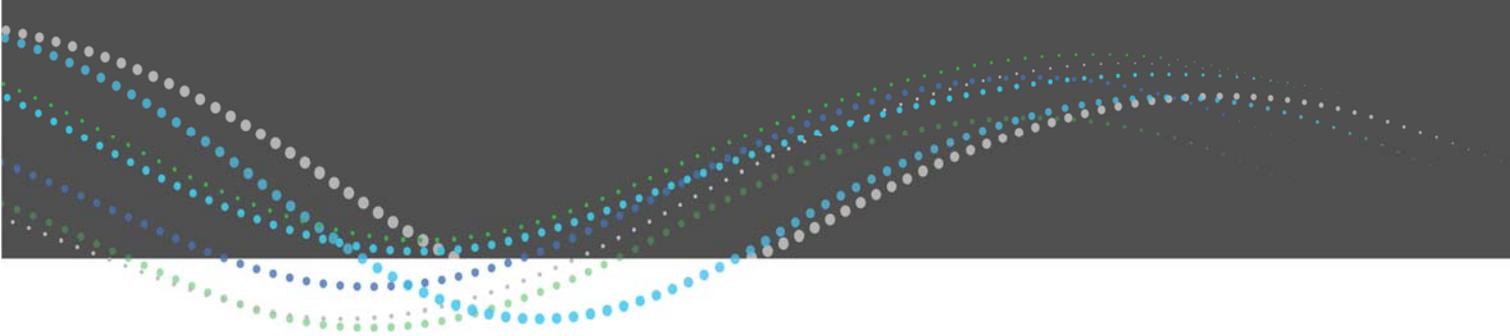




125 Long Beach Boulevard
Traffic Impact Study
DRAFT Report



April 26, 2018

Submitted to:

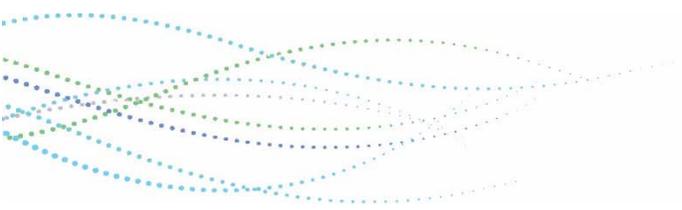
CITY OF
LONG BEACH

17J18-2240 | Prepared by Iteris, Inc.

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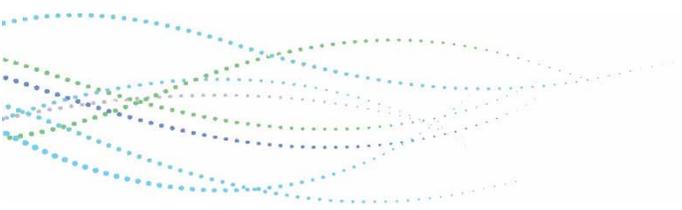
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1 INTRODUCTION

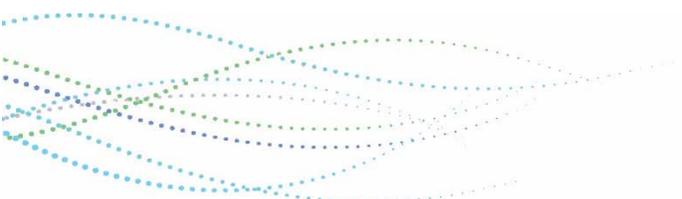
This report summarizes the results of a traffic analysis for the proposed mixed-use project, referred to as the "project", located at 125 Long Beach Boulevard/234 East Broadway in the City of Long Beach. The proposed project is located within the Downtown Community Plan area that was the subject of a Program Environmental Impact Report (PEIR) certified in November 2011. A traffic study, prepared by Iteris in February 2010, was included as part of the 2011 PEIR. This study updates the 2010 traffic study and it will be included in the Addendum to the certified Downtown Plan EIR, which was initiated to determine whether the changes in the project description would result in new significant environmental impacts.

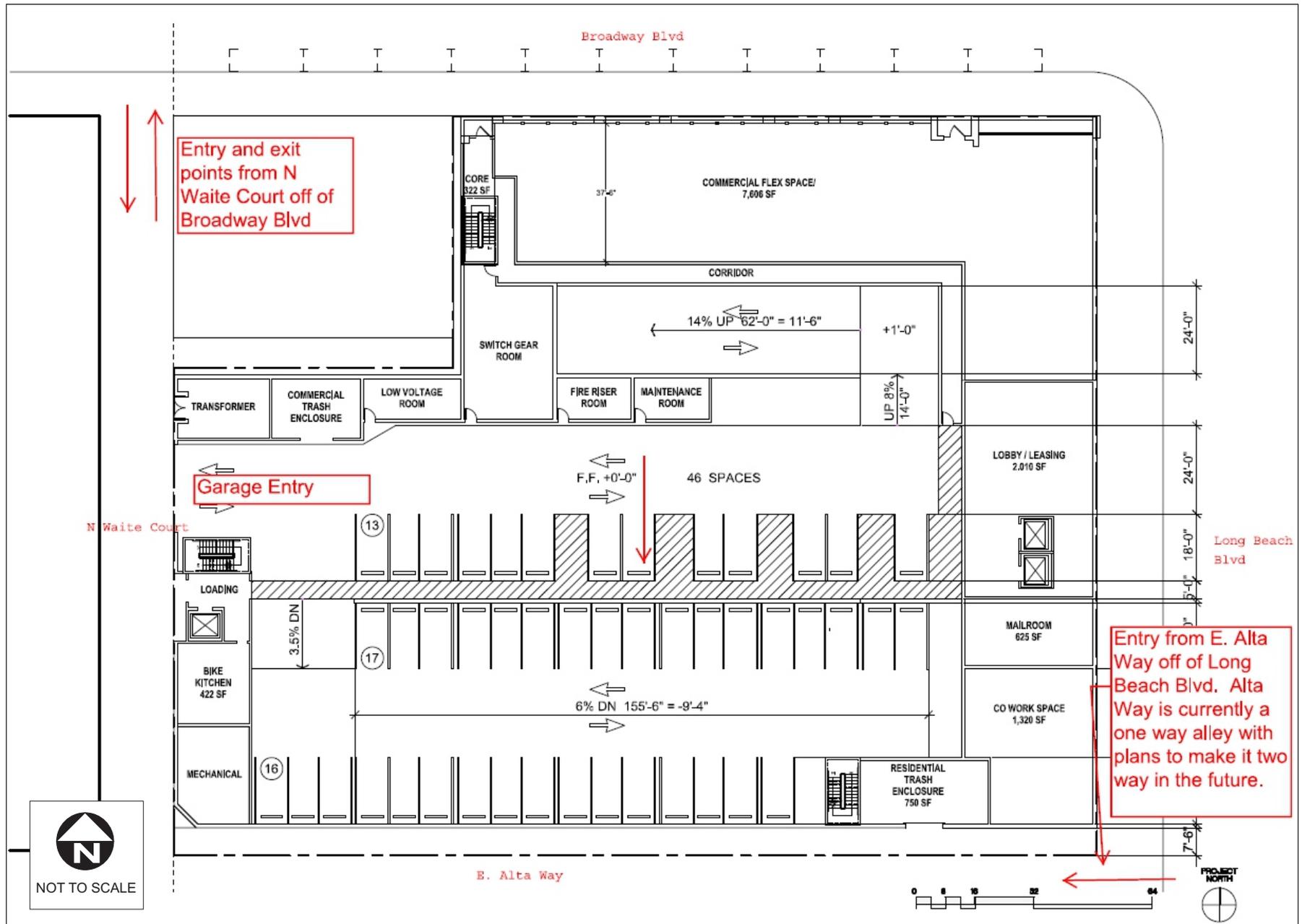
A total of four intersections in the vicinity of the project site were analyzed. The traffic analysis evaluates project trips on existing traffic conditions and on future traffic conditions, taking into account growth in traffic due to other known development projects in the surrounding area as well as overall ambient growth in background traffic.

1.1 Project Description

The 2010 traffic study for the Downtown Plan was divided into 28 Traffic Analysis Zones (TAZ). The proposed 125 Long Beach Boulevard site is located within TAZ #14. This traffic study compares the trip generation of the 2010 study within TAZ #14 as a result of changes in the proposed project land uses.

The project site is located on the northeastern corner of the block bounded by Broadway to the north, Long Beach Boulevard to the east, 1st Street to the south, and Pine Avenue to the west. The proposed project consists of 218 residential units and approximately 7,300 square feet of retail uses. The project site is currently occupied by two surface parking lots. **Figure 1** shows the project site plan.





1.2 Study Area

The proposed study area for analysis includes the following four (4) intersections in the vicinity of the project site:

1. Pine Avenue/Broadway;
2. Pine Avenue/1st Street;
3. Long Beach Boulevard/Broadway; and
4. Long Beach Boulevard/1st Street.

