LINSCOTT LAW & GREENSPAN engineers

TRAFFIC IMPACT ANALYSIS

1795 LONG BEACH BOULEVARD MIXED-USE DEVELOPMENT PROJECT

Long Beach, California
June 27, 2017

Prepared for:

AMCAL MULTI-HOUSING, INC.
30141 AGOURA ROAD, SUITE 100
Agoura Hills, CA 91301-4332

LLG Ref. 2-17-3831-1

Prepared by:

Shane S. Green, P.E.
Transportation Engineer III
And
Megan Lam
Transportation Engineer I

Under the Supervision of:

Richard E. Barretto, P.E.
Principal

Linscott, Law & Greenspan, Engineers
2 Executive Circle
Suite 250
Irvine, CA 92614
949.825.6175 T
949.825.6173 F
www.llgengineers.com

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE**

APPENDICES

APPENDIX

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

Project Description

- The Project site is located in the southwest corner of Long Beach Boulevard and Pacific Coast Highway, within the *Long Beach Midtown Specific Plan*, at 1795 Long Beach Boulevard in the City of Long Beach, California. The subject property is a square-shaped 1.01± acre parcel of land that is currently developed with a 5,792 SF single-story retail/restaurant building and surface parking. Access to the site was provided via "right-turn only" driveways on Pacific Coast Highway and Long Beach Boulevard, as well as driveways located along N. Palmer Court.

- The proposed Project includes the construction of a five-level podium building with 101 affordable apartment units, consisting of 50 one (1) bedroom units, 25 two (2) bedroom units, and 26 three (3) bedroom units on the upper levels over 4,051 SF of ground floor retail space and a 73-space parking garage.

- Vehicular access to the proposed Project's parking garage will be provided via driveways located on N. Palmer Court, which is an existing alley way that provides vehicular access to the existing residential development located south of the subject property; no vehicular access is proposed from Long Beach Boulevard or Pacific Coast Highway. Pedestrian access to both the residential and retail components of the Project will be provided via building entries/exits located on Long Beach Boulevard and Pacific Coast Highway.

- The proposed Project is forecast to generate approximately 803 "net" daily trips, with 53 "net" trips (11 inbound, 42 outbound) produced in the AM peak hour and 74 "net" trips (46 inbound, 28 outbound) produced in the PM peak hour on a "typical" weekday.

Study Area

- The five (5) key study intersections selected for evaluation in this report provide local access within the project study area. They consist of the following:

    1. Pacific Avenue at Pacific Coast Highway (Long Beach/Caltrans)
    2. N. Palmer Court at Pacific Coast Highway (Long Beach/Caltrans)
    3. Long Beach Boulevard at Pacific Coast Highway (Long Beach/Caltrans)
    4. N. Palmer Court at 16th Street (Long Beach)
    5. Long Beach Boulevard at 16th Street (Long Beach)

Related Projects Description

- The twenty-six (26) cumulative projects are expected to generate a combined total of 43,395 daily trips, 3,260 AM peak hour trips (1,384 inbound and 1,876 outbound) and 3,563 PM peak hour trips (1,902 inbound and 1,661 outbound) on a typical weekday.

Traffic Impact Analysis

Existing Traffic Conditions

- For the Existing traffic conditions, all five (5) key study intersections currently operate at an acceptable level of service (LOS D or better) during the AM and PM peak hours.

Existing With Project Traffic Conditions

- For the Existing Plus Project traffic conditions, the traffic associated with the proposed Project *will not* significantly impact any of the five (5) key study intersections. The five (5) 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 Traffic Conditions

- For the Year 2020 Cumulative traffic conditions, all five (5) key study intersections are forecast to operate at an acceptable level of service (LOS D or better) with the addition of ambient traffic growth and cumulative project traffic.

Year 2020 Cumulative Plus Project Traffic Conditions

- For the Year 2020 Cumulative Plus Project traffic conditions, the traffic associated with the proposed Project *will not* significantly impact any of the five (5) key study intersections. The five (5) 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.

Caltrans Analysis

Existing Traffic Conditions

- For the Existing traffic conditions, all three (3) state-controlled study intersections currently operate at an acceptable LOS D or better during the AM and PM peak hours under existing traffic conditions.

Existing With Project Traffic Conditions

- For the Existing Plus Project traffic conditions, the traffic associated with the proposed Project *will not* significantly impact any of the three (3) state-controlled study intersections when compared to the LOS standards and significant impact criteria specified in this report.

The three (3) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of Project generated traffic to existing traffic.

Year 2020 Cumulative Traffic Conditions

- For the Year 2020 Cumulative traffic conditions, all three (3) state-controlled study intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours with the addition of ambient traffic growth and cumulative project traffic.

Year 2020 Cumulative Plus Project Traffic Conditions

- For the Year 2020 Cumulative Plus Project traffic conditions, the traffic associated with the proposed Project *will not* significantly impact any of the three (3) state-controlled study intersections when compared to the LOS standards and significant impact criteria specified in this report. The three (3) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of Project generated traffic.

Recommended Improvements

Existing Plus Project Traffic Conditions

- The proposed Project will not significantly impact any of the five (5) 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.

Year 2020 Cumulative Plus Project Traffic Conditions

- The proposed Project will not significantly impact any of the five (5) key study intersections under the "Year 2020 Cumulative Plus Project" traffic scenario. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

Transportation Improvement Fee

- Based on a total Project development of 101 DU of residential and 4,051 SF of commercial/retail space, the proposed Project can be expected to pay up to $131,855.00 in Transportation Improvement Fees. The precise fee will be determined by the City upon issuance of project building permits.

Project-Related Fair Share Contribution

- The Midtown Specific Plan identified five (5) impacted intersections for which the proposed Project may need to contribute its proportionate "fair-share" towards. The Project's fair share percentage at Long Beach Blvd and Spring Street is 0.81%. The four (4) remaining impacted intersections are not expected to have any added project volumes at these locations which results no Project contribution needed

Site Access Evaluation

- Vehicular access to the proposed Project's parking garage will be provided via driveways located on N. Palmer Court, which is an existing alley way that provides vehicular access to the existing residential development located south of the subject property; no vehicular access is proposed from Long Beach Boulevard or Pacific Coast Highway. The proposed driveway is forecast to operate at acceptable LOS A during the AM peak hour and PM peak hour. Therefore, project site access is considered adequate
- The on-site circulation layout of the proposed Project on an overall basis is generally adequate. The existing alley way at Palmer Court, which is the primary access to the Project site, currently provides vehicular access to the existing residential development located south of the subject property. The intersection of Palmer Court at Pacific Coast Highway will remain unchanged, so vehicular access to/from Palmer Court will remain unchanged.

Congestion Management Program Compliance Assessment

- Based on the proposed Project's trip generation potential, trip distribution and trip assignment, the Project will not add 50 or more trips at the identified CMP intersections during the weekday AM peak hour or PM peak hour. Therefore a CMP intersection traffic impact analysis is not required
- Based on the project's trip generation potential and distribution pattern, the proposed Project will not add more than 150 trips during the AM or PM peak hour at this CMP mainline freeway-monitoring location. Therefore, a CMP freeway traffic impact analysis is not required.
- Pursuant to the CMP guidelines, the proposed Project is forecast to generate 3 transit trips (1 inbound and 2 outbound) during the AM peak hour and 4 transit trips (2 inbound and 2 outbound) during the PM peak hour. Over a 24-hour period the proposed Project is forecasted to generate 39 daily weekday transit trips. It is anticipated that the existing transit service in the project area would be able to accommodate the project generated transit trips. Therefore, given the number of transit trips generated by the project and the existing transit routes in the project vicinity, it is concluded that the existing public transit system would not be significantly impacted by the proposed Project

Parking Analysis

- The California Code parking rate is considered the most applicable code for this type of development. Application of the California Code would result in a parking requirement of 51 spaces, which when compared against the proposed site parking supply of 73 spaces, the Project would have a parking surplus of 22 spaces. Therefore, the proposed parking supply is considered adequate to accommodate the parking needs for the Project.

