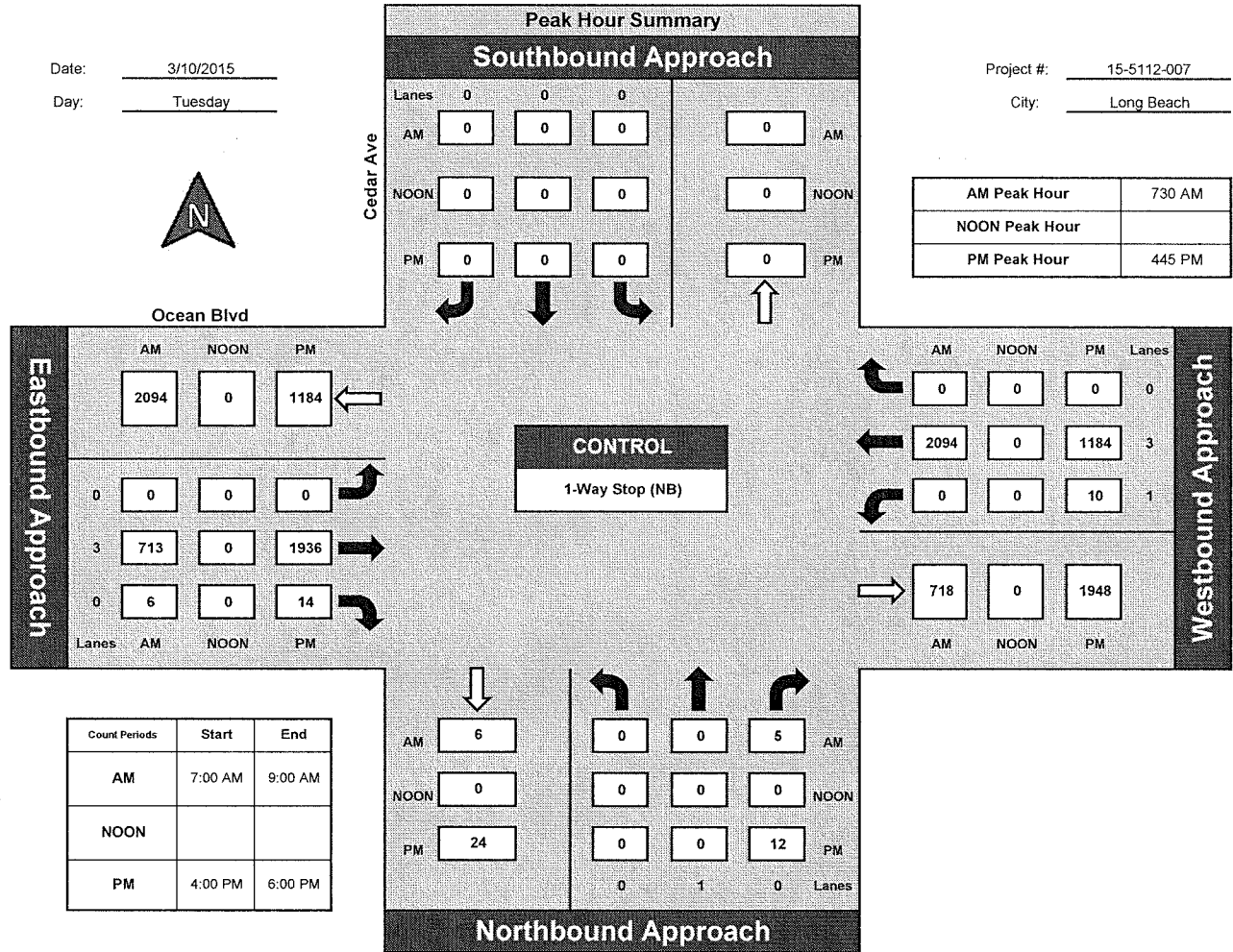
Cedar Ave and Ocean Blvd, Long Beach

Date: 3/10/2015

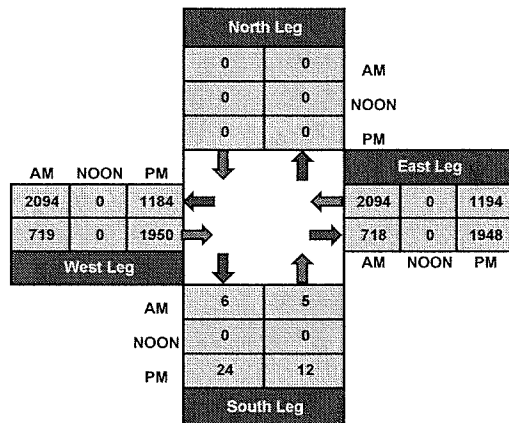
Day: Tuesday

Project #: 15-5112-007

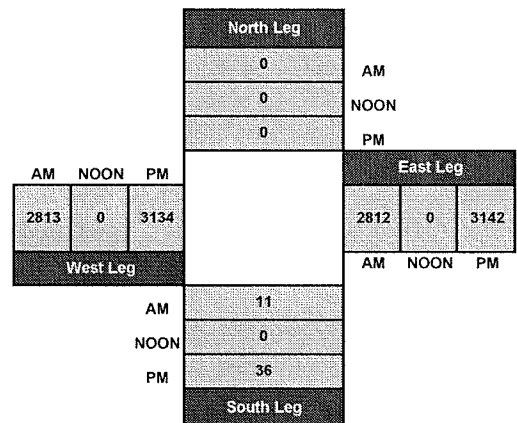
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-007

Day: Tuesday

City: Long Beach

Date: 3/10/2015

AM

NS/EW Streets:	Cedar Ave		Cedar Ave			Ocean Blvd			Ocean Blvd			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	0	0	0	0	0	0	0	104	1	0	521	0	626
7:15 AM	0	0	1	0	0	0	0	154	4	3	526	0	688
7:30 AM	0	0	1	0	0	0	0	167	1	0	564	0	733
7:45 AM	0	0	0	0	0	0	0	157	0	0	519	0	676
8:00 AM	0	0	2	0	0	0	0	201	3	0	514	0	720
8:15 AM	0	0	2	0	0	0	0	188	2	0	497	0	689
8:30 AM	0	0	2	0	0	0	0	190	1	2	413	0	608
8:45 AM	0	0	0	0	0	0	0	156	2	1	379	0	538

UTURNS			
NB	SB	EB	WB
0	0	0	0
0	0	0	3
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	2
0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	8	0	0	0	0	1317	14	6	3933	0	5278
APPROACH %'s :	0.00%	0.00%	100.00%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	98.95%	1.05%	0.15%	99.85%	0.00%	

NB	SB	EB	WB
0	0	0	5

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	5	0	0	0	0	713	6	0	2094	0	2818
PEAK HR FACTOR :	0.625			0.000			0.881			0.928			0.961

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-007

Day: Tuesday

City: Long Beach

Date: 3/10/2015

NS/EW Streets:	PM												TOTAL
	Cedar Ave			Cedar Ave			Ocean Blvd			Ocean Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	1	0	0	0	0	386	2	1	250	0	640
4:15 PM	0	0	2	0	0	0	0	400	4	3	255	0	664
4:30 PM	0	0	4	0	0	0	0	391	2	4	308	0	709
4:45 PM	0	0	4	0	0	0	0	488	4	2	268	0	766
5:00 PM	0	0	3	0	0	0	0	495	2	3	333	0	836
5:15 PM	0	0	3	0	0	0	0	485	5	3	309	0	805
5:30 PM	0	0	2	0	0	0	0	468	3	2	274	0	749
5:45 PM	0	0	0	0	0	0	0	401	4	1	221	0	627

UTURNS			
NB	SB	EB	WB
0	0	0	0
0	0	0	1
0	0	0	1
0	0	0	1
0	0	0	0
0	0	0	1
0	0	0	2
0	0	0	0

NB	SB	EB	WB
0	0	0	6

TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	0	0	19	0	0	0	0	3514	26	19	2218	0	5796
	0.00%	0.00%	100.00%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	99.27%	0.73%	0.85%	99.15%	0.00%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	12	0	0	0	0	1936	14	10	1184	0	3156
PEAK HR FACTOR :	0.750			0.000			0.981			0.888			0.944

CONTROL : 1-Way Stop (NB)

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

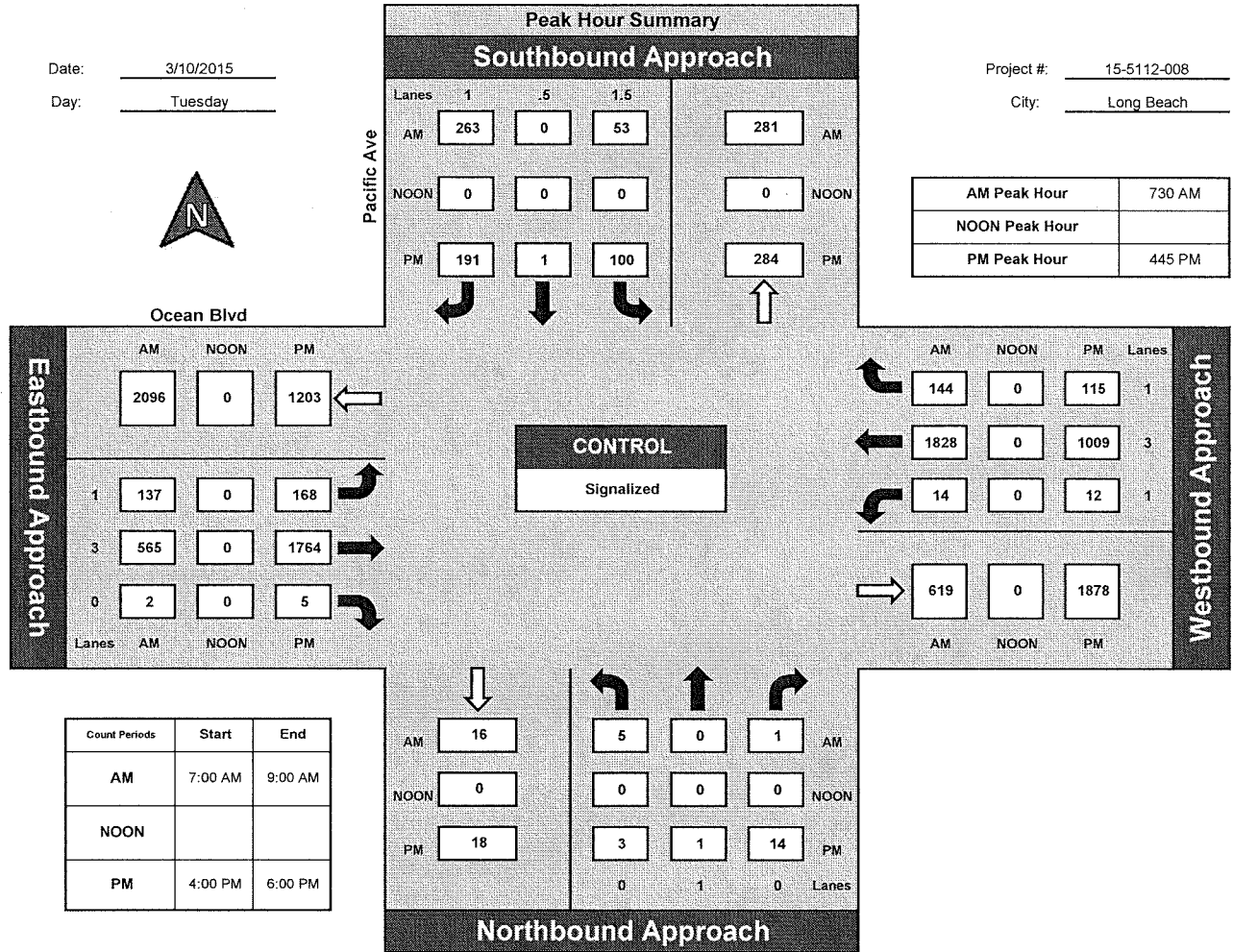
Pacific Ave and Ocean Blvd, Long Beach

Date: 3/10/2015

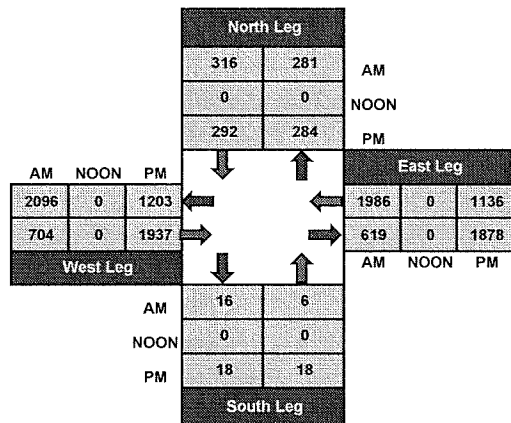
Day: Tuesday

Project #: 15-5112-008

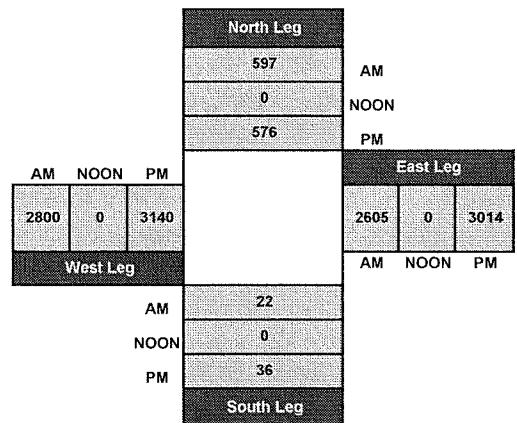
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-008