The project site location and proposed study intersections are shown in **Figure 2**.

1.3 Study Periods

Traffic operations were evaluated for each of the following scenarios during the weekday a.m. (7:00 – 9:00) and p.m. (4:00 – 6:00) peak hours during typical weekday conditions (during the school year):

- Existing Conditions;
- Existing Plus Project Conditions;
- Opening Year 2021 Without Project Conditions;
- Opening Year 2021 With Project Conditions;
- Future Year 2035 Without Project Conditions; and
- Future Year 2035 With Project Conditions.

Based on information provided by the project applicant, the projected opening year for the proposed project is 2021. The study area and study periods were confirmed with City staff.



2 ENVIRONMENTAL SETTING

This section presents an overview of the existing roadway and transit system within the study area, and the methodology used to determine existing traffic volumes.

2.1 Roadway Configurations

The existing configurations of the roadways within the study area are shown in **Table 1**.

Table 1: Study Area Roadways

Roadway	Classification	Direction	Lanes		On-Street Parking	Bike Facility	Median
			NB/EB	SB/WB			
Long Beach Boulevard	Boulevard	North/South	2	2	Northbound only	-	Yes
Pine Avenue	Local Street	North/South	1	1	Both sides of street	-	Yes
Broadway	Major Avenue	East/West	2	-	Both sides of street	Class I	No
1 st Street*	Local Street	East/West	1-2	2	None	None	Yes

Note: Roadway classification based on City of Long Beach General Plan Mobility Element 2013

**1st Street between Pacific Avenue and Long Beach Boulevard is restricted to transit, with tracks for Metro's Blue Line occupying the center of the street and bus only lanes on either side. The only exception is the westbound lanes between Pine Avenue and Pacific Avenue, which permit valets and public parking for the Autoport garage.*

2.2 Existing Public Transit

The transit system serving the study area is comprised of bus services provided by the Metropolitan Transportation Authority (Metro), Long Beach Transit (LBT), and Torrance Transit. Transit routes serving each study area corridor listed in **Table 2**.

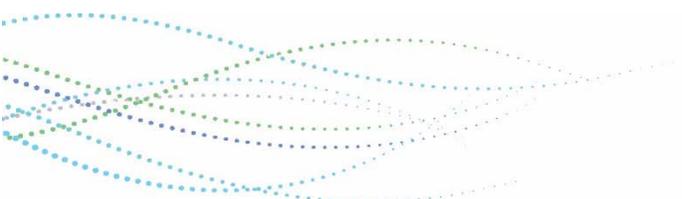
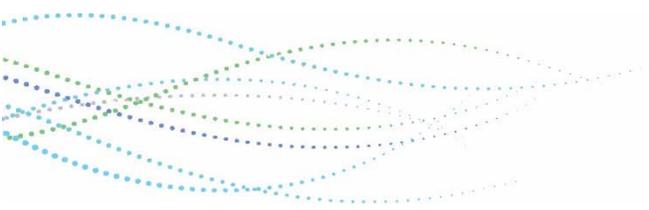


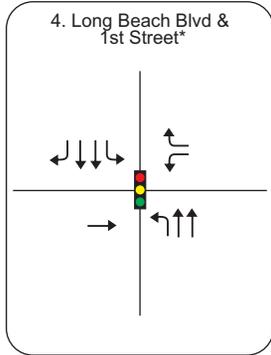
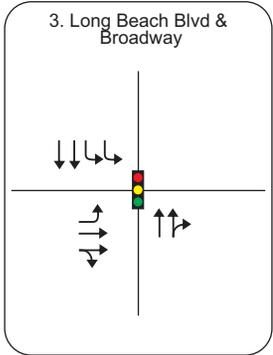
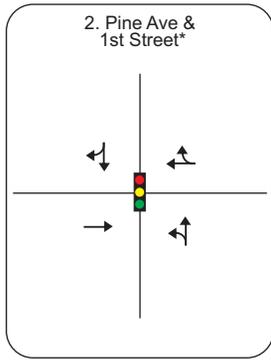
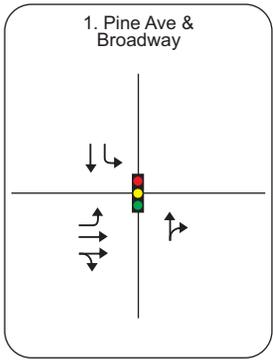
Table 2: Bus Routes in Study Area

Service Agency/ Type	Route Name	From/To	To/From	Peak Hour Frequency (minutes)	
				AM	PM
Metro Local	232	LAX City Bus Center	Downtown Long Beach	12-13	18-20
Metro Rail	Blue Line	Downtown Los Angeles	Downtown Long Beach	6	6
Long Beach Transit	1	Downtown Long Beach	California State University Dominguez Hills	30	30
Long Beach Transit	46	Anaheim Street	Downtown Long Beach	20	20
Long Beach Transit	51	Long Beach Boulevard	Artesia Station	30	30
Long Beach Transit	52	Long Beach Boulevard	Artesia Station	30	30
Long Beach Transit	81	10 th Street	California State University Long Beach	50	50
Long Beach Transit	91	7 th Street	Bellflower Boulevard	50-52	43-45
Long Beach Transit	92	7 th Street	Woodruff Avenue	12-18	30
Long Beach Transit	93	7 th Street	Clark Avenue	12-18	30
Long Beach Transit	94	7 th Street	Los Altos Only	Night service	
Long Beach Transit	151	Golden Avenue/ 4 th Street	Ximeno Avenue/ 4 th Street	20	20
Long Beach Transit	172	Pacific Coast Highway	Palo Verde	20	30
Long Beach Transit	173	Pacific Coast Highway	Studebaker	20	30
Long Beach Transit	174	Pacific Coast Highway	Ximeno Only	Night service	
Passport		Downtown Long Beach	Queen Mary	30	15
Torrance Transit	3	Redondo Beach Pier	Downtown Long Beach	20-24	24-26
Torrance Transit	R3	South Bay Galleria	Downtown Long Beach	6-57	20-27

2.3 Existing Traffic Volumes

Existing traffic counts at three of the study intersections were conducted in March 2018. In order to maintain consistency with other current traffic studies in Downtown Long Beach, traffic counts at the other intersection (Long Beach Boulevard and Broadway) were obtained from a recently completed traffic study with counts conducted in December 2017. All counts were conducted during the a.m. peak period (7:00 – 9:00) and p.m. peak period (4:00 – 6:00). The traffic impact analysis is based on the highest single hour of traffic during each time period at each location. Traffic counts were collected while schools were still in session, avoiding any holiday-related shifts in traffic patterns. Detailed vehicle turning movement data is included in **Appendix A. Figure 3** shows the existing intersection configurations and **Figure 4** shows the existing peak hour volumes at the study intersections.



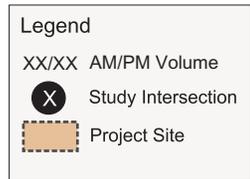
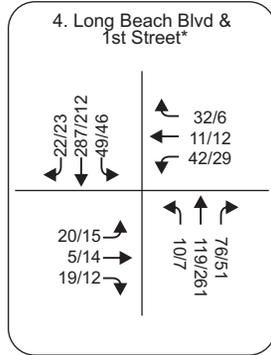
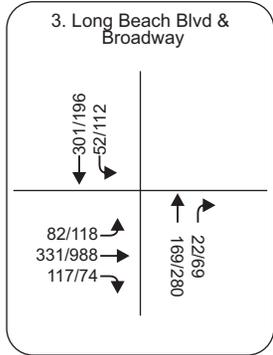
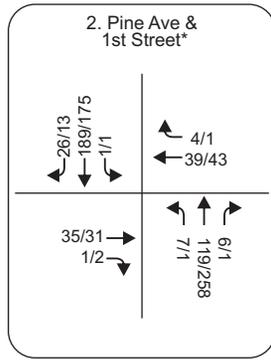
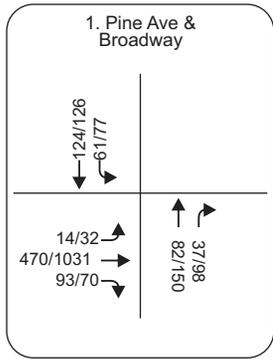


Legend

- Study Intersection
- Project Site



*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.



*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.

3 TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

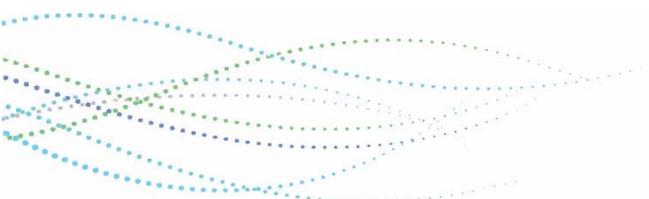
The quality of traffic operations is characterized using the concept of level of service (LOS). Level of service is defined by a range of grades from A (best) to F (worst). At intersections, LOS “A” represents relatively free flow operating conditions with little or no delay. LOS “F” is characterized by extremely unstable flow conditions, severe congestion and delays with traffic volumes at or near the intersection’s design capacity. This typically results in long vehicular queues extending from all approaches to intersection.