TRAFFIC IMPACT ANALYSIS

1795 LONG BEACH BOULEVARD MIXED-USE DEVELOPMENT PROJECT

Long Beach, California
June 27, 2017

1.0 INTRODUCTION

This Traffic Impact Analysis was conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine and evaluate the potential traffic impact needs associated with a proposed 1795 Long Beach Boulevard Mixed-Use Development Project (hereinafter referred to as Project).

The Project site is located in the southwest corner of Long Beach Boulevard and Pacific coast Highway, within the *Long Beach Midtown Specific Plan*, at 1795 Long Beach Boulevard in the City of Long Beach, California. The project site is currently developed with a 5,792 square-foot (SF) single-story retail/restaurant building and surface parking. The Project is proposing to construct a five-level podium building with 101 apartment units, 4,051 SF retail space, and a 73-space parking garage.

1.1 Scope of Work

The traffic analysis evaluates the existing operating conditions at five (5) 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. Please note that as part of the Midtown Specific Plan the long term impacts were already assessed since the proposed Project falls within the Transit Node District. The Transit Node District includes transit-oriented mixed-use and residential development centered near the Metro Blue Line.

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 Scope of Work for this traffic study, which is included in ***Appendix A***, was developed in conjunction with City of Long Beach Engineering Division staff.

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 five (5) 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, twenty-six (26) cumulative projects were considered in the cumulative traffic analysis for this project.

Based on City of Long Beach requirements, 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 twenty-six (26) cumulative projects.

1.2 Study Area

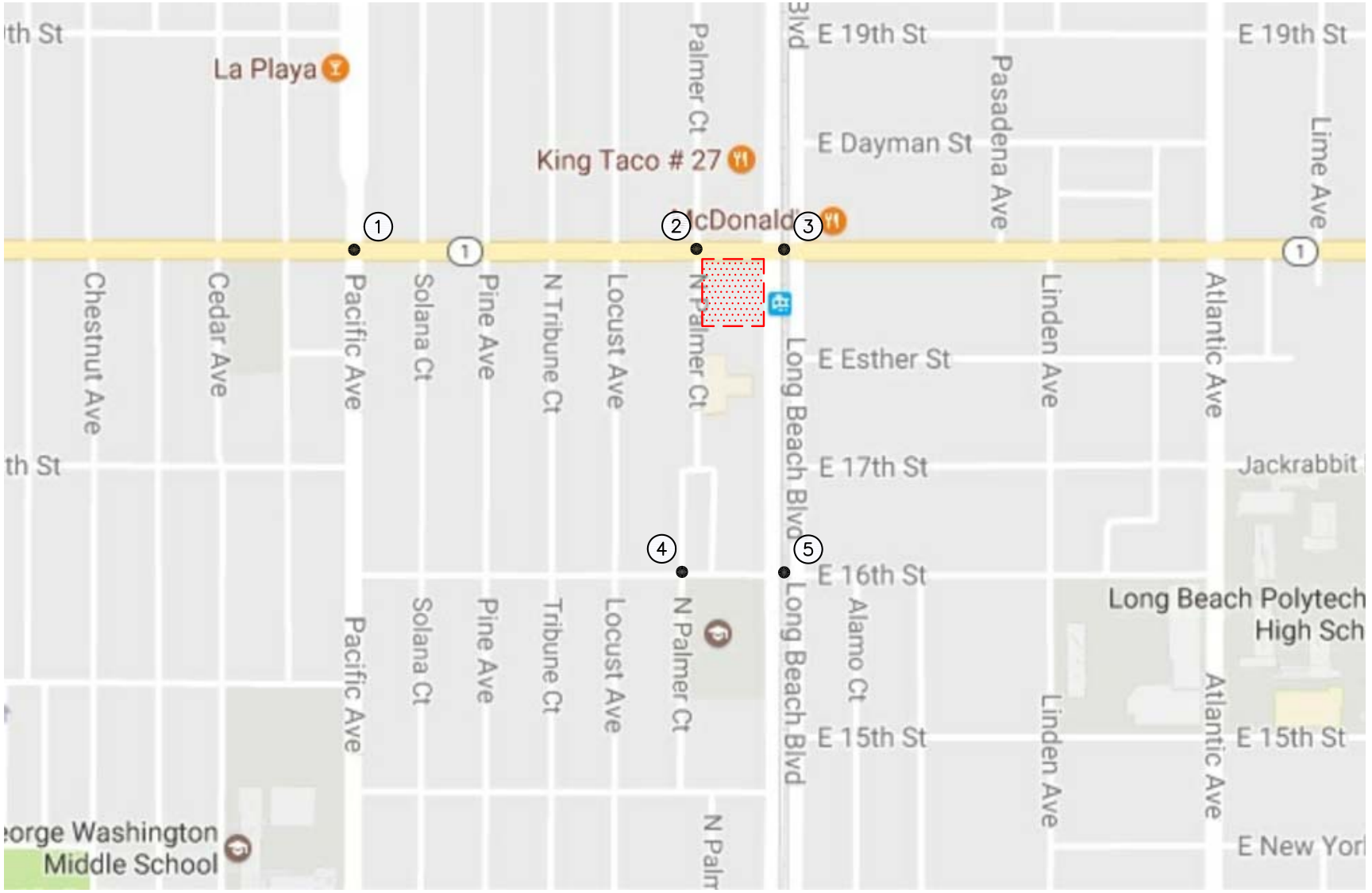
The five (5) key study intersections selected for evaluation in this report provide local access within the project study area. They consist of the following:

6. Pacific Avenue at Pacific Coast Highway (Long Beach/Caltrans)
7. N. Palmer Court at Pacific Coast Highway (Long Beach/Caltrans)
8. Long Beach Boulevard at Pacific Coast Highway (Long Beach/Caltrans)
9. N. Palmer Court at 16th Street (Long Beach)
10. Long Beach Boulevard at 16th Street (Long Beach)

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,
- Caltrans AM and PM peak hour capacity analyses for existing conditions,
- Caltrans AM and PM peak hour capacity analyses for existing plus project conditions,
- Caltrans AM and PM peak hour capacity analyses for future (Year 2020) conditions without and with project traffic,
- Recommended Improvements,
- Site Access and Internal Circulation,
- Congestion Management Program Compliance Assessment, and
- Parking Analysis



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 1-1

VICINITY MAP

1795 LONG BEACH BOULEVARD, LONG BEACH

2.0 PROJECT DESCRIPTION

The Project site is located in the southwest corner of Long Beach Boulevard and Pacific Coast Highway, within the *Long Beach Midtown Specific Plan*, at 1795 Long Beach Boulevard in the City of Long Beach, California. The subject property is a square-shaped 1.01± acre parcel of land that is currently developed with a 5,792 SF single-story retail/restaurant building and surface parking. Access to the site was provided via "right-turn only" driveways on Pacific Coast Highway and Long Beach Boulevard, as well as driveways located along N. Palmer Court. ***Figure 2-1*** displays the existing site aerial.

The proposed Project includes the construction of a five-level podium building with 101 affordable apartment units, consisting of 50 one (1) bedroom units, 25 two (2) bedroom units, and 26 three (3) bedroom units on the upper levels over 4,051 SF of ground floor retail space and a 73-space parking garage. ***Figure 2-2*** presents the proposed site plan of the Project, prepared by WHA Architects. ***Table 2-1*** summarizes the existing development and the anticipated uses/tenant mix and associated floor areas for the Project as identified by the Project applicant.

2.1 Site Access

Vehicular access to the proposed Project's parking garage will be provided via driveways located on N. Palmer Court, which is an existing alley way that provides vehicular access to the existing residential development located south of the subject property; no vehicular access is proposed from Long Beach Boulevard or Pacific Coast Highway. Pedestrian access to both the residential and retail components of the Project will be provided via building entries/exits located on Long Beach Boulevard and Pacific Coast Highway.