Day: Tuesday

City: Long Beach

Date: 3/10/2015

NS/EW Streets:	AM												TOTAL
	Pacific Ave			Pacific Ave			Ocean Blvd			Ocean Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 1.5	ST .5	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	
7:00 AM	2	0	0	9	0	40	14	87	0	3	486	21	662
7:15 AM	2	1	0	16	0	63	24	135	0	1	457	26	725
7:30 AM	1	0	0	13	0	68	16	142	1	0	500	23	764
7:45 AM	2	0	0	18	0	71	30	133	1	4	454	42	755
8:00 AM	0	0	0	8	0	69	46	152	0	4	437	43	759
8:15 AM	2	0	1	14	0	55	45	138	0	6	437	36	734
8:30 AM	0	1	0	15	0	57	54	148	0	4	368	36	683
8:45 AM	0	0	0	19	0	59	30	128	0	2	310	33	581

UTURNS			
NB	SB	EB	WB
0	0	0	3
0	0	1	1
0	0	0	0
0	0	0	2
0	0	1	4
0	0	0	4
0	0	1	4
0	0	0	2

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	9	2	1	112	0	482	259	1063	2	24	3449	260	5663
APPROACH %'s :	75.00%	16.67%	8.33%	18.86%	0.00%	81.14%	19.56%	80.29%	0.15%	0.64%	92.39%	6.96%	

NB	SB	EB	WB
0	0	3	20

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	5	0	1	53	0	263	137	565	2	14	1828	144	3012
PEAK HR FACTOR :	0.500			0.888			0.889			0.949			0.986

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-008

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Pacific Ave		Pacific Ave			Ocean Blvd			Ocean Blvd			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 1.5	ST .5	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	
4:00 PM	1	0	2	24	1	36	42	359	1	4	222	20	712
4:15 PM	1	1	3	25	0	46	32	349	3	1	206	29	696
4:30 PM	1	0	0	23	0	42	37	376	0	6	262	31	778
4:45 PM	0	0	6	30	0	38	42	451	0	4	232	31	834
5:00 PM	1	0	4	28	0	64	34	441	2	2	280	34	890
5:15 PM	1	0	1	24	0	52	46	457	1	2	265	20	869
5:30 PM	1	1	3	18	1	37	46	415	2	4	232	30	790
5:45 PM	2	0	1	26	0	31	24	372	0	2	194	23	675

UTURNS			
NB	SB	EB	WB
0	0	0	3
0	0	0	1
0	0	1	4
0	0	0	4
0	0	0	1
0	0	0	2
0	0	0	4
0	0	0	2

TOTAL VOLUMES :	NL 8	NT 2	NR 20	SL 198	ST 2	SR 346	EL 303	ET 3220	ER 9	WL 25	WT 1893	WR 218	TOTAL 6244
APPROACH %'s :	26.67%	6.67%	66.67%	36.26%	0.37%	63.37%	8.58%	91.17%	0.25%	1.17%	88.62%	10.21%	

NB	SB	EB	WB
0	0	1	21

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	3	1	14	100	1	191	168	1764	5	12	1009	115	3383
PEAK HR FACTOR :	0.750			0.793			0.961			0.899			0.950

CONTROL : Signalized

ITM Peak Hour Summary

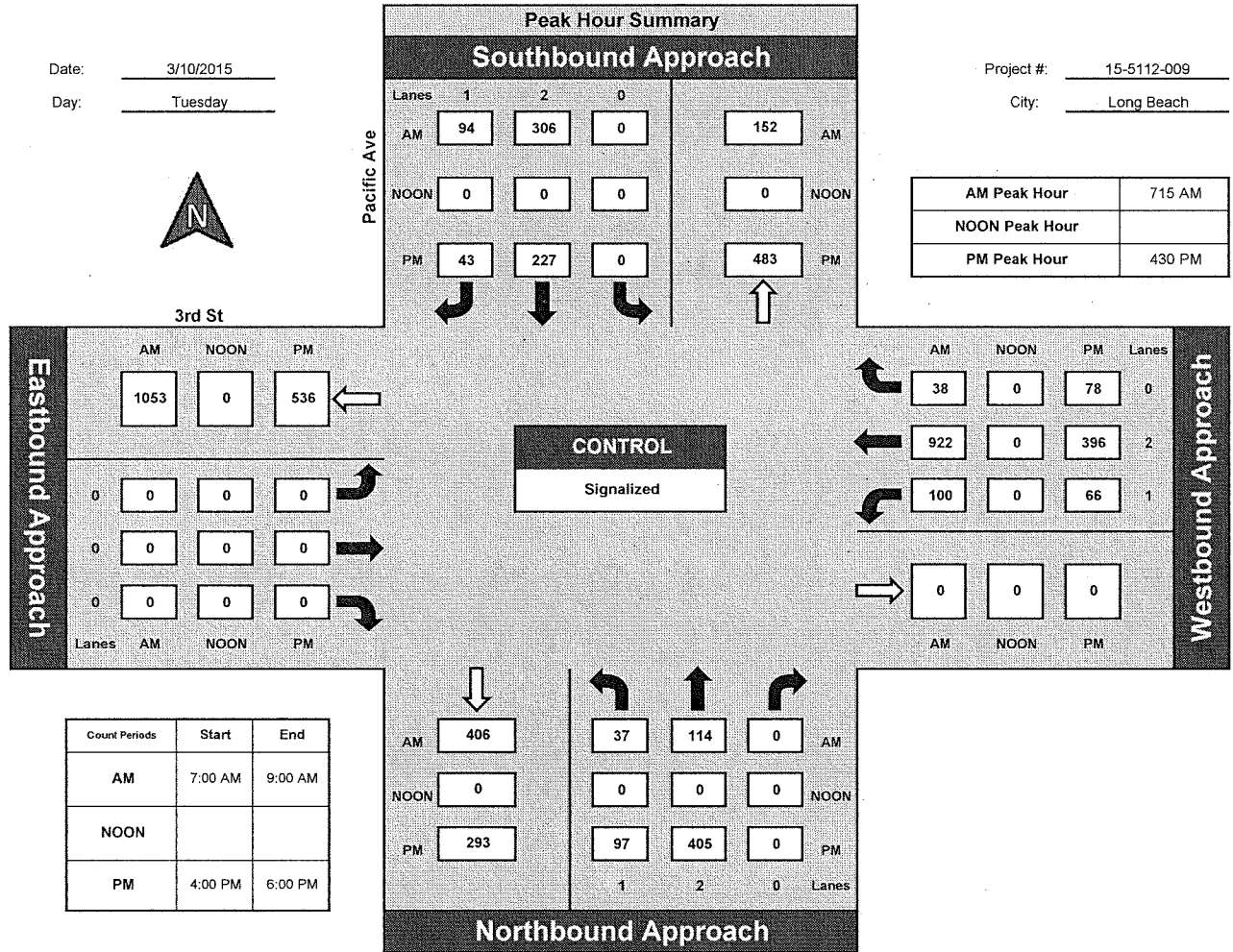
Prepared by:
NDS

National Data & Surveying Services

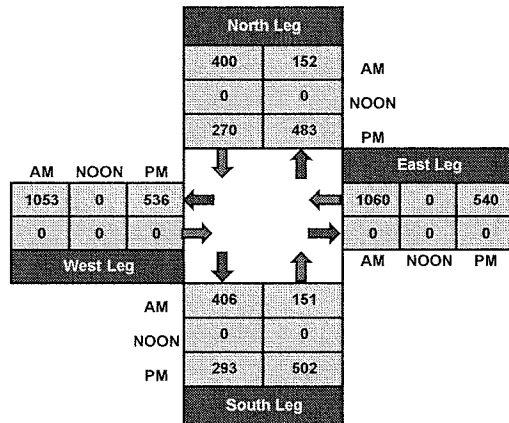
Pacific Ave and 3rd St, Long Beach

Date: 3/10/2015
Day: Tuesday

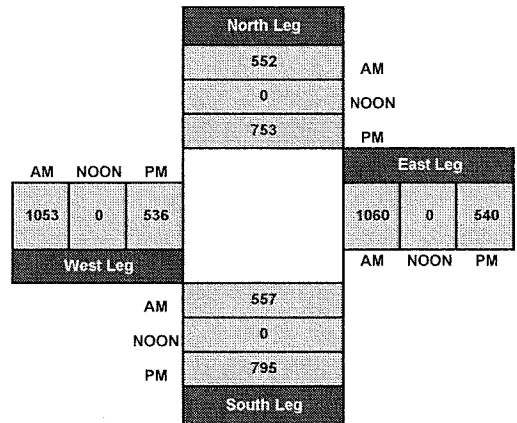
Project #: 15-5112-009
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-009

Day: Tuesday

City: Long Beach

Date: 3/10/2015

AM

NS/EW Streets:	Pacific Ave		Pacific Ave			3rd St			3rd St			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 0	SL 0	ST 2	SR 1	EL 0	ET 0	ER 0	WL 1	WT 2	WR 0	
7:00 AM	7	17	0	0	64	16	0	0	0	16	235	10	365
7:15 AM	8	32	0	0	65	32	0	0	0	23	245	6	411
7:30 AM	4	19	0	0	71	11	0	0	0	35	239	12	391
7:45 AM	10	35	0	0	93	36	0	0	0	24	221	10	429
8:00 AM	15	28	0	0	77	15	0	0	0	18	217	10	380
8:15 AM	12	32	0	0	100	29	0	0	0	16	200	9	398
8:30 AM	6	38	0	0	68	28	0	0	0	12	176	11	339
8:45 AM	8	31	0	0	96	12	0	0	0	27	148	6	328

UTURNS			
NB	SB	EB	WB
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0

NB	SB	EB	WB
2	0	0	0

TOTAL VOLUMES :	NL 70	NT 232	NR 0	SL 0	ST 634	SR 179	EL 0	ET 0	ER 0	WL 171	WT 1681	WR 74	TOTAL 3041
APPROACH %'s :	23.18%	76.82%	0.00%	0.00%	77.98%	22.02%	#DIV/0!	#DIV/0!	#DIV/0!	8.88%	87.28%	3.84%	

PEAK HR START TIME :	7:15 AM												TOTAL
PEAK HR VOL :	37	114	0	0	306	94	0	0	0	100	922	38	1611
PEAK HR FACTOR :	0.839		0.775			0.000			0.927			0.939	

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-009

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Pacific Ave		Pacific Ave			3rd St			3rd St			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 0	SL 0	ST 2	SR 1	EL 0	ET 0	ER 0	WL 1	WT 2	WR 0	
4:00 PM	23	75	0	0	54	18	0	0	0	7	112	21	310
4:15 PM	16	60	0	0	53	15	0	0	0	9	99	12	264
4:30 PM	31	87	0	0	58	10	0	0	0	18	102	21	327
4:45 PM	18	89	0	0	69	14	0	0	0	15	90	18	313
5:00 PM	28	138	0	0	44	10	0	0	0	17	114	23	374
5:15 PM	20	91	0	0	56	9	0	0	0	16	90	16	298
5:30 PM	18	101	0	0	49	9	0	0	0	12	109	11	309
5:45 PM	21	58	0	0	42	15	0	0	0	10	94	20	260