In this report, analysis of traffic operations was conducted according to the traffic impact analysis guidelines used by the City of Long Beach. Intersection operating conditions were quantified using the Intersection Capacity Utilization (ICU) method per the City’s guidelines. Volume-to-capacity (V/C) ratios and corresponding level of service (LOS) were calculated at study intersections during the weekday a.m. and p.m. peak hours. **Table 3** presents a brief description of each level of service letter grade, as well as the range of V/C ratios associated with each grade for signalized intersections.

Table 3: Intersection Level of Service Definitions – ICU Methodology

Level Of Service	Description	Intersection Volume to Capacity (V/C) Ratio
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000-0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	>0.600-0.700
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>0.700-0.800
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues.	>0.800-0.900
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	>0.900-1.000
F	Forced flow. Represents jammed conditions. Backups form locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	> 1.000

Source: Highway Capacity Manual 2000, Transportation Research Board, Washington, D.C., 2000.



3.1 Thresholds of Significance

The City of Long Beach Traffic Impact Guidelines considers LOS D as the limit for acceptable intersection operations. Furthermore, an impact is considered significant when the resulting level-of service with the project traffic is E or F and project related traffic contributes a V/C of 0.02 or more to the critical movements.

4 EXISTING CONDITIONS

A level of service analysis was conducted to evaluate existing intersection operations during the a.m. and p.m. peak hours at the four (4) study intersections. **Table 4** summarizes the existing LOS at the study intersections. LOS calculation sheets are provided in **Appendix B**.

Table 4: Existing Intersection Peak Hour Level of Service

Intersection		Control Type	AM Peak Hour		PM Peak Hour	
			V/C	LOS	V/C	LOS
1	Pine Ave/Broadway	signalized	0.414	A	0.658	B
2	Pine Ave/1 st St	signalized	0.292	A	0.325	A
3	Long Beach Blvd/Broadway	signalized	0.362	A	0.603	B
4	Long Beach Blvd/1 st St	signalized	0.267	A	0.295	A

Notes:

V/C = Volume to Capacity Ratio, LOS = Level of Service.

As shown in **Table 4**, all study intersections are currently operating at satisfactory levels of service (LOS D or better) during the a.m. and p.m. peak hour.

5 PROPOSED PROJECT TRAFFIC

The first step in analyzing the traffic conditions with the project is to estimate the number of new trips expected to be generated by the proposed project. The proposed project consists of 218 residential units and approximately 7,300 square feet of retail space. The project site is currently occupied by two surface parking lots. Access to the project site is provided along Waite Court, which is a one-way alley on the western boundary of the project site, and Alta Way, which is currently a one-way alley on the southern boundary of the project site with a planned expansion to carry two-way traffic. Inbound traffic would enter Waite Court on the north from Broadway or Alta Way on the east from Long Beach Boulevard, with outbound traffic exiting from these same locations.

This section describes the methodology used to determine project trip generation and the distribution of project traffic within the study area. The “With Project” conditions were analyzed based on an estimate of the number of new trips generated by the project. Trip generation rates for the proposed project were

calculated based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.

5.1 Project Trip Generation

The trip generation analysis was completed in a two-step process. First, the number of trips generated by the proposed development was calculated by multiplying the trip generation rate by the proposed number of units or square footage in the project. In coordination with City Staff, the next step was to apply the same trip reduction adjustments from the 2010 traffic study to the proposed project. The following adjustments are made to the trip generation to reflect the unique characteristics of Downtown Long Beach:

- Pass-by trip generation rate adjustments – These are trips that are not unique new trips but are part of another trip that is already on the roadway system. Pass-by trip adjustments were applied to commercial and restaurant uses.
- Transit service trip generation rate adjustment – Downtown Long Beach has significant transit services as detailed in **Section 2.2**. For consistency purposes, the same rates used in the 2010 traffic study from the US Census Journey to Work data was applied to the project.

The result of this calculation is shown in **Table 5**.



Table 5: Proposed Project Trip Generation

125 Long Beach Blvd Project Size		Land Use Types	ITE Rate Code	ITE Trip Generation Rate/Development Generated Trips (Before Pass-by and Transit Reductions)									Total Trips (Adjusted for Pass-by and Transit Reductions)							
Residential (DU)	Shopping Center (KSF)			AM Total Rate				Total AM Trips	PM Total Rate				Total PM Trips	AM			PM			Daily Total Trips
				Residential Condos	Acres of Books Market (KSF)	Retail	Restaurant		Residential Condos	Acres of Books Market (KSF)	Retail	Restaurant		Total Trips	In	Out	Total Trips	In	Out	
218		Mid-rise Residential	231	0.30				65	0.36				78	48	14	35	58	41	17	750
	7.292	Shopping Center	820			0.94		7			3.81		28	7	4	3	14	7	7	275
Proposed 125 Long Beach Blvd Total Trips													55	18	37	72	47	25	1,025	

Source: ITE Trip Generation 10th Edition

50% reduction for Pass-By trips applied to Shopping Center use, based on the Shoreline Gateway EIR Traffic Study.

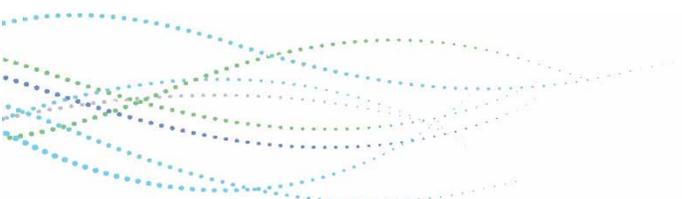
26% reduction for Transit Trips applied to Residential use, based on 2000 US Census Journey to Work and analysis of other local data

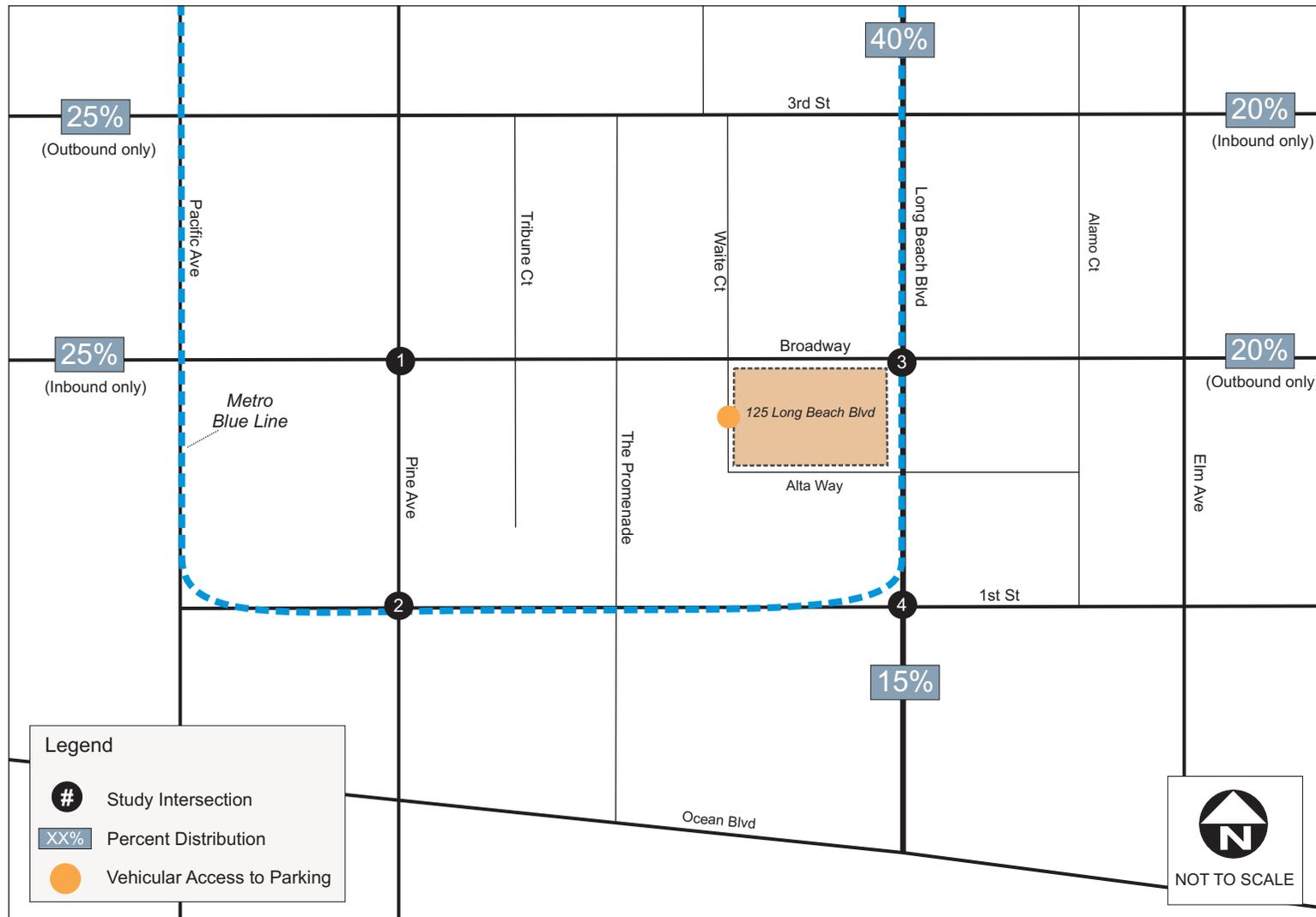
As shown in **Table 5**, the proposed project is forecast to generate 55 a.m. peak hour trips, 72 p.m. peak hour trips, and 1,025 daily trips.