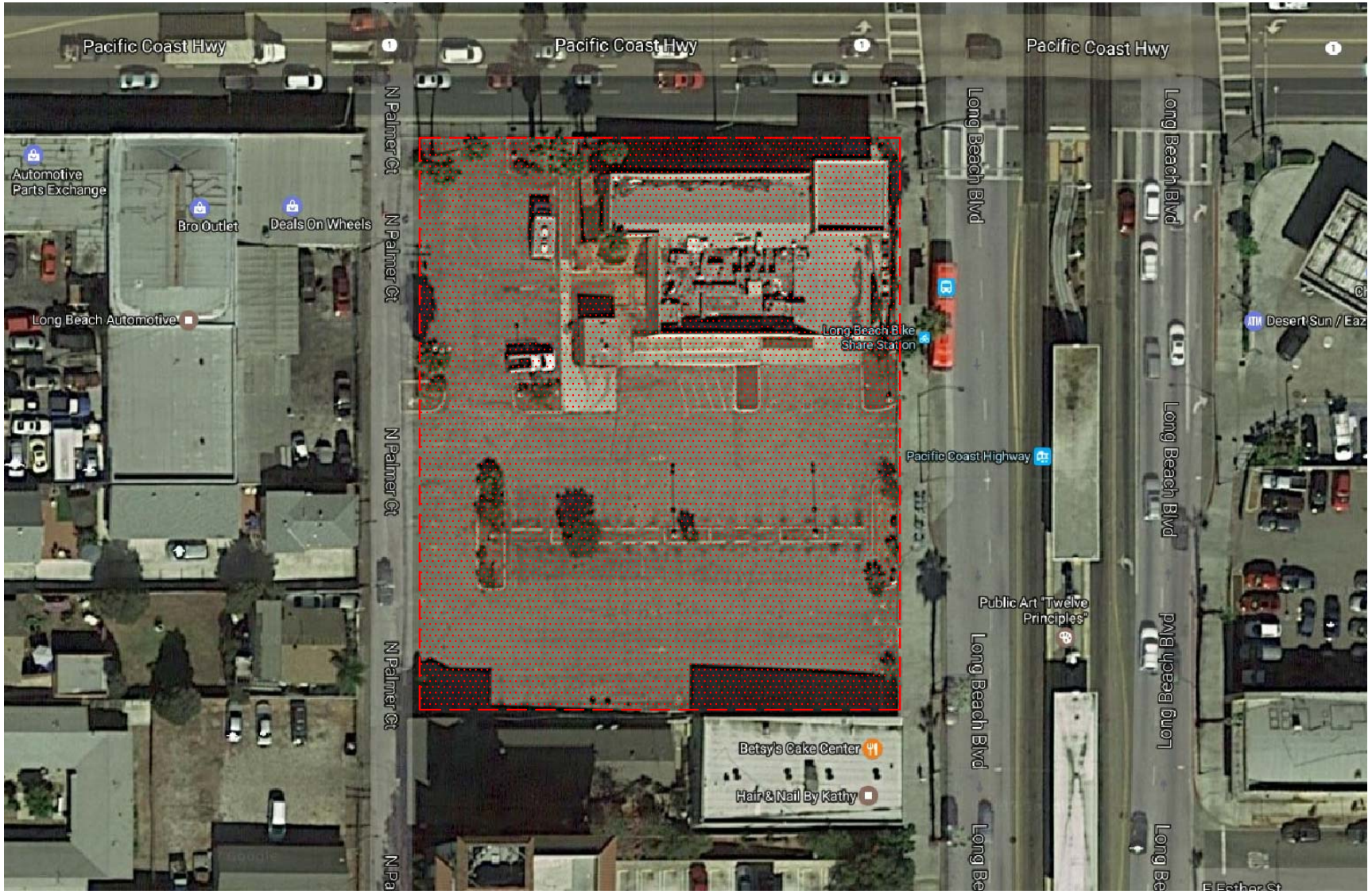
TABLE 2-1

PROJECT DEVELOPMENT SUMMARY[1]

Land Use / Building	Building Square-Footage (SF)
Existing Development	
❑ Retail Building	5,792 SF
Total Existing Floor Area	***5,792 SF***
Proposed Project	
❑ 1 Bedroom	50 Units
❑ 2 Bedroom	25 Units
❑ 3 Bedroom	26 Units
Total Units	***101 Units***
❑ Ground Floor Retail	4,051 SF

Parking	Total Spaces
Total Project Parking Supply	***73 spaces***

[1] Source: WHA Architects June 2017.