UTURNS			
NB	SB	EB	WB
2	0	0	0
0	0	0	0
2	0	0	0
0	0	0	0
3	0	0	0
2	0	0	0
3	0	0	0
0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	175	699	0	0	425	100	0	0	0	104	810	142	2455
APPROACH %'s :	20.02%	79.98%	0.00%	0.00%	80.95%	19.05%	#DIV/0!	#DIV/0!	#DIV/0!	9.85%	76.70%	13.45%	

NB	SB	EB	WB
12	0	0	0

PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	97	405	0	0	227	43	0	0	0	66	396	78	1312
PEAK HR FACTOR :	0.756			0.813			0.000			0.877			0.877

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

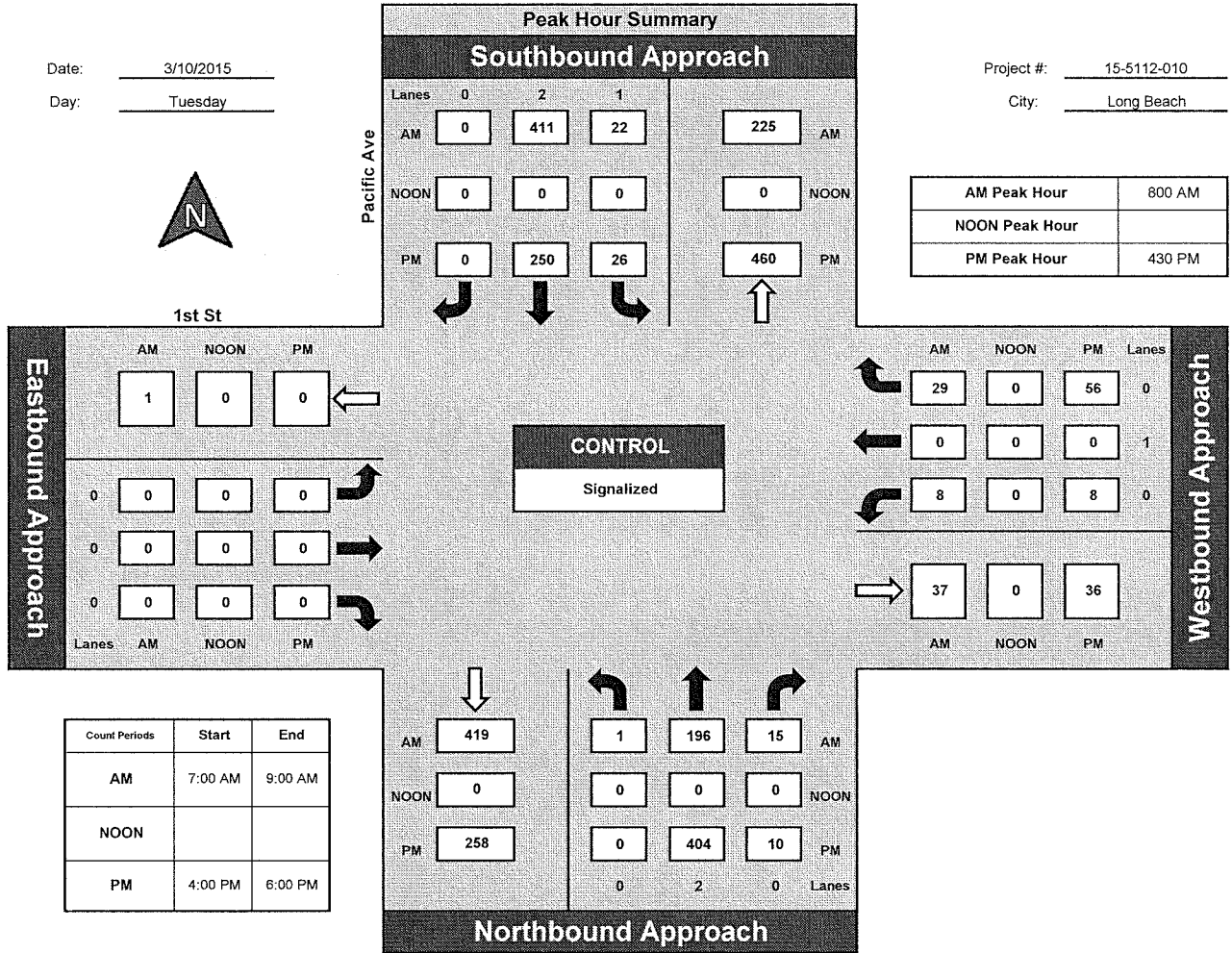


National Data & Surveying Services

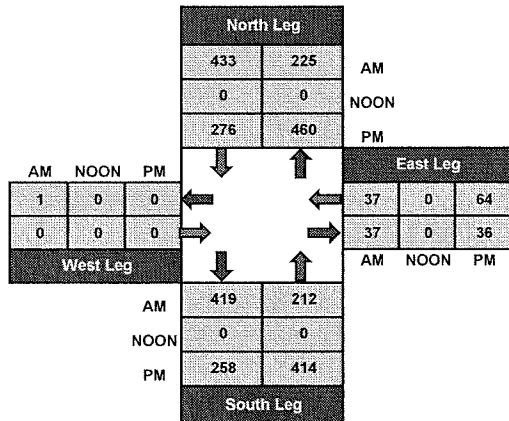
Pacific Ave and 1st St, Long Beach

Date: 3/10/2015
Day: Tuesday

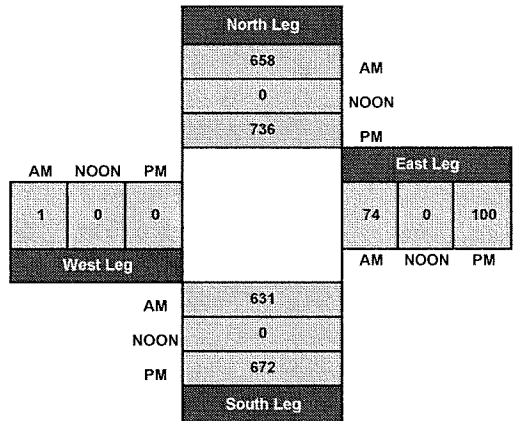
Project #: 15-5112-010
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-010

Day: Tuesday

City: Long Beach

Date: 3/10/2015

AM

NS/EW Streets:	Pacific Ave		Pacific Ave			1st St			1st St			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
	0	2	0	1	2	0	0	0	0	0	1	0
7:00 AM	0	24	3	4	67	0	0	0	0	2	0	10
7:15 AM	0	35	3	7	89	0	0	0	0	2	0	12
7:30 AM	0	17	5	7	82	0	0	0	0	1	0	8
7:45 AM	0	42	6	5	101	0	0	0	0	3	0	9
8:00 AM	1	47	5	6	106	0	0	0	0	2	0	8
8:15 AM	0	47	2	7	102	0	0	0	0	2	0	5
8:30 AM	0	59	3	7	95	0	0	0	0	3	0	8
8:45 AM	0	43	5	2	108	0	0	0	0	1	0	8

UTURNS			
NB	SB	EB	WB
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	314	32	45	750	0	0	0	0	16	0	68	1226
APPROACH %'s :	0.29%	90.49%	9.22%	5.66%	94.34%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	19.05%	0.00%	80.95%	

NB	SB	EB	WB
2	0	0	0

PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	1	196	15	22	411	0	0	0	0	8	0	29	682
PEAK HR FACTOR :		0.855			0.967			0.000			0.841		0.974

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5112-010

Day: Tuesday

City: Long Beach

Date: 3/10/2015

PM

NS/EW Streets:	Pacific Ave		Pacific Ave			1st St			1st St			TOTAL		
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		
	0	2	0	1	2	0	0	0	0	0	1	0	13	176
4:00 PM	0	87	3	9	63	0	0	0	0	1	0	13	176	
4:15 PM	0	62	3	4	51	0	0	0	0	3	0	10	133	
4:30 PM	0	105	0	8	53	0	0	0	0	2	0	18	186	
4:45 PM	0	95	4	7	63	0	0	0	0	0	0	9	178	
5:00 PM	0	108	3	4	76	0	0	0	0	3	0	19	213	
5:15 PM	0	96	3	7	58	0	0	0	0	3	0	10	177	
5:30 PM	1	90	5	5	48	0	0	0	0	2	0	8	159	
5:45 PM	0	64	3	4	42	0	0	0	0	3	0	17	133	

UTURNS			
NB	SB	EB	WB
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
0	0	0	0

TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	1	707	24	48	454	0	0	0	0	17	0	104	1355
	0.14%	96.58%	3.28%	9.56%	90.44%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	14.05%	0.00%	85.95%	

NB	SB	EB	WB
1	0	0	0

PEAK HR START TIME :	4:30 PM												TOTAL
PEAK HR VOL :	0	404	10	26	250	0	0	0	0	8	0	56	754
PEAK HR FACTOR :		0.932			0.863			0.000			0.727		0.885

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

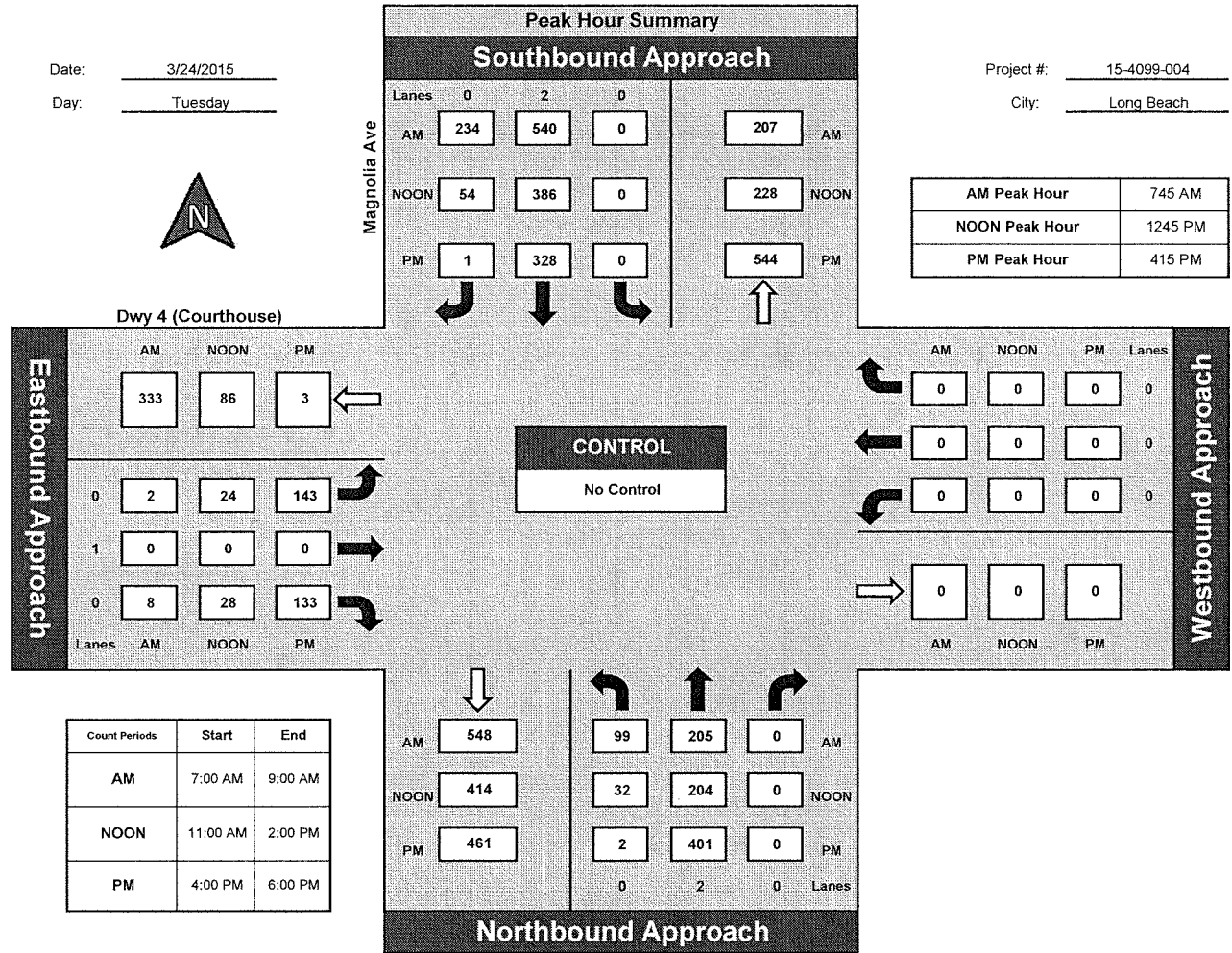
Magnolia Ave and Dwy 4 (Courthouse), Long Beach