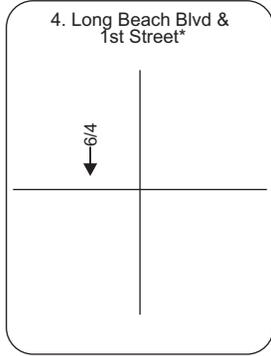
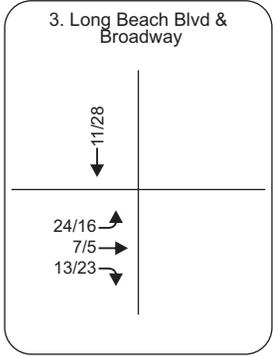
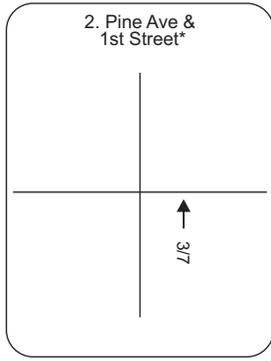
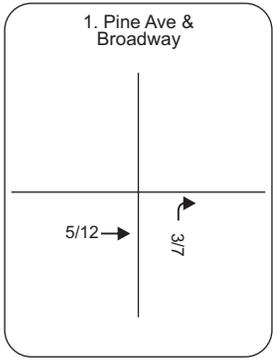
5.2 Project Trip Distribution

Trip distribution assumptions are used to determine the origin and destination of new vehicle trips associated with the project. The 2016 Southern California Association of Governments (SCAG) RTP/SCS model was used as a basis for developing regional trip distributions for the Inwell site project. In order to isolate trips to/from the model traffic analysis zone (TAZ), a “select zone” model run was performed.

The new trips generated by the project, as shown in **Table 5**, were then assigned to the surrounding roadway system based on the distribution patterns, shown in **Figure 5**, to estimate the project-related peak-hour traffic at each of the study intersections. **Figure 6** illustrates the proposed project trip assignment onto the roadway network during the a.m. and p.m. peak hours.







Legend

- XX/XX AM/PM Volume
- Study Intersection
- Project Site



*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.

6 EXISTING PLUS PROJECT CONDITIONS

Existing plus project conditions were developed by adding trips forecast to be generated by the proposed project, as described in **Section 5**, to existing volumes, as described in **Section 4**. **Figure 7** illustrates the existing plus project traffic volumes at the study intersections.

6.1 Existing Plus Project Intersection Levels of Service

A level of service analysis was conducted to evaluate existing plus project intersection operations during the a.m. and p.m. peak hours at the study intersections. **Table 6** summarizes the existing plus project levels of service at the study intersections. Level of service calculation worksheets are included in **Appendix B**.

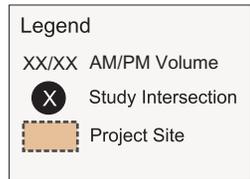
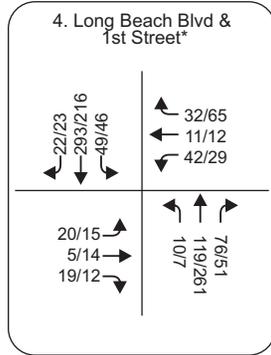
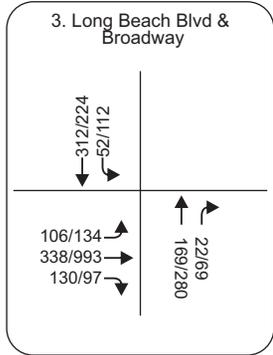
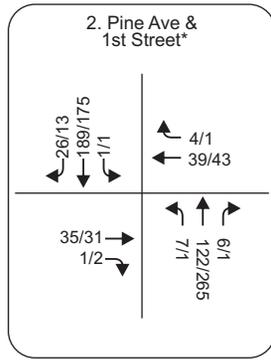
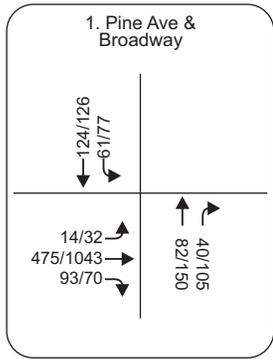
Table 6: Existing Plus Project Intersection Peak Hour Level of Service

Intersection		Existing Conditions				Existing Plus Project Conditions				Change in V/C		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS			
1	Pine Ave/Broadway	0.414	A	0.658	B	0.418	A	0.667	B	0.004	0.008	No
2	Pine Ave/1 st St	0.292	A	0.325	A	0.292	A	0.330	A	0.000	0.005	No
3	Long Beach Blvd/Broadway	0.362	A	0.603	B	0.373	A	0.612	B	0.011	0.009	No
4	Long Beach Blvd/1 st St	0.267	A	0.295	A	0.269	A	0.295	A	0.002	0.000	No

Notes:

V/C = Volume to Capacity Ratio, LOS = Level of Service.

As shown in **Table 6**, no significant traffic impacts are forecast to occur with implementation of the proposed project in existing conditions.



*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.

7 OPENING YEAR 2021 WITHOUT PROJECT CONDITIONS

The project opening year is 2021. Therefore, this section analyzes opening year 2021 traffic conditions without the proposed project. Opening year 2021 without project traffic volumes were developed by considering traffic increases due to ambient growth and specific, planned or approved development projects in the study area, without consideration of the proposed project.

7.1 Ambient Growth

Ambient traffic growth is the traffic growth that will occur in the study area due to general employment growth, housing growth and growth in regional through trips in Southern California. An ambient growth rate of one percent (1%) per year in the study area was assumed.