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N NO SCALE

SOURCE: GOOGLE

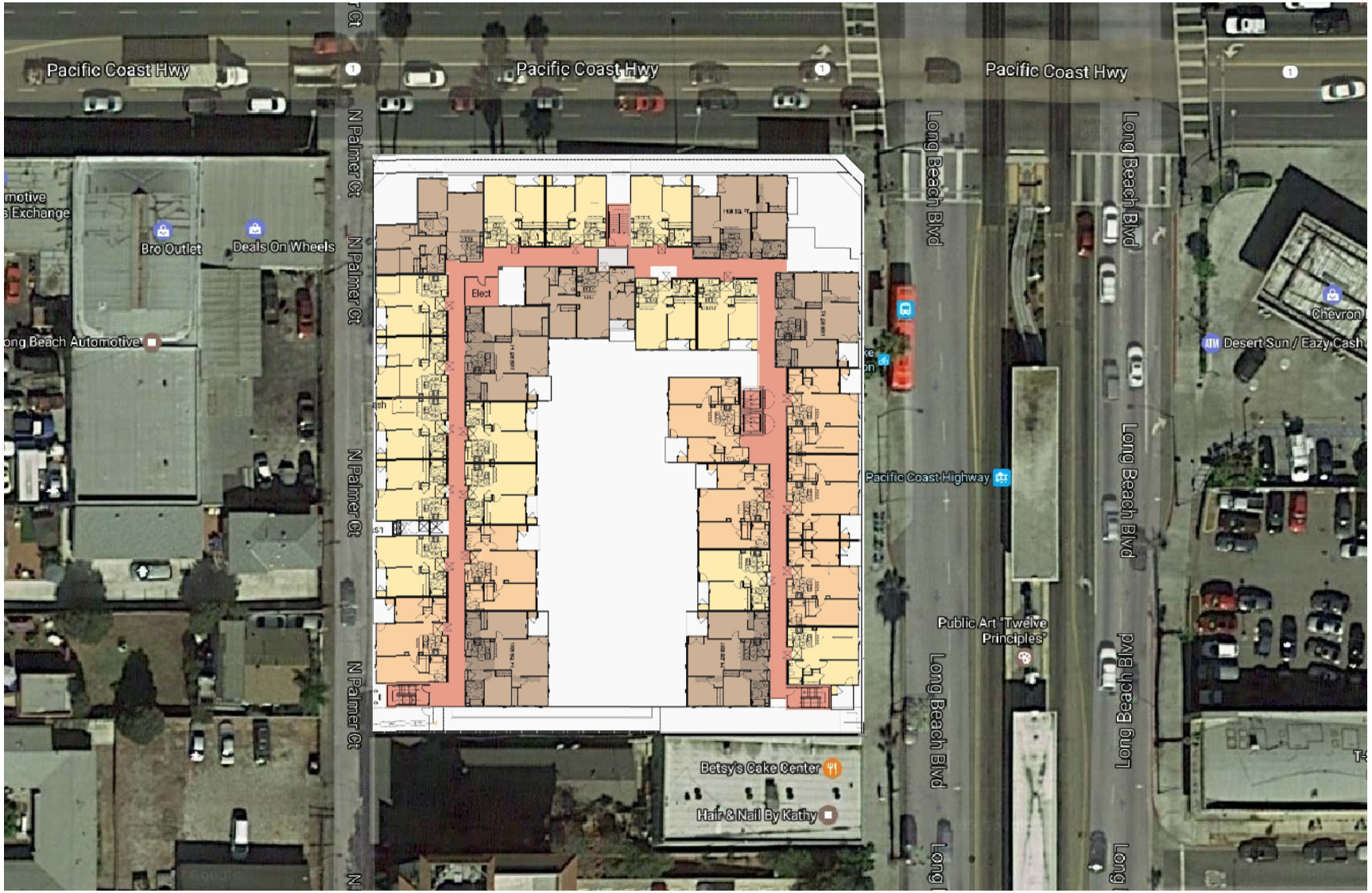
KEY

= PROJECT SITE

FIGURE 2-1

EXISTING AERIAL PHOTOGRAPH

1795 LONG BEACH BOULEVARD, LONG BEACH



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SOURCE: AMCAL

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 2-2

PROPOSED SITE PLAN

1795 LONG BEACH BOULEVARD, LONG BEACH

3.0 EXISTING CONDITIONS

3.1 Existing Street System

The principal local network of streets serving the project site includes Pacific Avenue, Long Beach Boulevard, N. Palmer Court, Pacific Coast Highway and 16th Street. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

Pacific Avenue is primarily a four-lane, divided roadway oriented in the north-south direction. Parking is generally permitted on either side of the roadway within the vicinity of the Project site. The posted speed limit on Pacific Avenue is 30 mph.

Long Beach Boulevard is a four-lane, divided roadway oriented in the north-south direction. Parking is generally not permitted north of Pacific Coast Highway, while parking is permitted on the west side of the roadway south of Pacific Coast Highway. The posted speed limit on Long Beach Boulevard is 30 miles per hour (mph).

Palmer Court is primarily a two-lane, undivided roadway oriented in the north-south direction. Parking is generally not permitted on either side of the roadway within the vicinity of the Project site. The prima facie speed limit on Palmer Court is 25 mph.

Pacific Coast Highway is primarily a six-lane, divided roadway oriented in the east-west direction. Parking is generally not permitted on either side of the roadway within the vicinity of the Project site. The posted speed limit on Pacific Coast Highway is 35 mph.

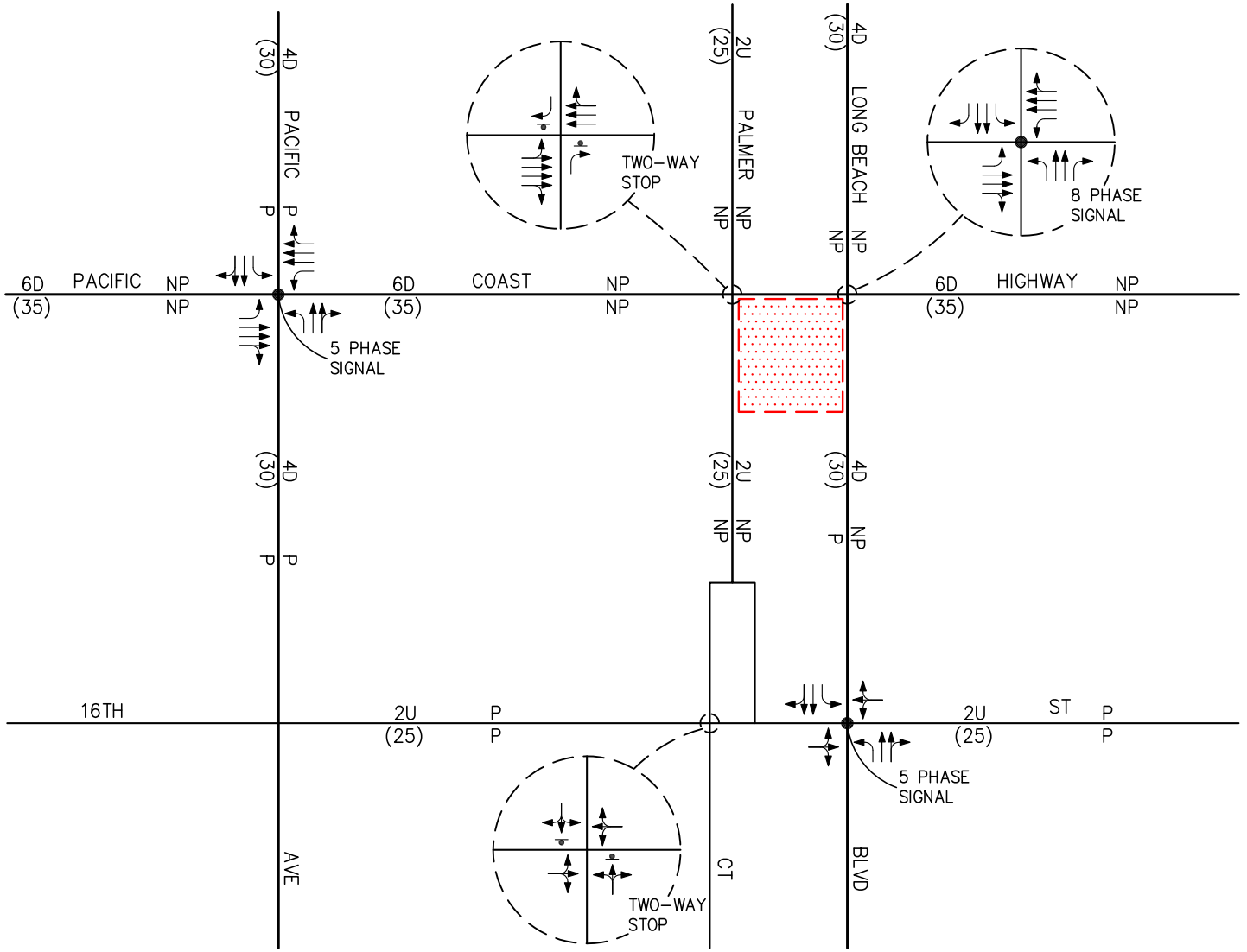
16th Street is primarily a two-lane, undivided roadway oriented in the east-west direction. Parking is generally permitted on either side of the roadway within the vicinity of the Project site. The prima facie speed limit on 16th Street is 25 mph.

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

Five (5) 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 five (5) key study intersections evaluated in this report were obtained from manual turning movement counts conducted by National Data & Surveying Services in May 2017.



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KEY

= APPROACH LANE ASSIGNMENT
= TRAFFIC SIGNAL, = STOP SIGN
P = PARKING, NP = NO PARKING
U = UNDIVIDED, D = DIVIDED
2 = NUMBER OF TRAVEL LANES
(XX) = POSTED SPEED LIMIT (MPH)
= PROJECT SITE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

1795 LONG BEACH BOULEVARD, LONG BEACH

Figures 3-2 and ***3-3*** illustrate the existing weekday AM and PM peak hour traffic volumes at the five (5) key study intersections evaluated in this report, respectively. ***Appendix B*** contains the detailed peak hour count sheets for the key intersections evaluated in this report.

3.3 Existing Public Transit

The Los Angeles County Metropolitan Transportation Authority, Long Beach Transit (LBT), and Torrance Transit provide public transit services in the vicinity of the proposed Project. In the vicinity of the Project, the Metro Blue Line currently serves Long Beach Boulevard, with a transit station located approximately 300 feet from the furthest edge of the project site. Torrance Transit Route 3/Rapid 3 currently serves Pacific Coast Highway and Pacific Avenue. In addition LBT Route 1 currently services Pacific Coast Highway and Long Beach Boulevard. LBT Routes 51, 52 and 60 currently serve Long Beach Boulevard. LBT Routes 171 and 176 currently serve Pacific Coast Highway. LBT Routes 172, 173 and 174 currently serve Pacific Coast Highway and Pacific Avenue. Lastly, LBT Route 182 currently serves Pacific Avenue. ***Figure 3-4*** graphically illustrates the transit routes of Long Beach Transit within the vicinity of the Project site. ***Figure 3-5*** graphically illustrates the transit routes of Torrance Transit within the vicinity of the Project site. ***Figure 3-6*** identifies the location of the existing bus stops in proximity to the Project site.