Date: 3/24/2015

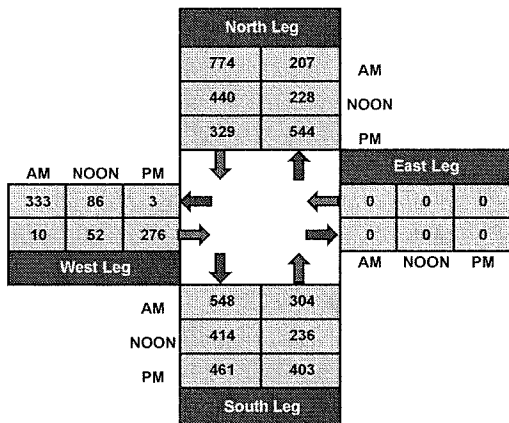
Day: Tuesday

Project #: 15-4099-004

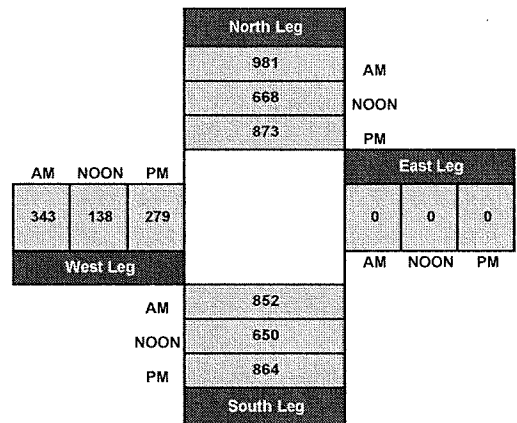
City: Long Beach



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-4099-004

Day: Tuesday

City: Long Beach

Date: 3/24/2015

AM

NS/EW Streets:	Magnolia Ave.		Magnolia Ave.			Dwy 4 (Courthouse)			Dwy 4 (Courthouse)			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	2	0	0	2	0	0	1	0	0	0	0	
7:00 AM	8	17	0	0	117	18	0	0	0	0	0	0	160
7:15 AM	13	33	0	0	120	39	0	0	0	0	0	0	205
7:30 AM	18	45	0	0	122	49	1	0	0	0	0	0	235
7:45 AM	23	51	0	0	153	63	1	0	0	0	0	0	291
8:00 AM	22	41	0	0	122	61	1	0	3	0	0	0	250
8:15 AM	34	69	0	0	132	56	0	0	3	0	0	0	294
8:30 AM	20	44	0	0	133	54	0	0	2	0	0	0	253
8:45 AM	19	51	0	0	127	48	0	0	3	0	0	0	248

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	157	351	0	0	1026	388	3	0	11	0	0	0	1936
APPROACH %'s :	30.91%	69.09%	0.00%	0.00%	72.56%	27.44%	21.43%	0.00%	78.57%	#DIV/0!	#DIV/0!	#DIV/0!	

PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	99	205	0	0	540	234	2	0	8	0	0	0	1088
PEAK HR FACTOR :	0.738		0.896			0.625			0.000			0.925	

CONTROL : No Control

UTURNS			
NB	SB	EB	WB

NB	SB	EB	WB
0	0	0	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-4099-004

Day: Tuesday

City: Long Beach

Date: 3/24/2015

PM

NS/EW Streets:	Magnolia Ave		Magnolia Ave			Dwy 4 (Courthouse)			Dwy 4 (Courthouse)			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	2	83	0	0	67	0	14	0	21	0	0	0	187
4:15 PM	0	95	0	0	85	0	22	0	26	0	0	0	228
4:30 PM	1	115	0	0	76	1	41	0	40	0	0	0	274
4:45 PM	1	113	0	0	85	0	29	0	33	0	0	0	261
5:00 PM	0	78	0	0	82	0	51	0	34	0	0	0	245
5:15 PM	0	79	0	0	97	0	20	0	15	0	0	0	211
5:30 PM	0	64	0	0	91	0	18	0	12	0	0	0	185
5:45 PM	0	74	0	0	57	0	4	0	7	0	0	0	142

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	701	0	0	640	1	199	0	188	0	0	0	1733
APPROACH %'s :	0.57%	99.43%	0.00%	0.00%	99.84%	0.16%	51.42%	0.00%	48.58%	#DIV/0!	#DIV/0!	#DIV/0!	

UTURNS			
NB	SB	EB	WB

NB	SB	EB	WB
0	0	0	0

PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	2	401	0	0	328	1	143	0	133	0	0	0	1008
PEAK HR FACTOR :		0.869			0.968			0.812			0.000		0.920

CONTROL : No Control

APPENDIX B

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX B-1

EXISTING TRAFFIC CONDITIONS

AM Existing Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Magnolia Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.502
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Street Name: Magnolia Ave Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 1 0 0 0 0 0

Volume Module:
Base Vol: 0 150 64 71 455 0 58 711 415 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 150 64 71 455 0 58 711 415 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 150 64 71 455 0 58 711 415 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 150 64 71 455 0 58 711 415 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 150 64 71 455 0 58 711 415 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 150 64 71 455 0 58 711 415 0 0 0

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.40 0.60 1.00 2.00 0.00 1.00 2.00 1.00 0.00 0.00 0.00
Final Sat.: 0 2243 957 1600 3200 0 1600 3200 1600 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.07 0.07 0.04 0.14 0.00 0.04 0.22 0.26 0.00 0.00 0.00
Crit Moves: ****

AM Existing Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Chestnut Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.432
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

Table with columns for Street Name (Chestnut Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for each movement.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat for each movement.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for each movement.

AM Existing Traffic Conditions
 2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Cedar Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.432
 Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 38 Level Of Service: A

Street Name:	Cedar Ave						Broadway					
	North Bound			South Bound			East Bound			West Bound		
Approach:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1	0	1	0	1	0	1	0	0	0

Volume Module:												
Base Vol:	0	8	5	75	1	0	25	729	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	8	5	75	1	0	25	729	4	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	8	5	75	1	0	25	729	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	8	5	75	1	0	25	729	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	8	5	75	1	0	25	729	4	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	8	5	75	1	0	25	729	4	0	0	0

Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	1.00	0.99	0.01	0.00	1.00	1.99	0.01	0.00	0.00	0.00
Final Sat.:	0	1600	1600	1579	21	0	1600	3183	17	0	0	0

Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.00	0.05	0.05	0.00	0.02	0.23	0.23	0.00	0.00	0.00
Crit Moves:	****			****			****					

AM Existing Traffic Conditions
 2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Pacific Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.478
 Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 43 Level Of Service: A

Street Name:	Pacific Avenue						Broadway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2	0	1		1	0	2	0	0	

Volume Module:

Base Vol:	0	145	44	61	359	0	25	546	143	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	145	44	61	359	0	25	546	143	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	145	44	61	359	0	25	546	143	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	145	44	61	359	0	25	546	143	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	145	44	61	359	0	25	546	143	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	145	44	61	359	0	25	546	143	0	0	0

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	1.00	1.58	0.42	0.00	0.00	0.00
Final Sat.:	0	3200	1600	1600	3200	0	1600	2536	664	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.05	0.03	0.04	0.11	0.00	0.02	0.22	0.22	0.00	0.00	0.00
Crit Moves:					****				****			

AM Existing Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Magnolia Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.770
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 65 Level Of Service: C

Street Name: Magnolia Avenue Ocean Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Prot+Permit Permitted Permitted
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 1 1 0 2 0 1 1 0 2 1 0 1 0 3 0 1

Volume Module:

Base Vol: 19 23 13 101 100 297 141 622 37 82 1750 170
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 19 23 13 101 100 297 141 622 37 82 1750 170
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 19 23 13 101 100 297 141 622 37 82 1750 170
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 19 23 13 101 100 297 141 622 37 82 1750 170
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 19 23 13 101 100 297 141 622 37 82 1750 170
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 19 23 13 101 100 297 141 622 37 82 1750 170

Saturation Flow Module:

Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.83 0.17 1.00 3.00 1.00
Final Sat.: 1600 3200 1600 1600 3200 1600 1600 4531 269 1600 4800 1600

Capacity Analysis Module:

Vol/Sat: 0.01 0.01 0.01 0.06 0.03 0.19 0.09 0.14 0.14 0.05 0.36 0.11
Crit Moves: **** **** **** ****

AM Existing Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Chestnut Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.564
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Table with columns for Street Name (Chestnut Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Permitted), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume across different movements.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat. for each movement.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for each movement.

AM Existing Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Cedar Avenue at Ocean Blvd
Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[9.7]

Table with columns for Street Name (Cedar Ave, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 2, 1, 0, 1, 0, 3, 0, 0).

Volume Module:
Base Vol: 0 0 5 0 0 0 0 0 713 6 0 2094 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 5 0 0 0 0 0 713 6 0 2094 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 5 0 0 0 0 0 713 6 0 2094 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 5 0 0 0 0 0 713 6 0 2094 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 5 0 0 0 0 0 713 6 0 2094 0

Critical Gap Module:
Critical Gp:xxxxx xxxx 6.9 xxxxx xxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
FollowUpTim:xxxxx xxxx 3.3 xxxxx xxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx

Capacity Module:
Cnflct Vol: xxxxx xxxx 241 xxxxx xxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx
Potent Cap.: xxxxx xxxx 766 xxxxx xxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx
Move Cap.: xxxxx xxxx 766 xxxxx xxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx
Volume/Cap: xxxxx xxxx 0.01 xxxxx xxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx

Level Of Service Module:
2Way95thQ: xxxxx xxxx 0.0 xxxxx xxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx
Control Del:xxxxxx xxxx 9.7 xxxxxx xxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
LOS by Move: * * A * * * * * * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxx xxxxxx xxxxx xxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxx xxxxxx
SharedQueue:xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
Shrd ConDel:xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
Shared LOS: * * * * * * * * * * * * * * *
ApproachDel: 9.7 xxxxxx xxxxxx xxxxxx
ApproachLOS: A * * *

Note: Queue reported is the number of cars per lane.

AM Existing Traffic Conditions
 2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Pacific Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.689
 Loss Time (sec): 14 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 57 Level Of Service: B

Street Name:	Pacific Ave						Ocean Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Prot+Permit			Prot+Permit		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	1	0	2 1	0	1	0 3 0

Volume Module:

Base Vol:	5	0	1	53	0	263	137	565	2	14	1828	144
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	0	1	53	0	263	137	565	2	14	1828	144
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	0	1	53	0	263	137	565	2	14	1828	144
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	0	1	53	0	263	137	565	2	14	1828	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	0	1	53	0	263	137	565	2	14	1828	144
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	0	1	53	0	263	137	565	2	14	1828	144
OvlAdjVol:	126											

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.83	0.00	0.17	2.00	0.00	1.00	1.00	2.99	0.01	1.00	3.00	1.00
Final Sat.:	1333	0	267	3200	0	1600	1600	4783	17	1600	4800	1600

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.16	0.09	0.12	0.12	0.01	0.38	0.09
OvlAdjV/S:	0.08											
Crit Moves:	****					****	****				****	

AM Existing Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Pacific Ave at 3rd Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.569
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Table with columns for Street Name (Pacific Ave, 3rd Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module:

Table showing various volume and adjustment factors such as Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module:

Table showing saturation flow factors: Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table showing capacity analysis factors: Vol/Sat and Crit Moves.