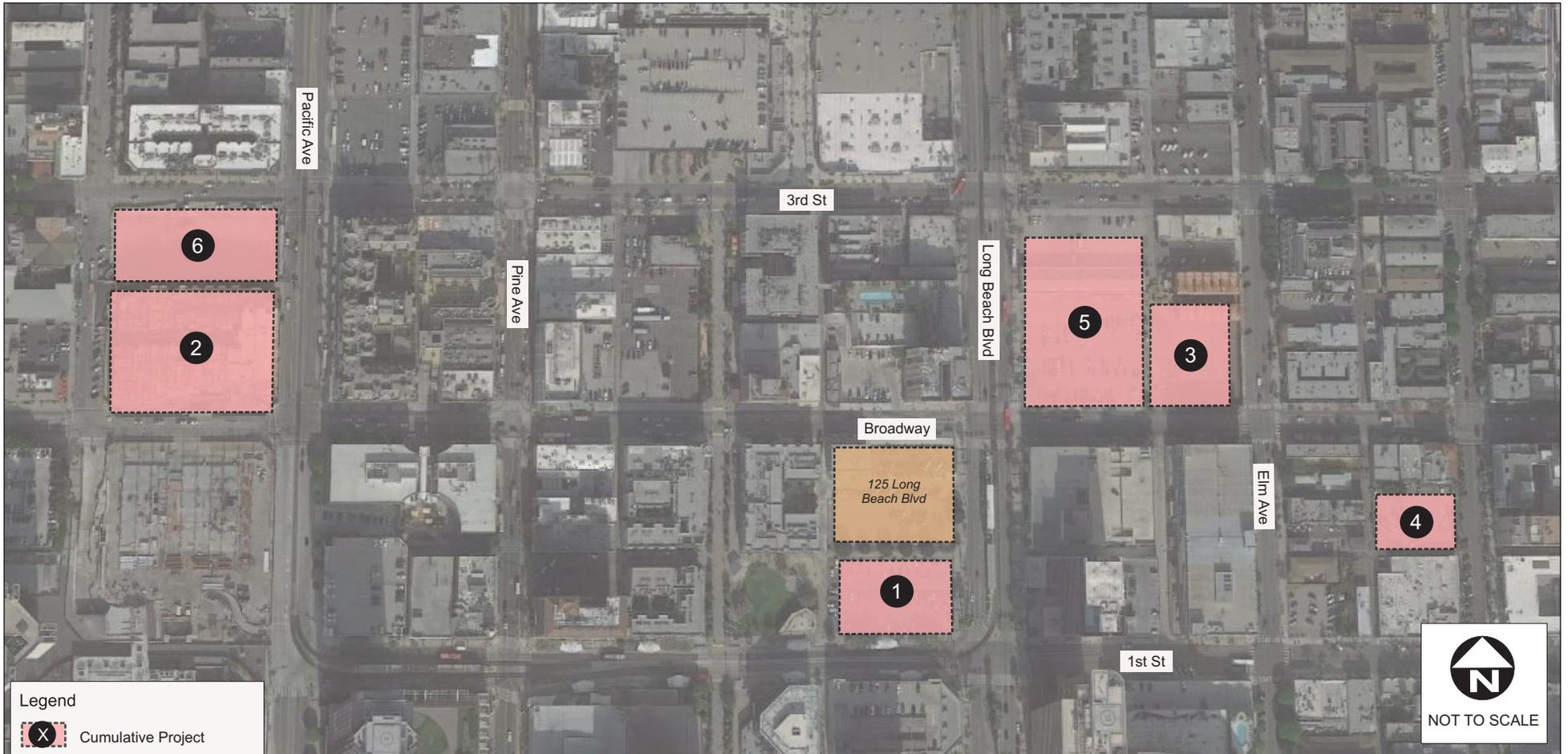
7.2 Cumulative Project Growth

Cumulative project traffic growth is growth due to specific, known development projects in the area surrounding the study locations that may affect traffic circulation. A list of cumulative projects within the region was provided by the City of Long Beach. Out of this list, it was determined that traffic from six (65) of these projects would have an effect on circulation within the project study area, and are therefore included in this analysis as shown in **Table 7.** Detailed trip generation data for these six (6) cumulative projects within the vicinity of the project site is provided in **Appendix C.** The general location of each of the pertinent cumulative projects is shown in **Figure 8.** The peak hour vehicle trips expected to be generated by these developments are shown in **Figure 9.** Trip distribution for the cumulative projects were assigned depending on the type of development, residential or non-residential, and location with respect to freeways and major arterials.

Table 7: Cumulative Projects

Location		Land Use	Size/Description
1	107 Long Beach Boulevard Long Beach Hotel	Hotel	34 rooms
2	245 W Broadway	Mid-rise residential Retail	222 du 8.5 tsf
3	227 Elm Avenue	Mid-rise residential	40 du
4	125 Linden Avenue	Mid-rise residential Retail	44 du 2.69 tsf
5	Broadway Block	Mid-rise Residential Retail/Restaurant	400 du 32.8 tsf
6	230 W 3 rd Street	Mid-rise residential	163 du

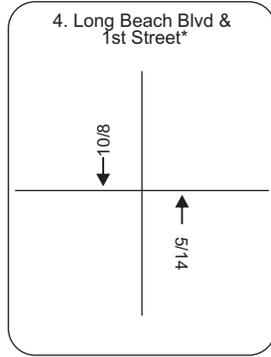
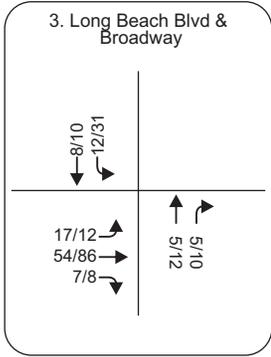
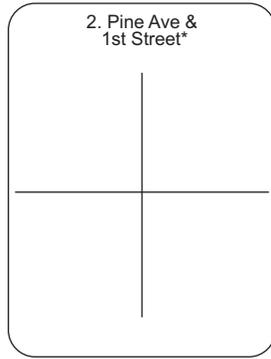
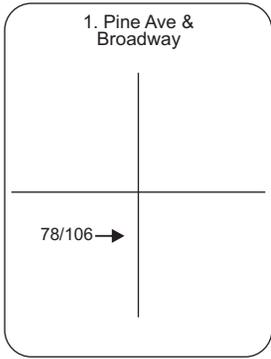
Note: du = dwelling unit, tsf = thousand square feet



Legend

-  Cumulative Project
- 1** 107 Long Beach Blvd
- 2** 245 West Broadway
- 3** 227 Elm Ave
- 4** 125 Linden Ave
- 5** Broadway Block
- 6** 230 W 3rd St
-  Project Site





Legend

- XX/XX AM/PM Volume
- (X) Study Intersection
- Project Site



*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.

7.3 Opening Year 2021 Without Project Intersection Levels of Service

A level of service analysis was conducted to evaluate opening year 2021 without project intersection operations during the a.m. and p.m. peak hours. **Figure 10** shows the opening year 2021 without project peak hour volumes at the study intersections. **Table 8** summarizes the opening year 2021 without project levels of service at the study intersections. Level of service calculation worksheets are included in **Appendix B**.

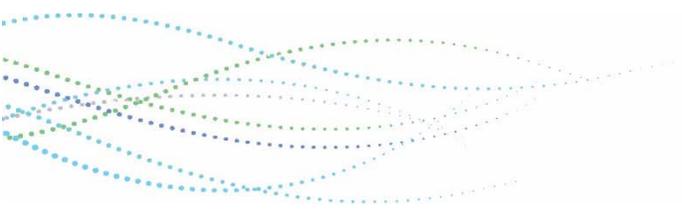
Table 8: Opening Year 2021 Without Project Intersection Peak Hour Level of Service

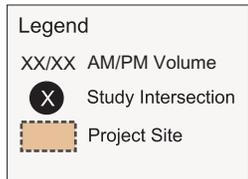
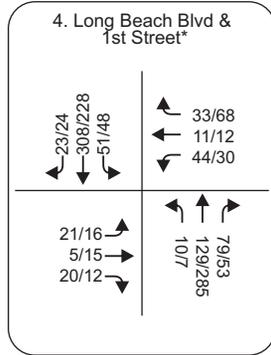
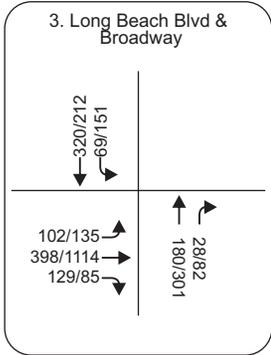
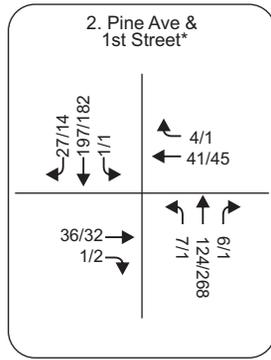
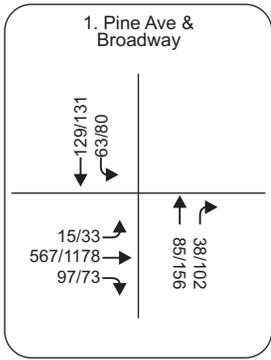
Intersection		Control Type	AM Peak Hour		PM Peak Hour	
			V/C	LOS	V/C	LOS
1	Pine Ave/Broadway	signalized	0.453	A	0.714	C
2	Pine Ave/1 st St	signalized	0.299	A	0.334	A
3	Long Beach Blvd/Broadway	signalized	0.397	A	0.671	B
4	Long Beach Blvd/1 st St	signalized	0.277	A	0.307	A

Notes:

V/C = Volume to Capacity Ratio, LOS = Level of Service.

As shown in **Table 8**, all study intersections are forecast to operate at satisfactory levels of service (LOS D or better) during the a.m. and p.m. peak hour in the opening year without project conditions.





*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.

8 OPENING YEAR 2021 WITH PROJECT CONDITIONS

Opening year 2021 with project conditions were developed by adding trips forecast to be generated by the proposed project, as described in **Section 5**, to opening year 2021 without project volumes, as described in **Section 7**. **Figure 11** illustrates the opening year 2021 with project traffic volumes at the study intersections.

8.1 Opening Year 2021 With Project Intersection Levels of Service

A level of service analysis was conducted to evaluate year 2021 with project intersection operations during the a.m. and p.m. peak hours. **Table 9** summarizes the forecast year 2021 with project levels of service at the study intersections. Level of service calculation worksheets are included in **Appendix B**.