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 3-7***.

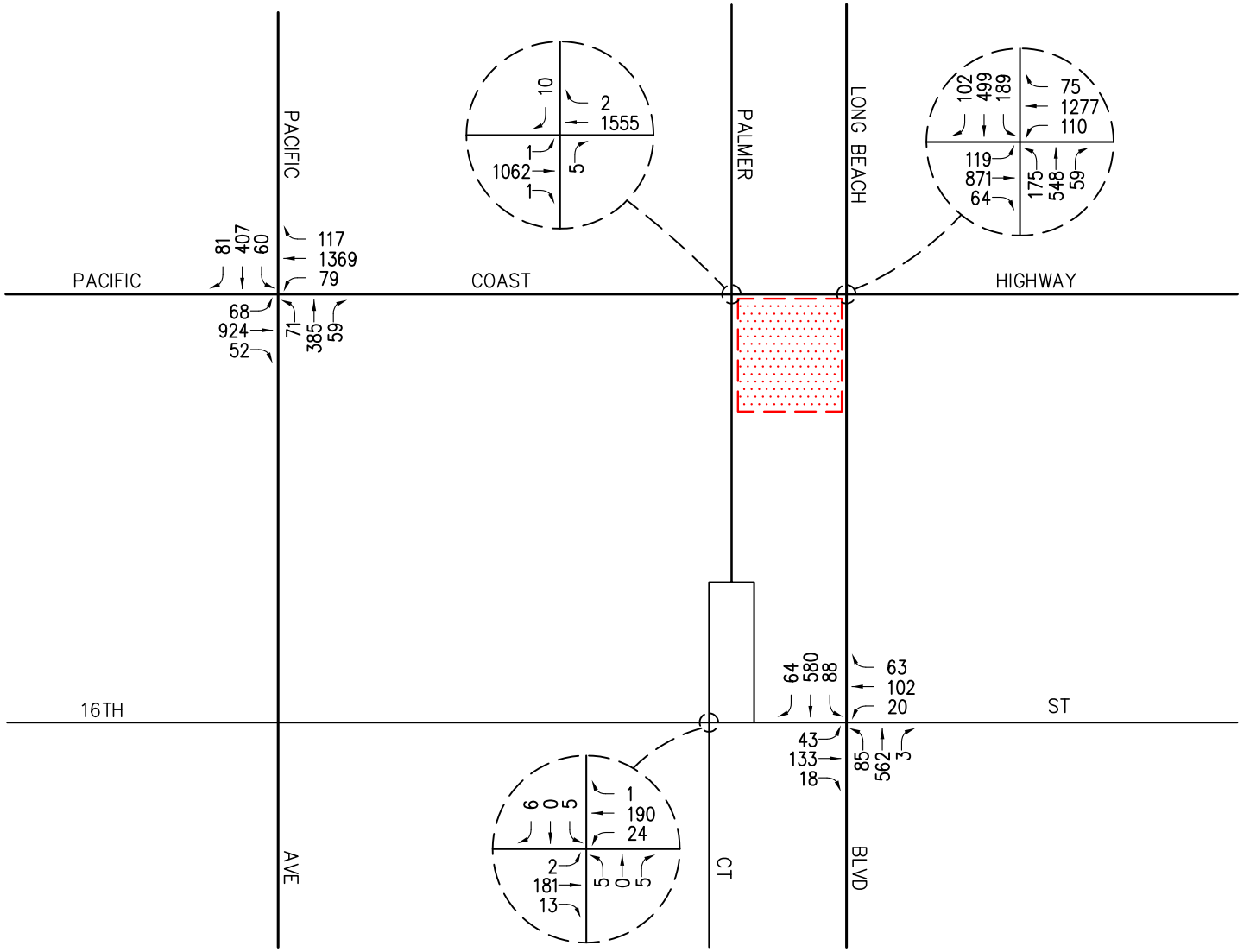
3.5 Existing Intersection Conditions

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



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N NO SCALE