AM Existing Traffic Conditions
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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Pacific Avenue at 1st Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.302
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

Street Name: Pacific Ave 1st Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:
Base Vol: 0 196 15 22 411 0 0 0 0 8 0 29
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 196 15 22 411 0 0 0 0 8 0 29
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 196 15 22 411 0 0 0 0 8 0 29
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 196 15 22 411 0 0 0 0 8 0 29
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 196 15 22 411 0 0 0 0 8 0 29
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 196 15 22 411 0 0 0 0 8 0 29

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.86 0.14 1.00 2.00 0.00 0.00 0.00 0.00 0.22 0.00 0.78
Final Sat.: 0 2973 227 1600 3200 0 0 0 0 346 0 1254

Capacity Analysis Module:
Vol/Sat: 0.00 0.07 0.07 0.01 0.13 0.00 0.00 0.00 0.00 0.02 0.00 0.02
Crit Moves: ****

 PM Existing Traffic Conditions
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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Magnolia Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.570
 Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 38 Level Of Service: A

Street Name:	Magnolia Ave						Broadway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1	1	0	2	0	0	1	0	0	0

Volume Module:	Magnolia Ave			Magnolia Ave			Broadway			Broadway		
Base Vol:	0	391	157	55	219	0	69	845	187	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	391	157	55	219	0	69	845	187	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	391	157	55	219	0	69	845	187	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	391	157	55	219	0	69	845	187	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	391	157	55	219	0	69	845	187	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	391	157	55	219	0	69	845	187	0	0	0

Saturation Flow Module:	Magnolia Ave			Magnolia Ave			Broadway			Broadway		
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.43	0.57	1.00	2.00	0.00	1.00	2.00	1.00	0.00	0.00	0.00
Final Sat.:	0	2283	917	1600	3200	0	1600	3200	1600	0	0	0

Capacity Analysis Module:	Magnolia Ave			Magnolia Ave			Broadway			Broadway		
Vol/Sat:	0.00	0.17	0.17	0.03	0.07	0.00	0.04	0.26	0.12	0.00	0.00	0.00
Crit Moves:	****			****			****					

 PM Existing Traffic Conditions
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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Chestnut Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.553
 Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 45 Level Of Service: A

Street Name:	Chestnut Ave						Broadway													
Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	T	R	L	T	R	L	T	R	L	T	R								
Control:	Split Phase			Split Phase			Split Phase			Split Phase										
Rights:	Include			Include			Include			Include										
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0								
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Lanes:	0	0	1	0	1	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0

Volume Module:

Base Vol:	0	109	94	60	8	0	51	999	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	109	94	60	8	0	51	999	4	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	109	94	60	8	0	51	999	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	109	94	60	8	0	51	999	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	109	94	60	8	0	51	999	4	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	109	94	60	8	0	51	999	4	0	0	0

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	1.00	1.76	0.24	0.00	1.00	1.99	0.01	0.00	0.00	0.00
Final Sat.:	0	1600	1600	2824	376	0	1600	3187	13	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.07	0.06	0.02	0.02	0.00	0.03	0.31	0.31	0.00	0.00	0.00
Crit Moves:	****			****					****			

 PM Existing Traffic Conditions
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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Cedar Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.531
 Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 44 Level Of Service: A

Street Name:	Cedar Ave						Broadway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1	0	1	0	1	0	1	1	0	0

Volume Module:	Cedar Ave			Cedar Ave			Broadway			Broadway		
Base Vol:	0	58	57	22	5	0	23	1050	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	58	57	22	5	0	23	1050	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	58	57	22	5	0	23	1050	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	58	57	22	5	0	23	1050	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	58	57	22	5	0	23	1050	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	58	57	22	5	0	23	1050	0	0	0	0
OvlAdjVol:	57											

Saturation Flow Module:	Cedar Ave			Cedar Ave			Broadway			Broadway		
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	1.00	0.81	0.19	0.00	1.00	2.00	0.00	0.00	0.00	0.00
Final Sat.:	0	1600	1600	1304	296	0	1600	3200	0	0	0	0

Capacity Analysis Module:	Cedar Ave			Cedar Ave			Broadway			Broadway		
Vol/Sat:	0.00	0.04	0.04	0.02	0.02	0.00	0.01	0.33	0.00	0.00	0.00	0.00
Crit Moves:	****			****			****					

PM Existing Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Pacific Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.663
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 55 Level Of Service: B

Table with columns for Street Name (Pacific Avenue, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLE Adj, and FinalVolume.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with columns for Vol/Sat and Crit Moves.

PM Existing Traffic Conditions
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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Magnolia Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.730
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 58 Level Of Service: C

Street Name: Magnolia Avenue Ocean Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Prot+Permit Permitted Permitted
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 1 1 0 2 0 1 1 0 2 1 0 1 0 3 0 1

Volume Module:

Base Vol: 75 48 52 155 67 286 142 1608 46 63 1026 93
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 75 48 52 155 67 286 142 1608 46 63 1026 93
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 75 48 52 155 67 286 142 1608 46 63 1026 93
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 75 48 52 155 67 286 142 1608 46 63 1026 93
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 75 48 52 155 67 286 142 1608 46 63 1026 93
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 75 48 52 155 67 286 142 1608 46 63 1026 93

Saturation Flow Module:

Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.92 0.08 1.00 3.00 1.00
Final Sat.: 1600 3200 1600 1600 3200 1600 1600 4667 133 1600 4800 1600

Capacity Analysis Module:

Vol/Sat: 0.05 0.02 0.03 0.10 0.02 0.18 0.09 0.34 0.34 0.04 0.21 0.06
Crit Moves: ****

PM Existing Traffic Conditions
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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Chestnut Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.595
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: A

Table with columns for Street Name (Chestnut Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Permitted), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module:

Table showing volume adjustments including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module:

Table showing saturation flow parameters: Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table showing capacity analysis parameters: Vol/Sat and Crit Moves.

PM Existing Traffic Conditions
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Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Cedar Avenue at Ocean Blvd

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C [17.2]

Street Name: Cedar Ave Ocean Blvd

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 0 0 0 1 0 0 0 0 0 0 0 2 1 0 1 0 3 0 0

-----|-----|-----|-----|

Volume Module:

Base Vol: 0 0 12 0 0 0 0 1936 14 10 1184 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 0 12 0 0 0 0 1936 14 10 1184 0

Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 0 0 12 0 0 0 0 1936 14 10 1184 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 0 12 0 0 0 0 1936 14 10 1184 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

FinalVolume: 0 0 12 0 0 0 0 1936 14 10 1184 0

-----|-----|-----|-----|

Critical Gap Module:

Critical Gp:xxxxx xxxx 6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 4.1 xxxx xxxxx

FollowUpTim:xxxxx xxxx 3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 2.2 xxxx xxxxx

-----|-----|-----|-----|

Capacity Module:

Cnflct Vol: xxxx xxxx 652 xxxx xxxx xxxxx xxxx xxxx xxxxx 1950 xxxx xxxxx

Potent Cap.: xxxx xxxx 415 xxxx xxxx xxxxx xxxx xxxx xxxxx 304 xxxx xxxxx

Move Cap.: xxxx xxxx 415 xxxx xxxx xxxxx xxxx xxxx xxxxx 304 xxxx xxxxx

Volume/Cap: xxxx xxxx 0.03 xxxx xxxx xxxxx xxxx xxxx xxxxx 0.03 xxxx xxxx

-----|-----|-----|-----|

Level Of Service Module:

2Way95thQ: xxxx xxxx 0.1 xxxx xxxx xxxxx xxxx xxxx xxxxx 0.1 xxxx xxxxx

Control Del:xxxxx xxxx 13.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 17.2 xxxx xxxxx

LOS by Move: * * B * * * * * * * C * * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx

SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx

Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx

Shared LOS: * * * * * * * * * * * * * * * * * * *

ApproachDel: 13.9 xxxxxx xxxxxx xxxxxx

ApproachLOS: B * * *

Note: Queue reported is the number of cars per lane.

 PM Existing Traffic Conditions
 2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Pacific Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.559
 Loss Time (sec): 14 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 44 Level Of Service: A

Street Name:	Pacific Ave						Ocean Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Prot+Permit			Prot+Permit		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	1	0	1	0	2	1	0	3

Volume Module:

Base Vol:	3	1	14	100	1	191	168	1764	5	12	1009	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	1	14	100	1	191	168	1764	5	12	1009	115
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	1	14	100	1	191	168	1764	5	12	1009	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	1	14	100	1	191	168	1764	5	12	1009	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	1	14	100	1	191	168	1764	5	12	1009	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	1	14	100	1	191	168	1764	5	12	1009	115
OvlAdjVol:	23											

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.05	0.78	1.98	0.02	1.00	1.00	2.99	0.01	1.00	3.00	1.00
Final Sat.:	267	89	1244	3168	32	1600	1600	4786	14	1600	4800	1600

Capacity Analysis Module:

Vol/Sat:	0.01	0.01	0.01	0.03	0.03	0.12	0.11	0.37	0.37	0.01	0.21	0.07
OvlAdjV/S:	0.01											
Crit Moves:	****	****					****			****		

 PM Existing Traffic Conditions
 2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Pacific Ave at 3rd Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.430
 Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 37 Level Of Service: A

Street Name:		Pacific Ave						3rd Street					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Permitted			Split Phase			Split Phase			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	1	0	2	0	0	2	0	0	0	0	1	1	

Volume Module:												
Base Vol:	97	405	0	0	227	43	0	0	0	66	396	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	405	0	0	227	43	0	0	0	66	396	78
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	405	0	0	227	43	0	0	0	66	396	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	97	405	0	0	227	43	0	0	0	66	396	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	405	0	0	227	43	0	0	0	66	396	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	405	0	0	227	43	0	0	0	66	396	78

Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	1.67	0.33
Final Sat.:	1600	3200	0	0	3200	1600	0	0	0	1600	2673	527

Capacity Analysis Module:												
Vol/Sat:	0.06	0.13	0.00	0.00	0.07	0.03	0.00	0.00	0.00	0.04	0.15	0.15
Crit Moves:	****				****					****		

 PM Existing Traffic Conditions
 2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Pacific Avenue at 1st Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.336
 Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 33 Level Of Service: A

Street Name:	Pacific Ave						1st Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1	1	0	2	0	0	0	0	0	1

Volume Module:	Pacific Ave			Pacific Ave			1st Street			1st Street		
Base Vol:	0	404	10	26	250	0	0	0	0	8	0	56
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	404	10	26	250	0	0	0	0	8	0	56
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	404	10	26	250	0	0	0	0	8	0	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	404	10	26	250	0	0	0	0	8	0	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	404	10	26	250	0	0	0	0	8	0	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	404	10	26	250	0	0	0	0	8	0	56

Saturation Flow Module:	Pacific Ave			Pacific Ave			1st Street			1st Street		
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.95	0.05	1.00	2.00	0.00	0.00	0.00	0.00	0.12	0.00	0.88
Final Sat.:	0	3123	77	1600	3200	0	0	0	0	200	0	1400

Capacity Analysis Module:	Pacific Ave			Pacific Ave			1st Street			1st Street		
Vol/Sat:	0.00	0.13	0.13	0.02	0.08	0.00	0.00	0.00	0.00	0.04	0.00	0.04
Crit Moves:	****			****						****		

APPENDIX B-II

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Magnolia Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.591
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Table with columns for Street Name (Magnolia Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat and Crit Moves.

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Chestnut Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.626
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 51 Level Of Service: B

Table with columns for Street Name (Chestnut Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume across different movements.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat. for each movement.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for each movement.

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Cedar Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.581
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 47 Level Of Service: A

Table with columns for Street Name (Cedar Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Ovl, Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume across different movements.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat. for each movement.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for each movement.

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Pacific Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.502
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 45 Level Of Service: A

Table with columns for Street Name (Pacific Avenue, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat and Crit Moves.

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Magnolia Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.787
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 69 Level Of Service: C

Table with columns for Street Name (Magnolia Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat and Crit Moves.

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Chestnut Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.584
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Table with columns for Street Name (Chestnut Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Permitted), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow data including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis data including Vol/Sat and Crit Moves.

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Cedar Avenue at Ocean Blvd

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[14.7]

Street Name: Cedar Ave Ocean Blvd

Table with columns for Approach (North Bound, South Bound, East Bound, West Bound) and Movement (L, T, R). Rows include Control, Rights, and Lanes.

Volume Module:

Table with columns for various volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and values for each approach.

Critical Gap Module:

Table with columns for Critical Gap and FollowUpTime, showing values for each approach.

Capacity Module:

Table with columns for Capacity metrics (Conflict Vol, Potent Cap., Move Cap., Volume/Cap) and values for each approach.

Level Of Service Module:

Table with columns for Level of Service metrics (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and values for each approach.

Note: Queue reported is the number of cars per lane.