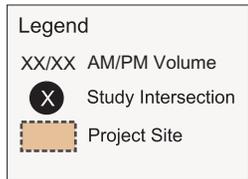
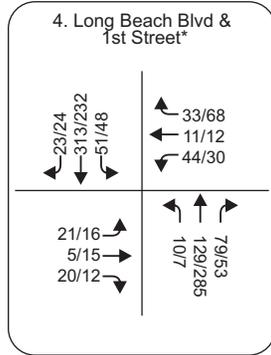
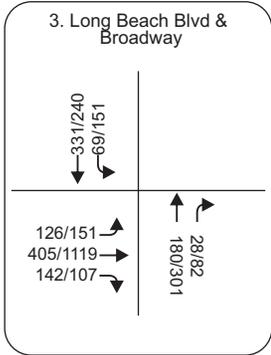
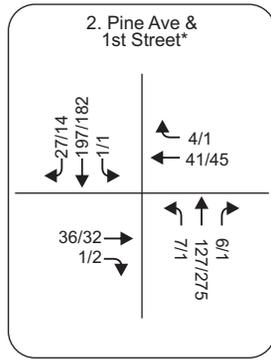
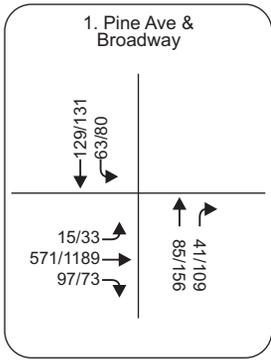
Table 9: Opening Year 2021 With Project Intersection Peak Hour LOS

Intersection		Opening Year 2021 Without Project Conditions				Opening Year 2021 With Project Conditions				Change in V/C		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS			
1	Pine Ave/Broadway	0.453	A	0.714	C	0.457	A	0.722	C	0.004	0.008	No
2	Pine Ave/1 st St	0.299	A	0.334	A	0.299	A	0.339	A	0.000	0.005	No
3	Long Beach Blvd/Broadway	0.397	A	0.671	B	0.408	A	0.680	B	0.011	0.009	No
4	Long Beach Blvd/1 st St	0.277	A	0.307	A	0.279	A	0.307	A	0.002	0.000	No

Notes:

V/C = Volume to Capacity Ratio, LOS = Level of Service.

As shown in **Table 9**, based on the significant impact threshold criteria described in **Section 3.1**, no significant traffic impacts are forecast to occur in the opening year with implementation of the proposed project.



*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.

9 FUTURE YEAR 2035 WITHOUT PROJECT CONDITIONS

This section details the traffic volume development and analysis for future year 2035 without the proposed project. Year 2035 is selected as the long-range analysis year in order to remain consistent with the Downtown Community Plan.

9.1 Future Year 2035 Volume Development

The 2016 SCAG RTP/SCS model was used as a basis for developing travel demand forecasts for the 125 Long Beach Boulevard project. Land use inputs were adjusted in the “with project” scenarios using the project description (as discussed in **Section 1.0** of this report). Four model runs were completed:

- Existing Base Year (2016),
- Existing Base Year (2016) Plus Project,
- Forecast Year (2040) Without Project, and
- Forecast Year (2040) With Project.

Raw (unprocessed) turning movements were obtained from the model runs, and summarized for use in intersection analysis. An NCHRP-255 delta process was used for post-processing raw link volumes to produce the refined and adjusted project turning movements. The delta process took existing count information, and applied the growth calculated between the existing year travel model and the model scenario being evaluated. The model growth was applied to the existing intersection turning movement count data collected as part of the project.

9.2 Future Year 2035 Without Project Intersection Levels of Service

A level of service analysis was conducted to evaluate opening year 2035 without project intersection operations during the a.m. and p.m. peak hours. **Figure 12** shows the future year 2035 without project peak hour volumes at the study intersections. **Table 10** summarizes the future year 2035 without project levels of service at the study intersections. Level of service calculation worksheets are included in **Appendix B**.

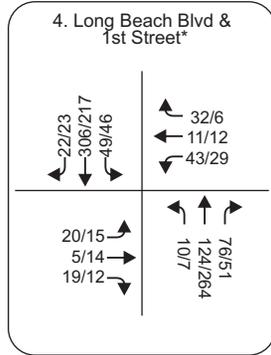
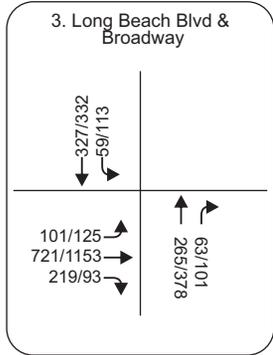
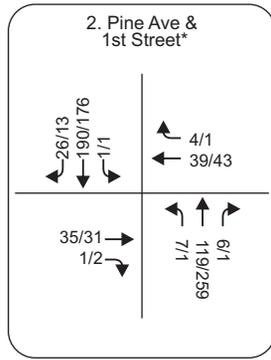
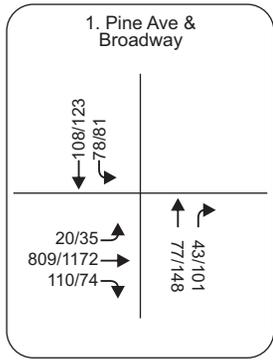
Table 10: Future Year 2035 Without Project Intersection Peak Hour Level of Service

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		V/C	LOS	V/C	LOS
1 Pine Ave/Broadway	Signalized	0.511	A	0.696	B
2 Pine Ave/1 st St	Signalized	0.267	A	0.291	A
3 Long Beach Blvd/Broadway	Signalized	0.565	A	0.674	B
4 Long Beach Blvd/1 st St	Signalized	0.256	A	0.271	A

Notes:

V/C = Volume to Capacity Ratio, LOS = Level of Service.

As shown in **Table 10**, all study intersections are forecast to operate at satisfactory levels of service (LOS D or better) during the a.m. and p.m. peak hour in the future year 2035 without project conditions.



Legend

- XX/XX AM/PM Volume
- (X) Study Intersection
- (Dashed Box) Project Site



*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.

10 FUTURE YEAR 2035 WITH PROJECT CONDITIONS

Future year 2035 with project conditions were developed by adding trips forecast to be generated by the proposed project, as described in **Section 5**, to future year 2035 without project volumes, as described in **Section 9**. **Figure 13** illustrates the future year 2035 with project traffic volumes at the study intersections.

10.1 Future Year 2035 With Project Intersection Levels of Service

A level of service analysis was conducted to evaluate future year 2035 with project intersection operations during the a.m. and p.m. peak hours. **Table 11** summarizes the forecast year 2035 with project levels of service at the study intersections. Level of service calculation worksheets are included in **Appendix B**.

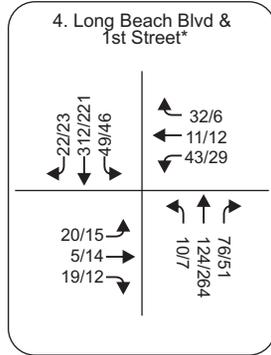
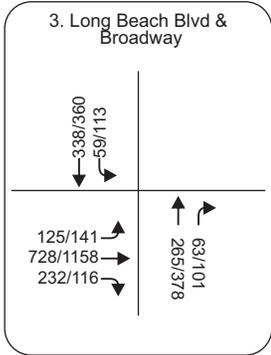
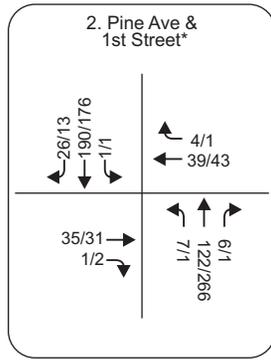
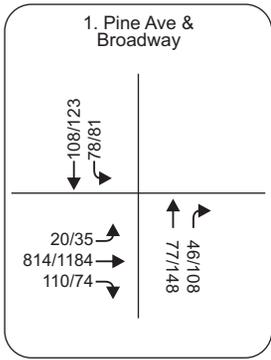
Table 11: Future Year 2035 With Project Intersection Peak Hour LOS

Intersection		Future Year 2035 Without Project Conditions				Future Year 2035 With Project Conditions				Change in V/C		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS			
1	Pine Ave/Broadway	0.511	A	0.696	B	0.514	A	0.704	C	0.003	0.008	No
2	Pine Ave/1 st St	0.267	A	0.291	A	0.267	A	0.296	A	0.000	0.005	No
3	Long Beach Blvd/Broadway	0.565	A	0.674	B	0.572	A	0.683	B	0.007	0.009	No
4	Long Beach Blvd/1 st St	0.256	A	0.271	A	0.258	A	0.271	A	0.002	0.000	No

Notes:

V/C = Volume to Capacity Ratio, LOS = Level of Service.

As shown in **Table 11**, based on the significant impact threshold criteria described in **Section 3.1**, no significant traffic impacts are forecast to occur in the future year 2035 with implementation of the proposed project.



Legend

- XX/XX AM/PM Volume
- Study Intersection
- Project Site



*Travel along 1st Street between Pacific Avenue and Long Beach Boulevard is restricted to bus traffic, the only exception being westbound lanes between Pine Avenue and Pacific Avenue, where valets and vehicles utilizing Autoport public parking are permitted.