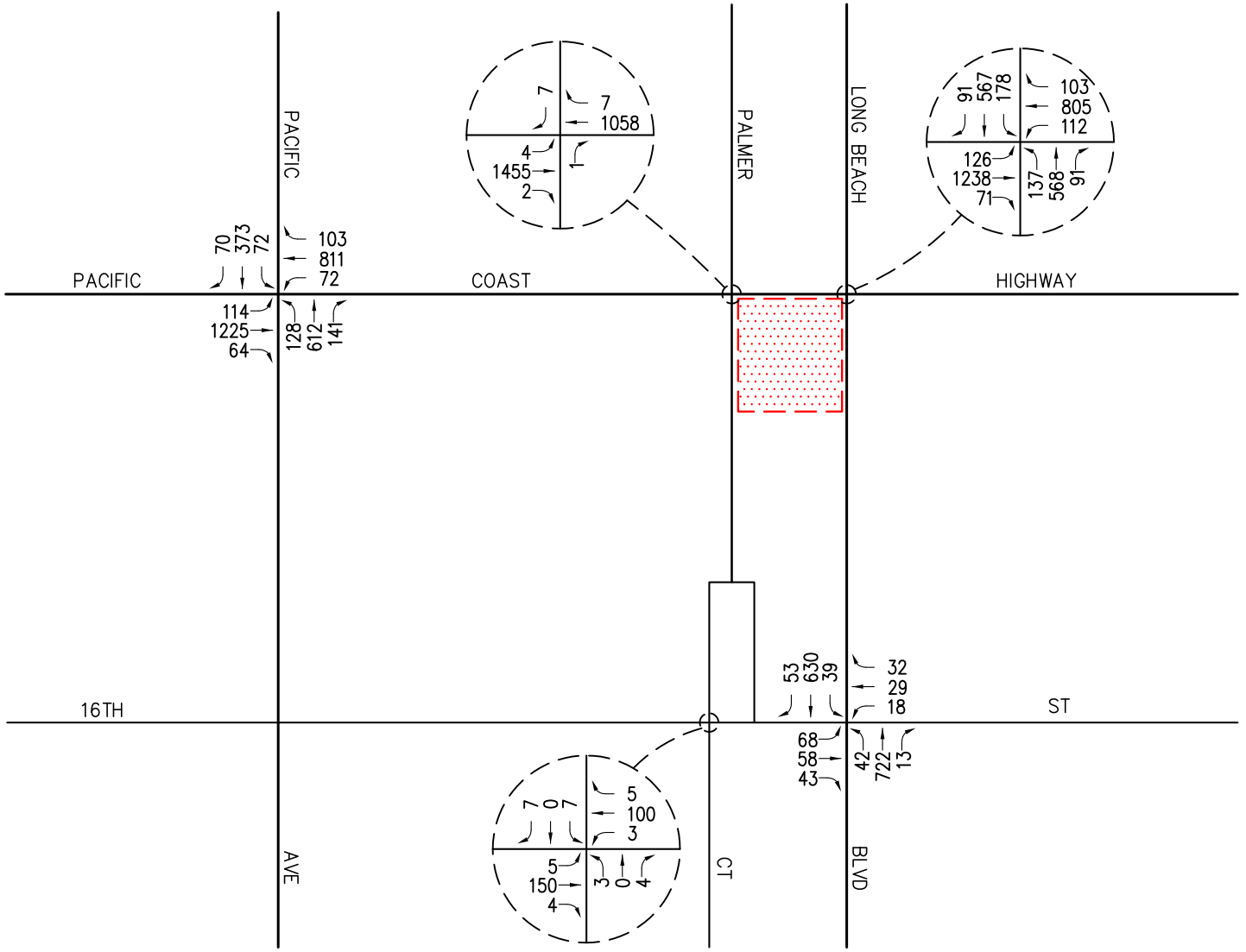
KEY

= PROJECT SITE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH



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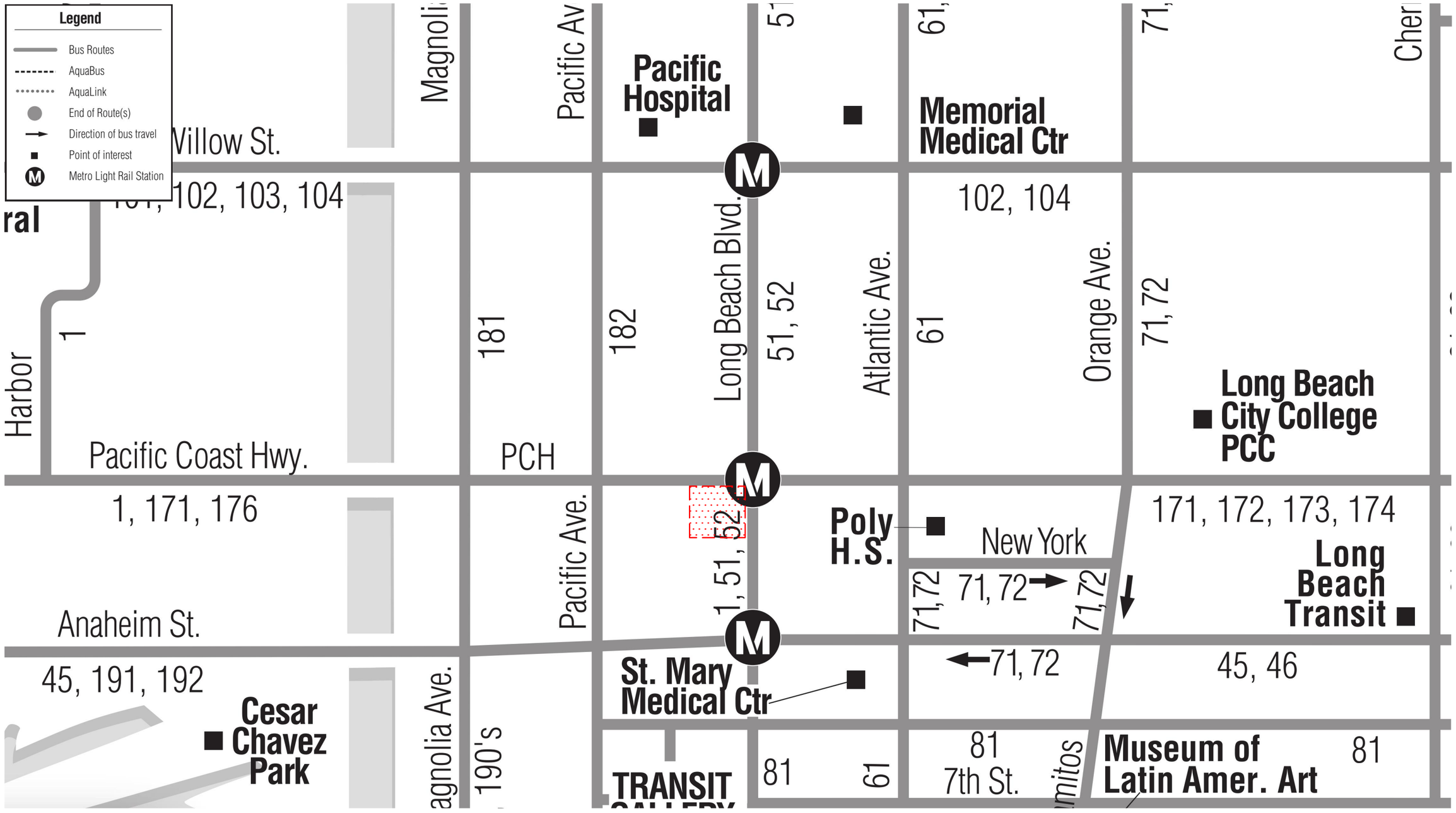
= PROJECT SITE