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Pacific Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.694
Loss Time (sec): 14 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 57 Level Of Service: B

Street Name: Pacific Ave Ocean Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Prot+Permit Prot+Permit
Rights: Include Ovl Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1! 0 0 1 1 0 0 1 1 0 2 1 0 1 0 3 0 1

Volume Module:
Base Vol: 5 0 1 67 0 258 137 583 2 14 1868 144
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 5 0 1 67 0 258 137 583 2 14 1868 144
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 5 0 1 67 0 258 137 583 2 14 1868 144
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 5 0 1 67 0 258 137 583 2 14 1868 144
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 5 0 1 67 0 258 137 583 2 14 1868 144
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 5 0 1 67 0 258 137 583 2 14 1868 144
OvlAdjVol: 121

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.83 0.00 0.17 2.00 0.00 1.00 1.00 2.99 0.01 1.00 3.00 1.00
Final Sat.: 1333 0 267 3200 0 1600 1600 4784 16 1600 4800 1600

Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.02 0.00 0.16 0.09 0.12 0.12 0.01 0.39 0.09
OvlAdjV/S: 0.08
Crit Moves: **** **** **** ****

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Pacific Ave at 3rd Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.598
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: A

Table with columns for Street Name (Pacific Ave, 3rd Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Protected, Permitted, Split Phase), Rights (Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume across different approaches.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat. for each approach.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for each approach.

AM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Pacific Avenue at 1st Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.304
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

Street Name: Pacific Ave 1st Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:
Base Vol: 0 196 15 22 420 0 0 0 0 8 0 29
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 196 15 22 420 0 0 0 0 8 0 29
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 196 15 22 420 0 0 0 0 8 0 29
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 196 15 22 420 0 0 0 0 8 0 29
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 196 15 22 420 0 0 0 0 8 0 29
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 196 15 22 420 0 0 0 0 8 0 29

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.86 0.14 1.00 2.00 0.00 0.00 0.00 0.00 0.22 0.00 0.78
Final Sat.: 0 2973 227 1600 3200 0 0 0 0 346 0 1254

Capacity Analysis Module:
Vol/Sat: 0.00 0.07 0.07 0.01 0.13 0.00 0.00 0.00 0.00 0.02 0.00 0.02
Crit Moves: ****

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Magnolia Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.640
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 44 Level Of Service: B

Table with columns for Street Name (Magnolia Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat and Crit Moves.

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Chestnut Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.847
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 89 Level Of Service: D

Table with columns for Street Name (Chestnut Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Include), Min. Green, Y+R, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat and Crit Moves.

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Cedar Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.843
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 88 Level Of Service: D

Table with columns for Street Name (Cedar Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Ovl, Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume, and OvlAdjVol across different movements.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat. for each movement.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for each movement.

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Pacific Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.663
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 55 Level Of Service: B

Street Name: Pacific Avenue Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 2 0 1 1 0 2 0 0 1 0 1 1 0 0 0 0 0 0

Volume Module:
Base Vol: 0 395 159 84 204 0 130 1066 11 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 395 159 84 204 0 130 1066 11 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 395 159 84 204 0 130 1066 11 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 395 159 84 204 0 130 1066 11 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 395 159 84 204 0 130 1066 11 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 395 159 84 204 0 130 1066 11 0 0 0

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 2.00 1.00 1.00 2.00 0.00 1.00 1.98 0.02 0.00 0.00 0.00
Final Sat.: 0 3200 1600 1600 3200 0 1600 3167 33 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.12 0.10 0.05 0.06 0.00 0.08 0.34 0.34 0.00 0.00 0.00
Crit Moves: **** *

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Magnolia Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.736
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 59 Level Of Service: C

Table with columns for Street Name (Magnolia Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat and Crit Moves.

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Chestnut Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.645
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 44 Level Of Service: B

Street Name: Chestnut Avenue Ocean Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Permitted Permitted
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 0 0 1 0 0 1 0 0 0 0 2 1 0 1 0 2 1 0

Volume Module:
Base Vol: 27 0 85 47 0 26 0 1879 79 61 1074 27
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 27 0 85 47 0 26 0 1879 79 61 1074 27
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 27 0 85 47 0 26 0 1879 79 61 1074 27
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 27 0 85 47 0 26 0 1879 79 61 1074 27
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 27 0 85 47 0 26 0 1879 79 61 1074 27
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 27 0 85 47 0 26 0 1879 79 61 1074 27

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 0.00 1.00 0.64 0.00 0.36 0.00 2.88 0.12 1.00 2.93 0.07
Final Sat.: 1600 0 1600 1030 0 570 0 4606 194 1600 4682 118

Capacity Analysis Module:
Vol/Sat: 0.02 0.00 0.05 0.05 0.00 0.05 0.00 0.41 0.41 0.04 0.23 0.23
Crit Moves: **** **** **** ****

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Cedar Avenue at Ocean Blvd

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: C[18.0]

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Cedar Ave and Ocean Blvd with various movement details.

Volume Module: Table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume for various movements.

Critical Gap Module: Table showing Critical Gp and FollowUpTim for different movements.

Capacity Module: Table showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap for different movements.

Level Of Service Module: Table showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Pacific Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.562
Loss Time (sec): 14 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 44 Level Of Service: A

Table with columns for Street Name (Pacific Ave, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Prot+Permit), Rights (Include, Ovl), and various traffic volume and delay metrics.

Volume Module: Table showing traffic volume adjustments including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume, and OvlAdjVol.

Saturation Flow Module: Table showing Sat/Lane, Adjustment, Lanes, and Final Sat. values for different movements.

Capacity Analysis Module: Table showing Vol/Sat, OvlAdjV/S, and Crit Moves for various movements.

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Pacific Ave at 3rd Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.457
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 43 Level Of Service: A

Table with columns for Street Name (Pacific Ave, 3rd Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Protected, Permitted, Split Phase), Rights (Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module table showing traffic volume adjustments including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat values for different approaches.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for different approaches.

PM Existing Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Pacific Avenue at 1st Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.336
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Street Name: Pacific Ave 1st Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

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Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0

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Volume Module:
Base Vol: 0 404 10 26 177 0 0 0 0 8 0 56
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 404 10 26 177 0 0 0 0 8 0 56
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 404 10 26 177 0 0 0 0 8 0 56
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 404 10 26 177 0 0 0 0 8 0 56
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 404 10 26 177 0 0 0 0 8 0 56
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 404 10 26 177 0 0 0 0 8 0 56

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Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.95 0.05 1.00 2.00 0.00 0.00 0.00 0.00 0.12 0.00 0.88
Final Sat.: 0 3123 77 1600 3200 0 0 0 0 200 0 1400

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Capacity Analysis Module:
Vol/Sat: 0.00 0.13 0.13 0.02 0.06 0.00 0.00 0.00 0.00 0.04 0.00 0.04
Crit Moves: **** **** ****

APPENDIX B-III

YEAR 2020 CUMULATIVE TRAFFIC CONDITIONS

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Magnolia Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.523
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

Street Name: Magnolia Ave Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 1 0 0 0 0 0

Volume Module:
Base Vol: 0 168 67 75 483 0 61 762 436 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 168 67 75 483 0 61 762 436 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 168 67 75 483 0 61 762 436 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 168 67 75 483 0 61 762 436 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 168 67 75 483 0 61 762 436 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 168 67 75 483 0 61 762 436 0 0 0

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.43 0.57 1.00 2.00 0.00 1.00 2.00 1.00 0.00 0.00 0.00
Final Sat.: 0 2288 912 1600 3200 0 1600 3200 1600 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.07 0.07 0.05 0.15 0.00 0.04 0.24 0.27 0.00 0.00 0.00
Crit Moves: **** **** ****

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Chestnut Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.450
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Table with columns for Street Name (Chestnut Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Include), Min. Green, Y+R, and Lanes.

Volume Module:

Table with columns for various volume metrics: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module:

Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with columns for Vol/Sat and Crit Moves.

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Cedar Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.450
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Street Name: Cedar Ave Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

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Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 0 1 0 1 0 0 0 1 0 1 1 0 0 0 0 0 0

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Volume Module:
Base Vol: 0 8 5 79 1 0 26 780 4 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 8 5 79 1 0 26 780 4 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 8 5 79 1 0 26 780 4 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 8 5 79 1 0 26 780 4 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 8 5 79 1 0 26 780 4 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 8 5 79 1 0 26 780 4 0 0 0

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Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.00 1.00 0.99 0.01 0.00 1.00 1.99 0.01 0.00 0.00 0.00
Final Sat.: 0 1600 1600 1580 20 0 1600 3184 16 0 0 0

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Capacity Analysis Module:
Vol/Sat: 0.00 0.01 0.00 0.05 0.05 0.00 0.02 0.24 0.25 0.00 0.00 0.00
Crit Moves: **** **** ****

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Pacific Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.503
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Street Name: Pacific Avenue Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 2 0 1 1 0 2 0 0 1 0 1 1 0 0 0 0 0 0

Volume Module:

Base Vol: 0 182 46 66 390 0 26 588 150 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 182 46 66 390 0 26 588 150 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 182 46 66 390 0 26 588 150 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 182 46 66 390 0 26 588 150 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 182 46 66 390 0 26 588 150 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 182 46 66 390 0 26 588 150 0 0 0

Saturation Flow Module:

Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 2.00 1.00 1.00 2.00 0.00 1.00 1.59 0.41 0.00 0.00 0.00
Final Sat.: 0 3200 1600 1600 3200 0 1600 2550 650 0 0 0

Capacity Analysis Module:

Vol/Sat: 0.00 0.06 0.03 0.04 0.12 0.00 0.02 0.23 0.23 0.00 0.00 0.00
Crit Moves: **** *

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Magnolia Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.819
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 76 Level Of Service: D

Street Name: Magnolia Avenue Ocean Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Prot+Permit Permitted Permitted
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 1 1 0 2 0 1 1 0 2 1 0 1 0 3 0 1

Volume Module:
Base Vol: 20 24 14 111 105 312 152 673 39 86 1904 185
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 20 24 14 111 105 312 152 673 39 86 1904 185
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 20 24 14 111 105 312 152 673 39 86 1904 185
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 20 24 14 111 105 312 152 673 39 86 1904 185
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 20 24 14 111 105 312 152 673 39 86 1904 185
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 20 24 14 111 105 312 152 673 39 86 1904 185

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.84 0.16 1.00 3.00 1.00
Final Sat.: 1600 3200 1600 1600 3200 1600 1600 4537 263 1600 4800 1600

Capacity Analysis Module:
Vol/Sat: 0.01 0.01 0.01 0.07 0.03 0.20 0.10 0.15 0.15 0.05 0.40 0.12
Crit Moves: **** **** ****

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Chestnut Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.603
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: B

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes. Rows include Chestnut Avenue and Ocean Blvd with North, South, East, and West bound movements.

Volume Module: Table showing traffic volume adjustments including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow rates and adjustments for different lane configurations.

Capacity Analysis Module: Table showing volume-to-saturation ratios and critical moves for the intersection.

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Cedar Avenue at Ocean Blvd

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[9.9]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Cedar Ave and Ocean Blvd with various movement and lane configurations.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module: Table showing Critical Gap and FollowUpTime values for different approaches.

Capacity Module: Table showing Conflict Vol, Potent Cap., Move Cap., and Volume/Cap. for different approaches.

Level Of Service Module: Table showing Level of Service (LOS) and Approach LOS for different movements and approaches.

Note: Queue reported is the number of cars per lane.

AM Year 2020 Cumulative Traffic Conditions
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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Pacific Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.755
Loss Time (sec): 14 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 67 Level Of Service: C

Table with columns: Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, Lanes. Rows include Pacific Ave and Ocean Blvd with various traffic parameters.

Volume Module: Table with columns for traffic volume and adjustment factors. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume, OvlAdjVol.

Saturation Flow Module: Table with columns for saturation flow and adjustment factors. Rows include Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for capacity analysis. Rows include Vol/Sat, OvlAdjV/S, Crit Moves.