11 CONGESTION MANAGEMENT PROGRAM (CMP) ANALYSIS

The Congestion Management Program (CMP) was created statewide as a result of Proposition 111 and has been implemented locally by the Los Angeles County Metropolitan Transportation Authority (Metro). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potential regional significance be analyzed. A specific system of arterial roadways plus all freeways comprise the CMP system. A total of 164 intersections are identified for monitoring on the system in Los Angeles County. This section describes the analysis of project-related impacts on the CMP system. The analysis has been conducted according to the guidelines set forth in the 2010 Congestion Management Program for Los Angeles County.

According to the CMP Traffic Impact Analysis (TIA) Guidelines developed by Metro, a CMP traffic impact analysis is required given the following conditions:

- CMP arterial monitoring intersections, including freeway on- or off-ramps, where the proposed project would add 50 or more trips during either the AM or PM weekday peak hours.
- CMP freeway monitoring locations where the proposed project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

Based on the CMP guidelines, a significant impact occurs when a proposed project increases traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$ for arterial locations or $D/C \geq 0.02$ for freeway locations), causing LOS F ($V.C > 1.00$ for arterial locations or $D/C > 1.00$ for freeway locations).

11.1 CMP Intersection Analysis

A review of the 2010 CMP showed the following stations located approximately two miles away from the proposed project, and where CMP impacts could potentially occur with the implementation of the proposed project:

- Alamitos Boulevard and Ocean Boulevard;
- Pacific Coast Highway and Orange Avenue; and
- 7th Street and Alamitos Boulevard.

It is important to note that these three intersections are not study intersections. As shown in Section 5, the total number of a.m. and p.m. peak hour trips generated by the project is forecast to be higher than 50 trips. However, based on the proposed project trip distribution, the dispersal of project traffic onto multiple routes would result in the actual number of trips expected to pass through these intersections at less than the 50 trip threshold.

11.2 CMP Freeway Analysis

The proposed project is in close proximity to Interstate 710 (I-710) and Interstate 405 (I-405). Based on incremental project trip generation estimates, the proposed project would not add more than 150 peak

hour trips; therefore, a CMP mainline freeway segment analysis was not conducted.

12 VMT ANALYSIS

This section presents the analysis of Vehicle Miles Traveled (VMT) related to the proposed project. VMT estimates were developed using the 2016 SCAG RTP/SCS model as described earlier. Two model runs were completed for this analysis:

- Future year without project (includes buildout of the approved Downtown Community Plan)
- Future year with project (including proposed project in zone #14 and buildout of the approved Downtown Community Plan in all other zones)

Within the SCAG model, the proposed project site is part of a larger TAZ, Zone 21399000 as shown in **Figure 14**.

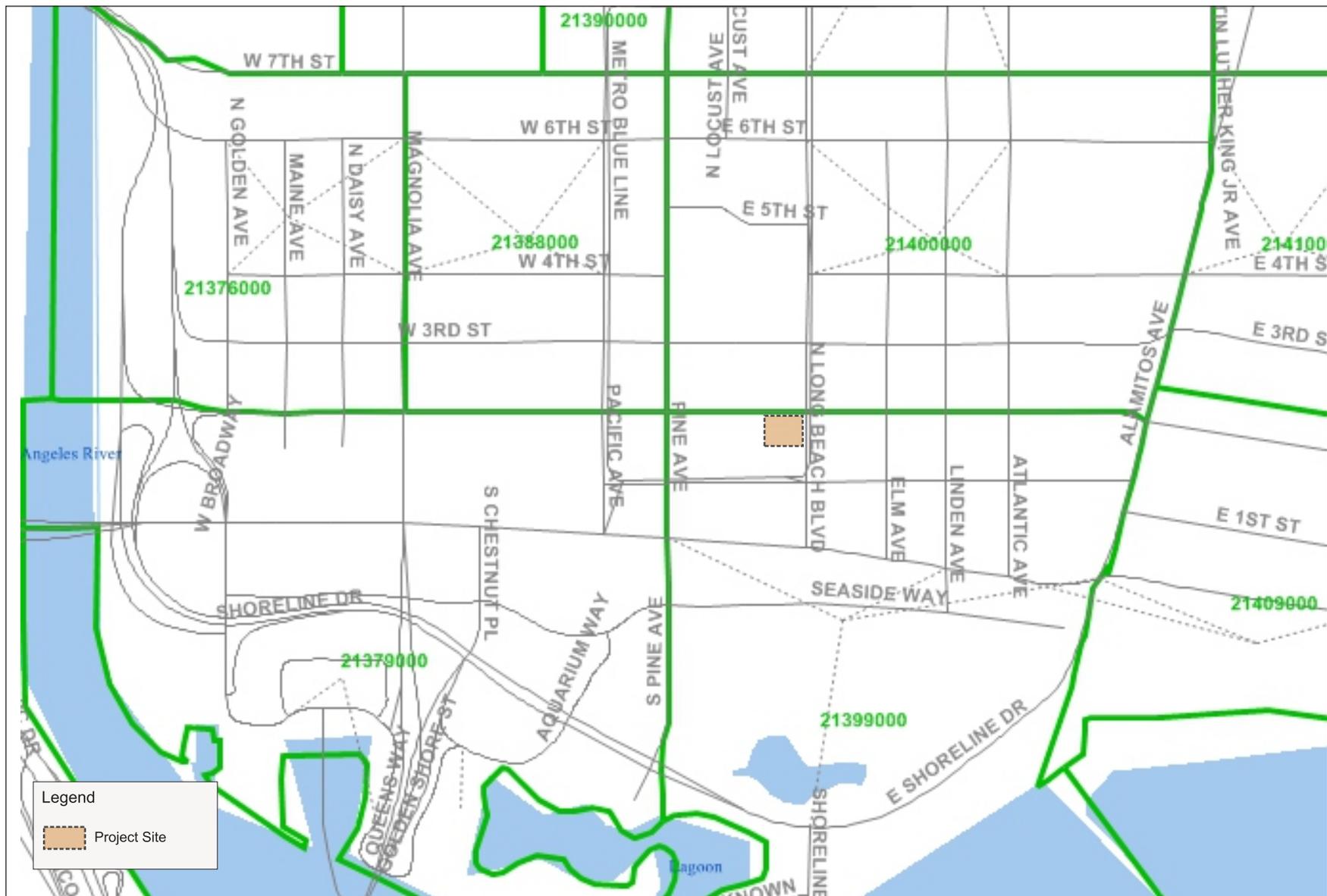
Table 12 summarizes the total VMT of vehicle trips associated with this TAZ, for the without project and with project scenarios. The VMT estimates are broken down in terms of origins, destinations, and intrazonal trips.

Table 12: Year 2040 VMT Comparison

Trip Type	Year 2040 Without Project VMT			Year 2040 With Project VMT		
	AM Peak Period	PM Peak Period	Daily	AM Peak Period	PM Peak Period	Daily
Origins	23,224	70,060	198,919	22,073	68,838	191,758
Destinations	52,828	46,076	207,318	51,602	44,737	199,966
Intrazonal	45	102	396	44	102	390
Total	76,007	116,033	405,842	73,631	113,473	391,334
<i>With Project minus Without Project</i>				<i>-2,376</i>	<i>-2,561</i>	<i>-14,508</i>

As shown in **Table 12**, inclusion of the proposed project in the model TAZ is anticipated to result in a reduction in VMT when compared to the VMT of the model TAZ in the approved Downtown Community Plan buildout scenario.





13 PARKING ANALYSIS

This section evaluates the current parking conditions in the vicinity of the project site. Parking counts were collected on a typical weekday between 11:00 a.m. and 6:00 p.m. at public parking lots or structures near the project site. A total of seven sites were counted in addition to the project site, as follows:

- 133 The Promenade (south of Broadway between Tribune Court and The Promenade);
- 200 North Pine Avenue (northwest corner of Tribune Court/Broadway intersection);
- 107 Long Beach Boulevard (Diamond Parking, northwest corner of Long Beach Boulevard/1st Street intersection);
- City Place Parking Structure C (behind Harvey Milk Park);
- City East Lot (northeast corner of Long Beach Boulevard/Broadway intersection);
- 225 Long Beach Boulevard (access off Waite Court); and
- 127 East Broadway.

The parking lot locations are shown in **Figure 15**. The results of the hourly parking count collection are shown in **Table 13**. The total number of vehicles parked in non-reserved, public spaces is provided, as is the peak one hour utilization of each lot during the count time period, and the available spaces during that one peak hour of the day.