FIGURE 3-3

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH



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N NO SCALE

SOURCE: CITY OF LONG BEACH

KEY

= PROJECT SITE

FIGURE 3-4

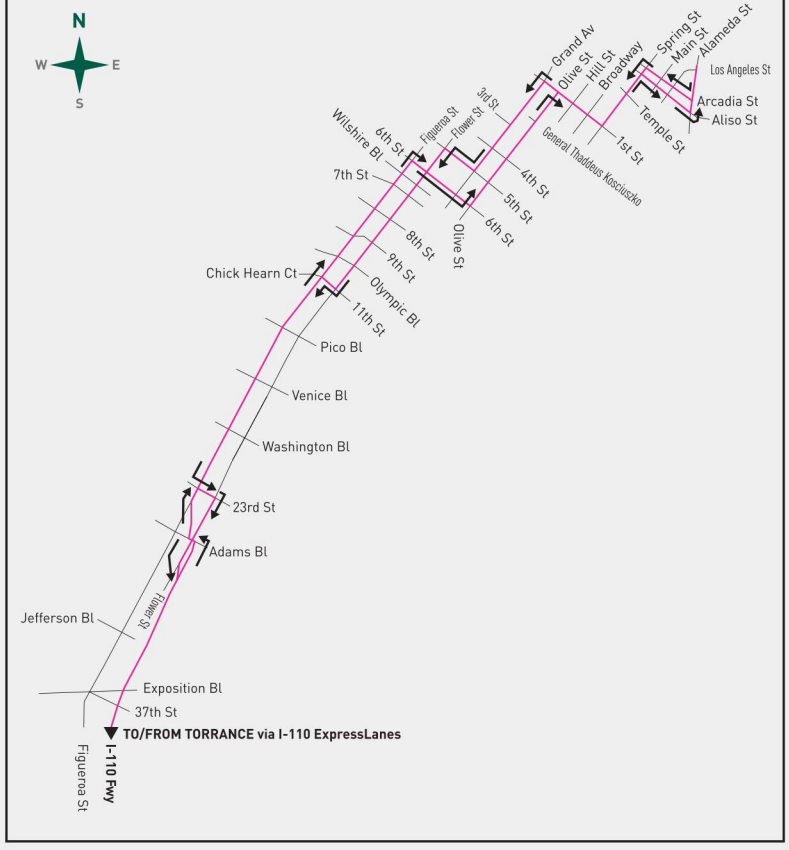
LONG BEACH TRANSIT MAP

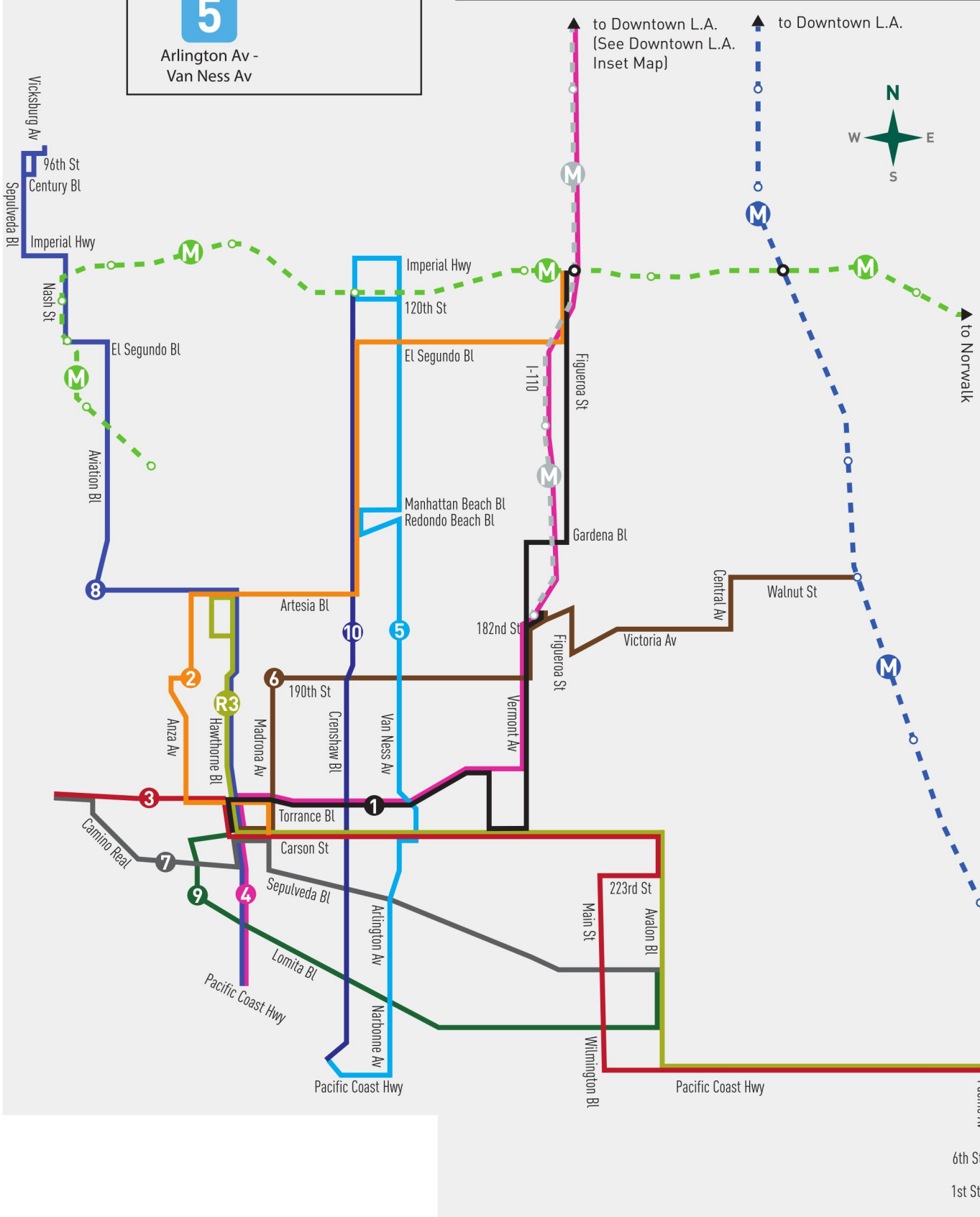
1795 LONG BEACH BOULEVARD, LONG BEACH

System Map Key

- 1 — Torrance - Harbor Fwy Station
- 2 — Torrance - Harbor Fwy Station
- 3 — Redondo Beach - Long Beach
- Rapid 3 — Redondo Beach - Long Beach
- 4 — Express
- 5 — Arlington Av - Van Ness Av
- 6 — 190th St - Victoria St
- 7 — Sepulveda Bl
- 8 — Torrance - LAX Transit Ctr
- 9 — Lomita Bl
- 10 — Crenshaw Bl

Downtown Los Angeles Inset Map





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SOURCE: CITY OF TORRANCE

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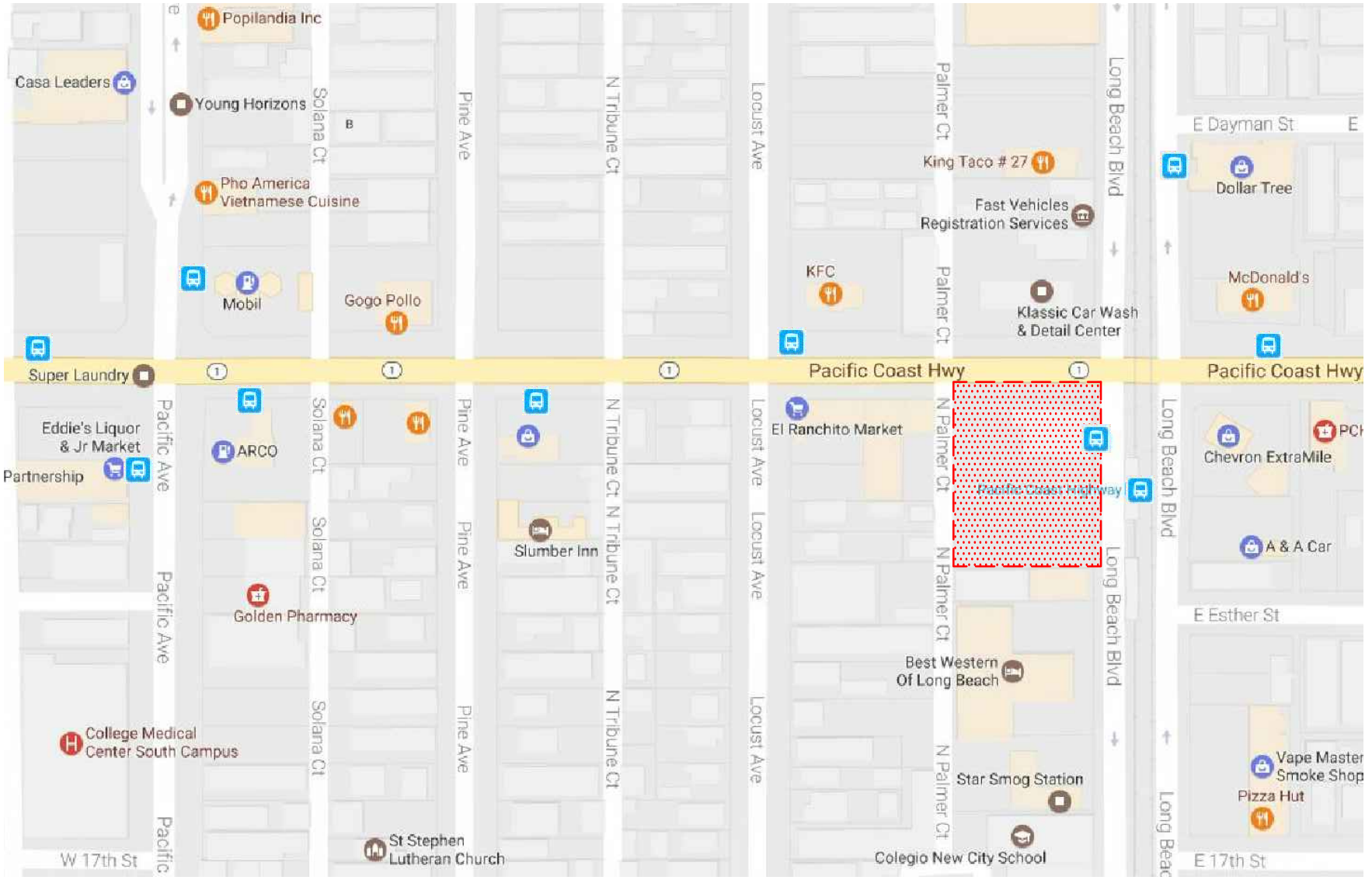
FIGURE 3-5