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Pacific Ave at 3rd Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.609
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: B

Street Name: Pacific Ave 3rd Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Permitted Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 0 0 0 2 0 1 0 0 0 0 0 1 0 1 1 0

Volume Module:

Base Vol: 39 150 0 0 336 99 0 0 0 105 1008 48
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 39 150 0 0 336 99 0 0 0 105 1008 48
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 39 150 0 0 336 99 0 0 0 105 1008 48
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 39 150 0 0 336 99 0 0 0 105 1008 48
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 39 150 0 0 336 99 0 0 0 105 1008 48
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 39 150 0 0 336 99 0 0 0 105 1008 48

Saturation Flow Module:

Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 0.00 0.00 2.00 1.00 0.00 0.00 0.00 1.00 1.91 0.09
Final Sat.: 1600 3200 0 0 3200 1600 0 0 0 1600 3055 145

Capacity Analysis Module:

Vol/Sat: 0.02 0.05 0.00 0.00 0.11 0.06 0.00 0.00 0.00 0.07 0.33 0.33
Crit Moves: **** **** ****

AM Year 2020 Cumulative Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Pacific Avenue at 1st Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.313
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

Street Name: Pacific Ave 1st Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:

Base Vol: 0 236 16 23 445 0 0 0 0 8 0 30
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 236 16 23 445 0 0 0 0 8 0 30
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 236 16 23 445 0 0 0 0 8 0 30
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 236 16 23 445 0 0 0 0 8 0 30
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 236 16 23 445 0 0 0 0 8 0 30
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 236 16 23 445 0 0 0 0 8 0 30

Saturation Flow Module:

Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.87 0.13 1.00 2.00 0.00 0.00 0.00 0.00 0.21 0.00 0.79
Final Sat.: 0 2997 203 1600 3200 0 0 0 0 337 0 1263

Capacity Analysis Module:

Vol/Sat: 0.00 0.08 0.08 0.01 0.14 0.00 0.00 0.00 0.00 0.02 0.00 0.02
Crit Moves: ****

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Magnolia Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.613
 Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 41 Level Of Service: B

Street Name:	Magnolia Ave						Broadway													
Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	T	R	L	T	R	L	T	R	L	T	R								
Control:	Permitted			Permitted			Split Phase			Split Phase										
Rights:	Include			Include			Include			Include										
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0								
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Lanes:	0	0	1	1	0	1	0	2	0	0	1	0	2	0	1	0	0	0	0	0

Volume Module:

Base Vol:	0	417	165	58	240	0	72	945	196	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	417	165	58	240	0	72	945	196	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	417	165	58	240	0	72	945	196	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	417	165	58	240	0	72	945	196	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	417	165	58	240	0	72	945	196	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	417	165	58	240	0	72	945	196	0	0	0

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.43	0.57	1.00	2.00	0.00	1.00	2.00	1.00	0.00	0.00	0.00
Final Sat.:	0	2293	907	1600	3200	0	1600	3200	1600	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.18	0.18	0.04	0.08	0.00	0.05	0.30	0.12	0.00	0.00	0.00
Crit Moves:	****			****			****					

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Chestnut Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.591
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: A

Table with columns for Street Name (Chestnut Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow data including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis data including Vol/Sat and Crit Moves.

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Cedar Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.568
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Table with columns for Street Name (Cedar Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Ovl, Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume adjustments including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow adjustments including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis metrics including Vol/Sat and Crit Moves.

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Pacific Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.719
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 63 Level Of Service: C

Table with columns for Street Name (Pacific Avenue, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves.

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Magnolia Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.773
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 66 Level Of Service: C

Table with columns for Street Name (Magnolia Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat and Crit Moves.

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Chestnut Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.642
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 44 Level Of Service: B

Street Name: Chestnut Avenue Ocean Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Permitted Permitted
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 0 0 1 0 0 0 0 0 0 0 2 1 0 1 0 3 0 0

Volume Module:
Base Vol: 34 0 95 0 0 0 0 2021 87 70 1244 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 34 0 95 0 0 0 0 2021 87 70 1244 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 34 0 95 0 0 0 0 2021 87 70 1244 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 34 0 95 0 0 0 0 2021 87 70 1244 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 34 0 95 0 0 0 0 2021 87 70 1244 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 34 0 95 0 0 0 0 2021 87 70 1244 0

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 2.88 0.12 1.00 3.00 0.00
Final Sat.: 1600 0 1600 0 0 0 0 4602 198 1600 4800 0

Capacity Analysis Module:
Vol/Sat: 0.02 0.00 0.06 0.00 0.00 0.00 0.00 0.44 0.44 0.04 0.26 0.00
Crit Moves: **** **** ****

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Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Cedar Avenue at Ocean Blvd

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[19.4]

Table with columns for Street Name (Cedar Ave, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 2, 1, 0, 1, 0, 3, 0, 0).

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume across various movement categories.

Critical Gap Module: Table with columns for Critical Gp, FollowUpTim, and values (6.9, 3.3, 4.1, 2.2).

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap across different movement types.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Pacific Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.629
Loss Time (sec): 14 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: B

Street Name: Pacific Ave Ocean Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Prot+Permit Prot+Permit
Rights: Include Ovl Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1! 0 0 1 1 0 0 1 1 0 2 1 0 1 0 3 0 1

Volume Module:
Base Vol: 11 9 25 118 14 209 184 1905 18 30 1099 129
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 11 9 25 118 14 209 184 1905 18 30 1099 129
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 11 9 25 118 14 209 184 1905 18 30 1099 129
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 11 9 25 118 14 209 184 1905 18 30 1099 129
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 11 9 25 118 14 209 184 1905 18 30 1099 129
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 11 9 25 118 14 209 184 1905 18 30 1099 129
OvlAdjVol: 25

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.24 0.20 0.56 1.79 0.21 1.00 1.00 2.97 0.03 1.00 3.00 1.00
Final Sat.: 391 320 889 2861 339 1600 1600 4755 45 1600 4800 1600

Capacity Analysis Module:
Vol/Sat: 0.03 0.03 0.03 0.04 0.04 0.13 0.12 0.40 0.40 0.02 0.23 0.08
OvlAdjV/S: 0.02
Crit Moves: **** **** **** ****

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Pacific Ave at 3rd Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.466
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Street Name: Pacific Ave 3rd Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Permitted Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 0 0 0 2 0 1 0 0 0 0 0 1 0 1 1 0

Volume Module:
Base Vol: 102 449 0 0 280 45 0 0 0 69 439 87
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 102 449 0 0 280 45 0 0 0 69 439 87
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 102 449 0 0 280 45 0 0 0 69 439 87
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 102 449 0 0 280 45 0 0 0 69 439 87
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 102 449 0 0 280 45 0 0 0 69 439 87
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 102 449 0 0 280 45 0 0 0 69 439 87

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 0.00 0.00 2.00 1.00 0.00 0.00 0.00 1.00 1.67 0.33
Final Sat.: 1600 3200 0 0 3200 1600 0 0 0 1600 2671 529

Capacity Analysis Module:
Vol/Sat: 0.06 0.14 0.00 0.00 0.09 0.03 0.00 0.00 0.00 0.04 0.16 0.16
Crit Moves: **** **** ****

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Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Pacific Avenue at 1st Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.352
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

Street Name: Pacific Ave 1st Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:
Base Vol: 0 448 11 27 297 0 0 0 0 8 0 59
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 448 11 27 297 0 0 0 0 8 0 59
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 448 11 27 297 0 0 0 0 8 0 59
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 448 11 27 297 0 0 0 0 8 0 59
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 448 11 27 297 0 0 0 0 8 0 59
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 448 11 27 297 0 0 0 0 8 0 59

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.95 0.05 1.00 2.00 0.00 0.00 0.00 0.00 0.12 0.00 0.88
Final Sat.: 0 3123 77 1600 3200 0 0 0 0 191 0 1409

Capacity Analysis Module:
Vol/Sat: 0.00 0.14 0.14 0.02 0.09 0.00 0.00 0.00 0.00 0.04 0.00 0.04
Crit Moves: **** **** ****

APPENDIX B-IV

**YEAR 2020 CUMULATIVE PLUS PROJECT
TRAFFIC CONDITIONS**

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Magnolia Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.613
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: B

Street Name: Magnolia Ave Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 1 0 0 0 0 0

Volume Module:
Base Vol: 0 182 45 77 565 0 61 841 538 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 182 45 77 565 0 61 841 538 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 182 45 77 565 0 61 841 538 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 182 45 77 565 0 61 841 538 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 182 45 77 565 0 61 841 538 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 182 45 77 565 0 61 841 538 0 0 0

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.60 0.40 1.00 2.00 0.00 1.00 2.00 1.00 0.00 0.00 0.00
Final Sat.: 0 2566 634 1600 3200 0 1600 3200 1600 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.07 0.07 0.05 0.18 0.00 0.04 0.26 0.34 0.00 0.00 0.00
Crit Moves: **** **** ****

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Chestnut Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.644
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 53 Level Of Service: B

Street Name: Chestnut Ave Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 0 1 1 1 0 0 0 1 0 1 1 0 0 0 0 0 0

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Volume Module:
Base Vol: 0 89 100 190 63 0 69 1046 83 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 89 100 190 63 0 69 1046 83 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 89 100 190 63 0 69 1046 83 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 89 100 190 63 0 69 1046 83 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 89 100 190 63 0 69 1046 83 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 89 100 190 63 0 69 1046 83 0 0 0

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Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.00 1.00 1.50 0.50 0.00 1.00 1.85 0.15 0.00 0.00 0.00
Final Sat.: 0 1600 1600 2403 797 0 1600 2965 235 0 0 0

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Capacity Analysis Module:
Vol/Sat: 0.00 0.06 0.06 0.08 0.08 0.00 0.04 0.35 0.35 0.00 0.00 0.00
Crit Moves: **** **** ****

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Cedar Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.600

Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 49 Level Of Service: A

Street Name: Cedar Ave Broadway

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Split Phase Split Phase

Rights: Ovl Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 1 0 1 0 1 0 0 0 1 0 1 1 0 0 0 0 0 0

Volume Module:

Base Vol: 0 89 82 105 59 0 32 840 93 0 0 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 89 82 105 59 0 32 840 93 0 0 0

Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 0 89 82 105 59 0 32 840 93 0 0 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 89 82 105 59 0 32 840 93 0 0 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 0 89 82 105 59 0 32 840 93 0 0 0

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

FinalVolume: 0 89 82 105 59 0 32 840 93 0 0 0

Saturation Flow Module:

Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Lanes: 0.00 1.00 1.00 0.64 0.36 0.00 1.00 1.80 0.20 0.00 0.00 0.00

Final Sat.: 0 1600 1600 1024 576 0 1600 2881 319 0 0 0

Capacity Analysis Module:

Vol/Sat: 0.00 0.06 0.05 0.10 0.10 0.00 0.02 0.29 0.29 0.00 0.00 0.00

Crit Moves: **** **** ****

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Pacific Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.527
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: A

Street Name: Pacific Avenue Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 2 0 1 1 0 2 0 0 1 0 1 1 0 0 0 0 0 0

Volume Module:
Base Vol: 0 182 46 66 390 0 62 658 159 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 182 46 66 390 0 62 658 159 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 182 46 66 390 0 62 658 159 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 182 46 66 390 0 62 658 159 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 182 46 66 390 0 62 658 159 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 182 46 66 390 0 62 658 159 0 0 0

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 2.00 1.00 1.00 2.00 0.00 1.00 1.61 0.39 0.00 0.00 0.00
Final Sat.: 0 3200 1600 1600 3200 0 1600 2577 623 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.06 0.03 0.04 0.12 0.00 0.04 0.26 0.26 0.00 0.00 0.00
Crit Moves: **** *

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Magnolia Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.836
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 80 Level Of Service: D

Table with columns for Street Name (Magnolia Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with columns for Vol/Sat and Crit Moves.

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Chestnut Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.623
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 42 Level Of Service: B

Table with columns for Street Name (Chestnut Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Permitted), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for each movement.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat for each movement.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for each movement.

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Cedar Avenue at Ocean Blvd

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[15.7]

Street Name: Cedar Ave Ocean Blvd

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 0 0 0 1 0 0 0 0 1 0 0 2 1 0 1 0 2 1 0

Volume Module:

Base Vol: 0 0 5 0 0 10 0 796 6 0 2291 17
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 5 0 0 10 0 796 6 0 2291 17
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 5 0 0 10 0 796 6 0 2291 17
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 5 0 0 10 0 796 6 0 2291 17
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 5 0 0 10 0 796 6 0 2291 17

Critical Gap Module:

Critical Gp:xxxxx xxxx 6.9 xxxxx xxxx 6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx 3.3 xxxxx xxxx 3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:

Cnflct Vol: xxxx xxxx 268 xxxx xxxx 772 xxxx xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx 736 xxxx xxxx 347 xxxx xxxx xxxxx xxxx xxxx xxxxx
Move Cap.: xxxx xxxx 736 xxxx xxxx 347 xxxx xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap: xxxx xxxx 0.01 xxxx xxxx 0.03 xxxx xxxx xxxxx xxxx xxxx xxxxx

Level Of Service Module:

2Way95thQ: xxxx xxxx 0.0 xxxx xxxx 0.1 xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx 9.9 xxxxx xxxx 15.7 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: * * A * * C * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: * * * * * * * * * *
ApproachDel: 9.9 15.7 xxxxxx xxxxxx
ApproachLOS: A C * *

Note: Queue reported is the number of cars per lane.