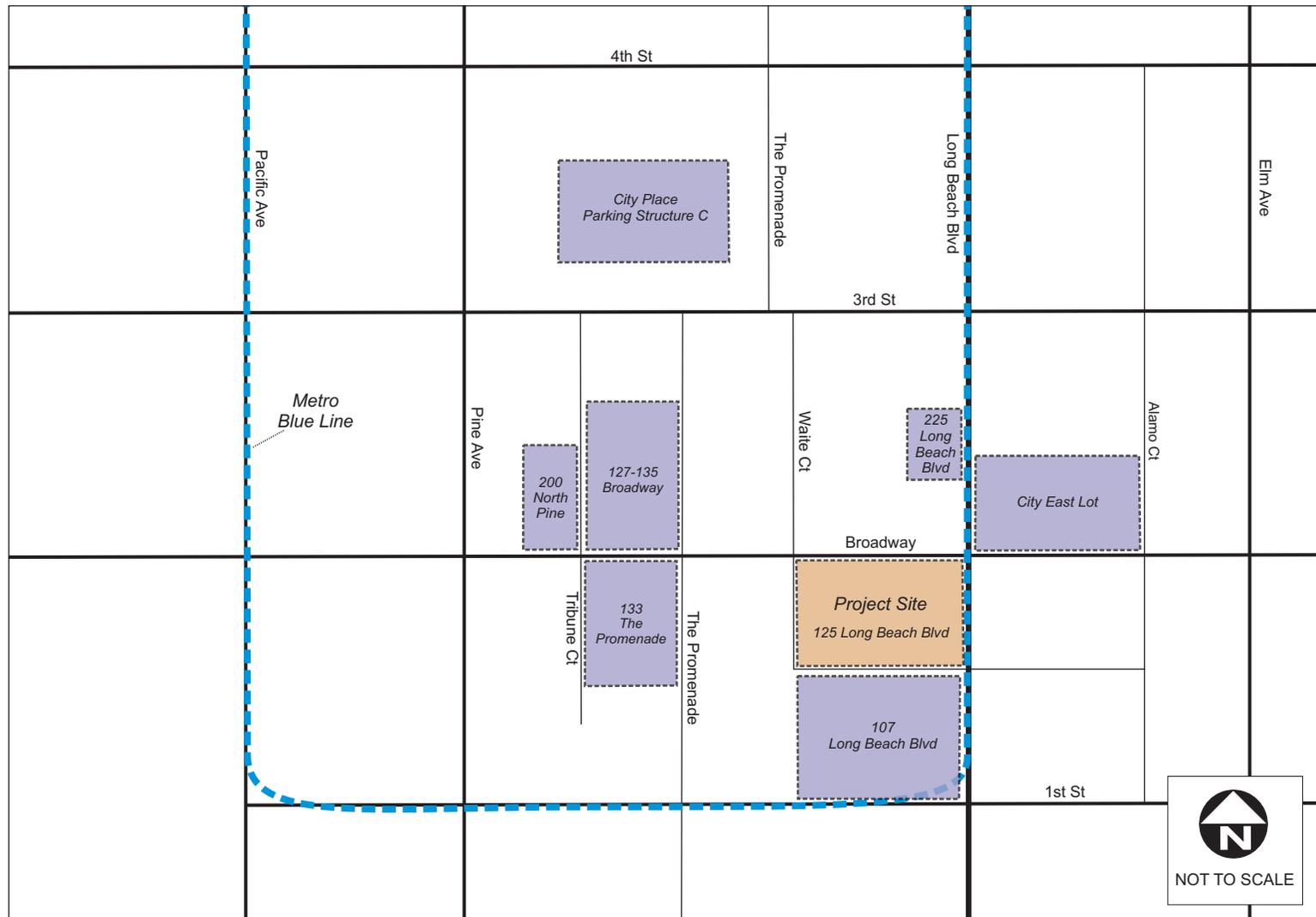


Table 13: Hourly Parking Demand and Utilization

Parking Lot	Total Spaces	Hourly Parked Vehicles (not including Reserved stalls or Loading Zone stalls)							Peak Utilization	Available Spaces During Peak Hour
		11:00 am	12:00 pm	1:00 pm	2:00 pm	3:00 pm	4:00 pm	5:00 pm		
Project Site										
125 Long Beach Boulevard	113	51	50	56	65	53	52	63	58%	48
Adjacent Lots										
City Place Parking Structure	391	241	259	257	224	204	175	213	66%	132
200 North Pine	108	90	87	91	93	91	85	71	86%	15
127 Broadway	101	22	26	27	25	25	25	26	27%	74
133 The Promenade	103	84	95	91	92	85	71	45	92%	8
225 Long Beach Blvd	219	167	179	174	157	159	149	136	82%	40
City East Lot	121	62	61	69	63	51	39	42	57%	52
107 Long Beach Blvd	141	72	74	74	72	68	65	25	52%	67
Total Available in Adjacent Lots										388

As shown in **Table 13**, the project site contains 113 parking spaces which are utilized at a maximum of 58% during the day, and would be displaced with the project. Peak utilization at the adjacent lots vary in range. The total number of available parking spaces at these lots during the highest peak hour is 388 spaces. Though, this is a conservative estimate since each lot experiences peak demand at different hours of the day. Based on this evaluation, it can be concluded that the displaced parking demand on the project site can be accommodated at many of the adjacent parking lots in the near vicinity of the site. Thus, the proposed project is not anticipated to have an adverse effect on public parking in the area.

14 CONSTRUCTION TRAFFIC IMPACT ANALYSIS

This section evaluates the potential temporary traffic impacts of truck hauling activities related to the 125 Long Beach Boulevard site project. Construction is expected to start in 2019 and continue until 2021. The proposed hours of construction are Monday thru Friday from 7:00 a.m. to 7:00 p.m.

For the purposes of this analysis, the following assumptions were used based on limited information at the time of this study:

- The capacity of a 40' truck, to be used for hauling, is 10-20 cubic yards
- Truck hauling activities would occur for a total of 12 hours a day, between 7:00 a.m. and 7:00 p.m.
- A maximum of 10 trucks per hour will enter and exit the site
- Based on the 40' truck size, a Passenger Car Equivalent (PCE) factor of 2.5 passenger vehicles per truck is assumed, resulting in approximately 25 PCE trips per hour
- 10 truck trips x 2.5 vehicles per truck = 25 PCE-adjusted trips.

Trucks would export dirt from the project site, deliver to an undisclosed off-site location in Long Beach or north on the 710, and then return to the project site. The same process would occur for importing dirt from the off-site location. Trucks are expected to travel eastbound on Broadway and enter the project site through Waite Court. Trucks are expected to exit the project site at Waite Court as well, then head north on Long Beach Boulevard, and then west on 3rd Street. **Figure 16** shows the proposed routes to enter and exit the project site.

As described, a maximum rate of 10 trucks exiting and 10 trucks entering the project site during a weekday hour is assumed, utilizing the recommended truck haul route. It is anticipated that truck haul activities would occur during weekdays. For the purposes of this traffic analysis, construction traffic impacts are evaluated during the a.m. and p.m. peak hours for the opening year 2021 conditions.





Table 14 summarizes the opening year 2021 intersection LOS assuming construction trucks access the project site utilizing the inbound and outbound routes shown in **Figure 16**. Detailed LOS calculation sheets are provided in **Appendix B**.

Table 14: Opening Year 2021 Plus Construction Hauling Intersection Peak Hour LOS

Intersection		Opening Year 2021 Without Project Conditions				Opening Year 2021 Plus Construction Hauling Conditions				Change in V/C		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS			
1	Pine Ave/Broadway	0.453	A	0.714	C	0.462	A	0.722	C	0.009	0.008	No
2	Pine Ave/1 st St	0.299	A	0.334	A	0.299	A	0.334	A	0.000	0.000	No
3	Long Beach Blvd/Broadway	0.397	A	0.671	B	0.397	A	0.671	B	0.000	0.000	No
4	Long Beach Blvd/1 st St	0.277	A	0.307	A	0.277	A	0.307	A	0.000	0.000	No

Notes:

V/C = Volume to Capacity Ratio, LOS = Level of Service.

As shown in **Table 14**, construction activities are not forecast to result significant impacts during the a.m. and p.m. peak hour.

15 CONCLUSIONS

The proposed 125 Long Beach Boulevard site project consists of 218 residential units and approximately 7,300 square feet of retail uses. The proposed project is within the Downtown Community Plan area that was the subject of a Program Environmental Impact Report (PEIR) certified in November 2011.

The four study intersections are currently operating at acceptable levels of service (LOS D or better). Based on the significant impact threshold criteria, no significant traffic impacts are forecast to occur in either the opening year 2021 or the future year 2035 with completion of the proposed project.

A parking impact analysis was conducted within the study area, including the project site. The project site contains 113 parking spaces which are utilized at a maximum of 58% during the day, and would be displaced with the project. Peak utilization at the adjacent lots vary in range. The total number of available parking spaces at these lots during the highest peak hour is 388 spaces. Though, this is a conservative estimate since each lot experiences peak demand at different hours of the day. Based on this evaluation, it can be concluded that the displaced parking demand on the project site can be accommodated at many of the adjacent parking lots in the near vicinity of the site. Thus, the proposed project is not anticipated to have an adverse effect on public parking in the area.

In addition, construction activities are not forecast to result significant impacts during the a.m. and p.m. peak hour.