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Pacific Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.761

Loss Time (sec): 14 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 67 Level Of Service: C

Street Name: Pacific Ave Ocean Blvd

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Prot+Permit Prot+Permit

Rights: Include Ovl Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 0 0 1! 0 0 1 1 0 0 1 1 0 2 1 0 1 0 3 0 1

Volume Module:

Table with 13 columns and 15 rows of traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume, and OvlAdjVol.

Saturation Flow Module:

Table with 13 columns and 4 rows of saturation flow data including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns and 3 rows of capacity analysis data including Vol/Sat, OvlAdjV/S, and Crit Moves.

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Pacific Ave at 3rd Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.638
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 53 Level Of Service: B

Table with columns for Street Name (Pacific Ave, 3rd Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table showing Vol/Sat and Crit Moves.

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Pacific Avenue at 1st Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.316
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

Table with columns for Street Name (Pacific Ave, 1st Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table showing Vol/Sat and Crit Moves.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Magnolia Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.684
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: B

Table with columns for Street Name (Magnolia Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with columns for Vol/Sat and Crit Moves.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Chestnut Ave at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.884
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 102 Level Of Service: D

Table with columns for Street Name (Chestnut Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow data including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis data including Vol/Sat and Crit Moves.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Cedar Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.880
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 100 Level Of Service: D

Table with columns for Street Name (Cedar Ave, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase), Rights (Ovl, Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume across different movements.

Saturation Flow Module table showing Sat/Lane, Adjustment, Lanes, and Final Sat. for each movement.

Capacity Analysis Module table showing Vol/Sat and Crit Moves for each movement.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Pacific Avenue at Broadway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.719
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 63 Level Of Service: C

Table with columns for Street Name (Pacific Avenue, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Permitted, Protected, Split Phase), Rights (Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume adjustments including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow adjustments including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis metrics including Vol/Sat and Crit Moves.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Magnolia Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.779

Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 67 Level Of Service: C

Street Name: Magnolia Avenue Ocean Blvd

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

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Control: Permitted Prot+Permit Permitted Permitted

Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 2 0 1 1 0 2 0 1 1 0 2 1 0 1 0 3 0 1

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Volume Module:

Base Vol: 79 53 55 192 72 310 164 1751 48 66 1130 60

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 79 53 55 192 72 310 164 1751 48 66 1130 60

Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 79 53 55 192 72 310 164 1751 48 66 1130 60

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 79 53 55 192 72 310 164 1751 48 66 1130 60

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 79 53 55 192 72 310 164 1751 48 66 1130 60

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

FinalVolume: 79 53 55 192 72 310 164 1751 48 66 1130 60

-----|-----|-----|-----|

Saturation Flow Module:

Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Lanes: 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.92 0.08 1.00 3.00 1.00

Final Sat.: 1600 3200 1600 1600 3200 1600 1600 4672 128 1600 4800 1600

-----|-----|-----|-----|

Capacity Analysis Module:

Vol/Sat: 0.05 0.02 0.03 0.12 0.02 0.19 0.10 0.37 0.37 0.04 0.24 0.04

Crit Moves: **** **** **** ****

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Chestnut Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.692
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: B

Table with columns for Street Name (Chestnut Avenue, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Permitted), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module:

Table showing volume calculations including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module:

Table showing saturation flow parameters: Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table showing capacity analysis parameters: Vol/Sat and Crit Moves.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Cedar Avenue at Ocean Blvd

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: C[20.3]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Cedar Ave and Ocean Blvd with various traffic movement details.

Volume Module: Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows show traffic volume data for Cedar Ave and Ocean Blvd.

Critical Gap Module: Table with columns: Critical Gp, FollowUpTim. Rows show critical gap and follow-up time data.

Capacity Module: Table with columns: Cnflct Vol, Potent Cap, Move Cap, Volume/Cap. Rows show capacity-related data.

Level Of Service Module: Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap, SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows show level of service and delay data.

Note: Queue reported is the number of cars per lane.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Pacific Avenue at Ocean Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.632
Loss Time (sec): 14 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: B

Table with columns for Street Name (Pacific Ave, Ocean Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Prot+Permit), Rights (Include, Ovl), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume, and OvlAdjVol.

Saturation Flow Module: Table showing saturation flow data including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis data including Vol/Sat, OvlAdjV/S, and Crit Moves.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Pacific Ave at 3rd Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.486
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: A

Street Name: Pacific Ave 3rd Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Permitted Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 0 0 0 2 0 1 0 0 0 0 0 0 1 0 1 1 0

Volume Module:
Base Vol: 102 487 0 0 280 76 0 0 0 69 503 87
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 102 487 0 0 280 76 0 0 0 69 503 87
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 102 487 0 0 280 76 0 0 0 69 503 87
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 102 487 0 0 280 76 0 0 0 69 503 87
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 102 487 0 0 280 76 0 0 0 69 503 87
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 102 487 0 0 280 76 0 0 0 69 503 87

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 0.00 0.00 2.00 1.00 0.00 0.00 0.00 1.00 1.71 0.29
Final Sat.: 1600 3200 0 0 3200 1600 0 0 0 1600 2728 472

Capacity Analysis Module:
Vol/Sat: 0.06 0.15 0.00 0.00 0.09 0.05 0.00 0.00 0.00 0.04 0.18 0.18
Crit Moves: **** **** ****

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Pacific Avenue at 1st Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.352
Loss Time (sec): 15 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

Street Name: Pacific Ave 1st Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Protected Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:
Base Vol: 0 448 11 27 224 0 0 0 0 8 0 59
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 448 11 27 224 0 0 0 0 8 0 59
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 448 11 27 224 0 0 0 0 8 0 59
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 448 11 27 224 0 0 0 0 8 0 59
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 448 11 27 224 0 0 0 0 8 0 59
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 0 448 11 27 224 0 0 0 0 8 0 59

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 1.95 0.05 1.00 2.00 0.00 0.00 0.00 0.00 0.12 0.00 0.88
Final Sat.: 0 3123 77 1600 3200 0 0 0 0 191 0 1409

Capacity Analysis Module:
Vol/Sat: 0.00 0.14 0.14 0.02 0.07 0.00 0.00 0.00 0.00 0.04 0.00 0.04
Crit Moves: **** **** ****

APPENDIX C

PROJECT DRIVEWAY HCM/LOS CALCULATION WORKSHEETS

APPENDIX C-1

**YEAR 2020 CUMULATIVE PLUS PROJECT
TRAFFIC CONDITIONS**

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Cedar Ave at Dwy A

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: A[9.7]

Street Name: Cedar Ave Dwy A

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 1! 0 0

Volume Module:

Table with 13 columns for traffic volume metrics: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows include values for North, South, East, and West bounds.

Critical Gap Module:

Table with 13 columns for critical gap metrics: Critical Gp, FollowUpTim. Rows show values for North, South, East, and West bounds.

Capacity Module:

Table with 13 columns for capacity metrics: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows show values for North, South, East, and West bounds.

Level Of Service Module:

Table with 13 columns for level of service metrics: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows show values for North, South, East, and West bounds.

Note: Queue reported is the number of cars per lane.

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #12 Dwy B at Broadway

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name: Dwy B Broadway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 0 0 2 0 1 0 0 0 0 0
Volume Module:
Base Vol: 0 0 0 0 0 0 0 0 966 264 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 0 0 0 0 0 966 264 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 0 0 0 0 0 0 966 264 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 0 0 0 0 0 966 264 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 0 0 0 0 966 264 0 0 0
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Move Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: *
ApproachDel: xxxxxx xxxxxx xxxxxx xxxxxx
ApproachLOS: * * * *
Note: Queue reported is the number of cars per lane.

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 Chestnut Ave at Dwy C

Average Delay (sec/veh): 1.2 Worst Case Level Of Service: A[9.0]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Chestnut Ave and Dwy C with various traffic control details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows show traffic volume calculations.

Critical Gap Module: Table with columns for Critical Gp, FollowUpTim. Rows show gap and follow-up time values.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows show capacity and volume per capacity values.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows show level of service and delay metrics.

Note: Queue reported is the number of cars per lane.

AM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Magnolia Ave at Dwy F

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: B[12.0]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Magnolia Ave, North Bound, South Bound, East Bound, West Bound, Uncontrolled, Stop Sign, Lanes: 1 0 1 1 0, 1 0 1 1 0, 0 0 1! 0 0, 0 0 1! 0 0.

Volume Module:
Base Vol: 0 396 36 180 531 0 2 0 8 5 0 25
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 396 36 180 531 0 2 0 8 5 0 25
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 396 36 180 531 0 2 0 8 5 0 25
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 396 36 180 531 0 2 0 8 5 0 25
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 396 36 180 531 0 2 0 8 5 0 25

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 4.1 xxxx xxxxxx 7.5 6.5 6.9 7.5 6.5 6.9
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxxx 3.5 4.0 3.3 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx 432 xxxx xxxxxx 1089 1323 266 1040 1305 216
Potent Cap.: xxxx xxxx xxxxx 1138 xxxx xxxxxx 172 158 739 187 162 795
Move Cap.: xxxx xxxx xxxxx 1138 xxxx xxxxxx 147 133 739 163 136 795
Total Cap: xxxx xxxx xxxxx xxxx xxxx xxxxxx 241 258 xxxxx 324 276 xxxxxx
Volume/Cap: xxxx xxxx xxxx 0.16 xxxx xxxx 0.01 0.00 0.01 0.02 0.00 0.03

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.6 xxxx xxxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 8.8 xxxx xxxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: * * * A * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxxx xxxx 522 xxxxx xxxx 640 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxxx xxxxx 0.1 xxxxx xxxxx 0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxxx xxxxx 12.0 xxxxx xxxxx 10.9 xxxxx
Shared LOS: * * * * * * * B * * B *
ApproachDel: xxxxxx xxxxxx 12.0 10.9
ApproachLOS: * * B B

Note: Queue reported is the number of cars per lane.

PM Year 2020 Cumulative Plus Project Traffic Conditions
2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Cedar Ave at Dwy A

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: B[10.7]

Table with columns for Street Name (Cedar Ave, Dwy A), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Uncontrolled, Stop Sign), Rights (Include), and Lanes (0, 1, 0, 0).

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume across four approaches.

Critical Gap Module: Table with columns for Critical Gp and FollowUpTim across four approaches.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap across four approaches.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS across four approaches.

Note: Queue reported is the number of cars per lane.

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2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #12 Dwy B at Broadway

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with columns for Street Name (Dwy B, Broadway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0, 0, 0, 0, 0).

Volume Module:
Base Vol: 0 0 0 0 0 0 0 0 1627 46 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 0 0 0 0 0 1627 46 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 0 0 0 0 0 0 1627 46 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 0 0 0 0 0 1627 46 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 0 0 0 0 1627 46 0 0 0

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Move Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: *
ApproachDel: xxxxxx xxxxxx xxxxxx xxxxxx
ApproachLOS: * * * *

Note: Queue reported is the number of cars per lane.

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2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 Chestnut Ave at Dwy C

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: B[10.2]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Chestnut Ave and Dwy C with details on North, South, East, and West bounds.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Table with columns for Critical Gp, FollowUpTim.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

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2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 Chestnut Ave at Dwy D

Average Delay (sec/veh): 7.7 Worst Case Level Of Service: B[10.1]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Chestnut Ave and Dwy D with various traffic parameters.

Volume Module: Table with columns for traffic volume components like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with columns for Critical Gp, FollowUpTim, and associated values.

Capacity Module: Table with columns for Cnflict Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

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2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 Cedar Ave at Dwy E

Average Delay (sec/veh): 5.7 Worst Case Level Of Service: B[11.0]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Cedar Ave, North Bound, South Bound, East Bound, West Bound, Uncontrolled, Stop Sign, and lane counts.

Volume Module: Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows show traffic volume and adjustment factors.

Critical Gap Module: Table with columns: Critical Gp, FollowUpTim. Rows show gap times and follow-up times for different movements.

Capacity Module: Table with columns: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows show conflict volumes, potential and move capacities, and volume-to-capacity ratios.

Level Of Service Module: Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows show service level metrics and delay values.

Note: Queue reported is the number of cars per lane.

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2-15-3567-1 New Long Beach Civic Center, Long Beach

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Magnolia Ave at Dwy F

Average Delay (sec/veh): 6.1 Worst Case Level Of Service: C[21.4]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Magnolia Ave and Dwy F with various traffic movement details.

Volume Module: Table with columns for traffic volume metrics like Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Table with columns for Critical Gp, FollowUpTim, and various gap values.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap, and various capacity values.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.