TORRANCE TRANSIT MAP

1795 LONG BEAVH BOULEVARD, LONG BEACH



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N NO SCALE

SOURCE: GOOGLE

KEY

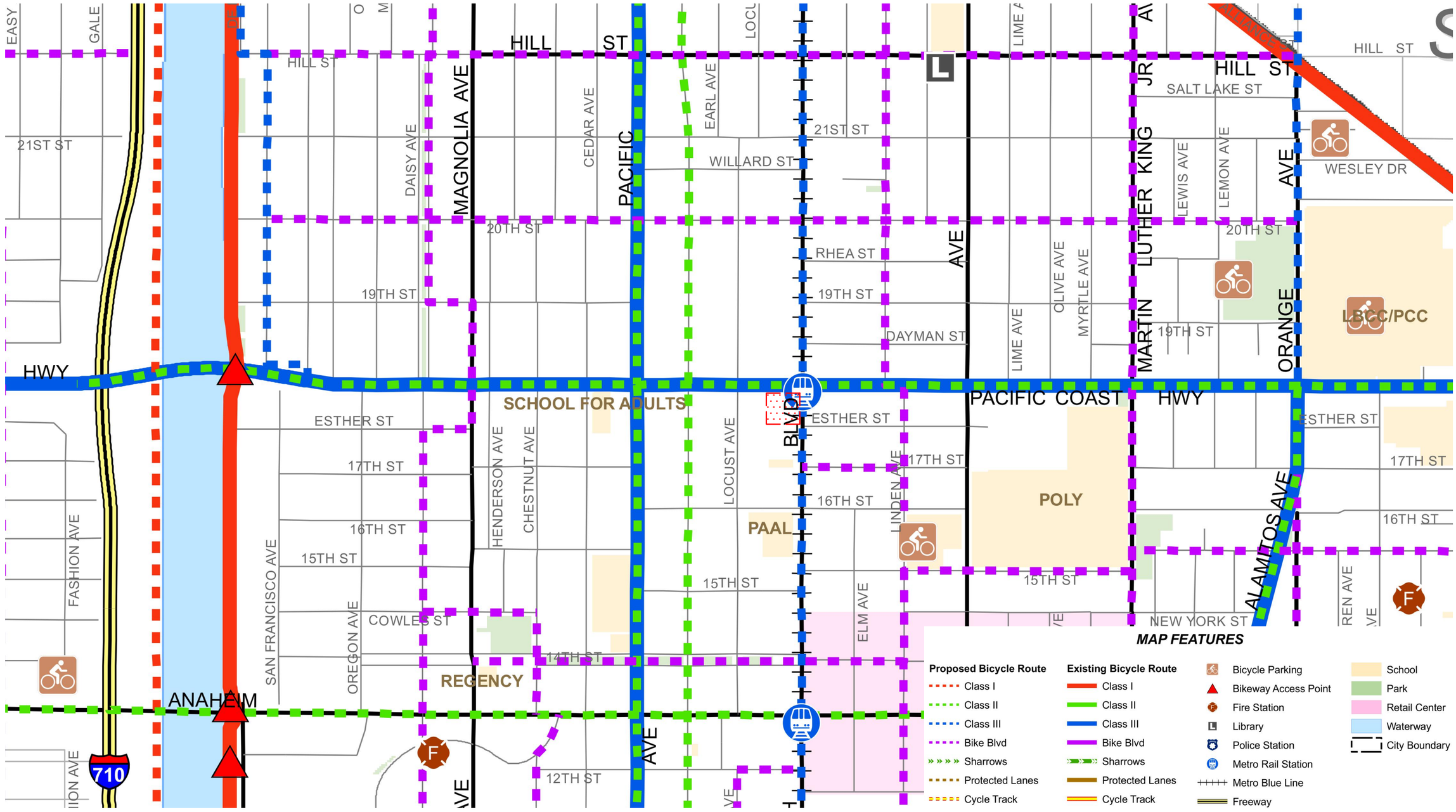
= PROJECT SITE

= TRANSIT STOP

FIGURE 3-6

TRANSIT STOP LOCATIONS

1795 LONG BEACH BOULEVARD, LONG BEACH



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: CITY OF LONG BEACH

KEY

= PROJECT SITE

FIGURE 3-7

LONG BEACH BIKEWAY FACILITIES

1795 LONG BEACH BOULEVARD, LONG BEACH

clearance interval is also added to each Level of Service calculation. Per City of Long Beach requirements, a clearance interval of 0.10 is also added to each Level of Service calculation.

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 3-1***. 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.

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

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the 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 3-2***.

3.5.2 *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 of F).

3.6 Existing Level of Service Results

Table 3-3 summarizes the existing peak hour service level calculations for the five (5) key study intersections based on existing traffic volumes and current street geometrics. Review of *Table 3-3* indicates that all five (5) key study intersections currently operate at LOS C or better during the weekday AM and PM peak hours.

Appendix C contains the detailed peak hour level of service worksheets for the key intersections evaluated in this report.

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (ICU)[2]

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.

[2] Source: *Transportation Research Board Circular 212 - Interim Materials on Highway Capacity.*

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM)[3]

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

[3] Source: *Highway Capacity Manual 6th Edition,* Chapter 20 (Two-Way Stop Control).

TABLE 3-3
EXISTING (YEAR 2017) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

	Key Intersections	Time Period	Control Type	ICU/HCM	LOS
1.	Pacific Avenue at Pacific Coast Highway	AM	5∅ Traffic	0.649	B
		PM	Signal	0.694	B
2.	N. Palmer Court at Pacific Coast Highway	AM	Two-Way	17.8 s/v	C
		PM	Stop	16.5 s/v	C
3.	Long Beach Boulevard at Pacific Coast Highway	AM	8∅ Traffic	0.745	C
		PM	Signal	0.731	C
4.	N. Palmer Court at 16th Street	AM	Two-Way	10.5 s/v	B
		PM	Stop	9.6 s/v	A
5.	Long Beach Boulevard at 16th Street	AM	5∅ Traffic	0.497	A
		PM	Signal	0.471	A

Notes:

- ICU = Intersection Capacity Utilization
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- ∅ = 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].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and also presents the project's forecast peak hour and daily traffic volumes. As shown in the upper portion of *Table 5-1*, the residential component of the Project was forecasted using ITE Land Use 220: Apartment trip rates. For the retail/commercial component of the Project, ITE Land Use 820: Shopping Center averages trips were used.

A review of the middle portion of this table indicates that the proposed Project is forecast to generate approximately 803 "net" daily trips, with 53 "net" trips (11 inbound, 42 outbound) produced in the AM peak hour and 74 "net" trips (46 inbound, 28 outbound) produced in the PM peak hour on a "typical" weekday.

The trip generation potential of the Existing Entitled Land Use totals 247 daily trips, with 6 trips (4 inbound, 2 outbound) during the AM peak hour and 21 trips (10 inbound, 11 outbound) during the PM peak hour.

Please note that based on common traffic engineering practices, the traffic generated by the existing entitled land uses may be considered to represent a "trip credit" for the project site, against which the impact of the proposed Project might be compared. Comparison of the trips generated by the proposed Project to the trips generated by the existing entitled development of 5,792 SF of office space shows that the proposed Project will generate 556 more daily trips, 47 more AM peak hour trips and 53 more PM peak hour trips. To provide a conservative assessment of the Project, no trip credit will be applied to the analysis.

TABLE 5-1

PROJECT TRAFFIC GENERATION RATES AND FORECAST[4]

Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Rates:							
▪ 220: Apartments (TE/ DU)	6.65	20%	80%	0.51	65%	35%	0.62
▪ 820: Shopping Center (TE/1000 SF)	42.70	62%	38%	0.96	48%	52%	3.71
Project Trip Generation:							
▪ Apartments (101 DU)	672	10	42	52	41	22	63
▪ Ground Floor Retail (4,051 SF)	173	2	2	4	7	8	15
Total Project Trip Generation:	*845*	*12*	*44*	*56*	*48*	*30*	*78*
Internal Trip Capture (5%)	*-42*	*-1*	*-2*	*-3*	*-2*	*-2*	*-4*
Total Net Project Trip Generation	**803**	**11**	**42**	**53**	**46**	**28**	**74**
Existing Entitled Land Use Trip Generation:							
▪ Vacant Retail (5,792 SF)	247	4	2	6	10	11	21
Trip Generation Comparison – Proposed Project vs. Entitled Land Use	**556**	**7**	**40**	**47**	**36**	**17**	**53**

Notes:
TE/1000 SF = Trip End per 1,000 Square Feet of Gross Floor Area
TE/DU = Trip End per Dwelling Unit

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

5.2 Project Traffic Distribution and Assignment

Figure 5-1 illustrates the general, directional traffic distribution pattern for 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:

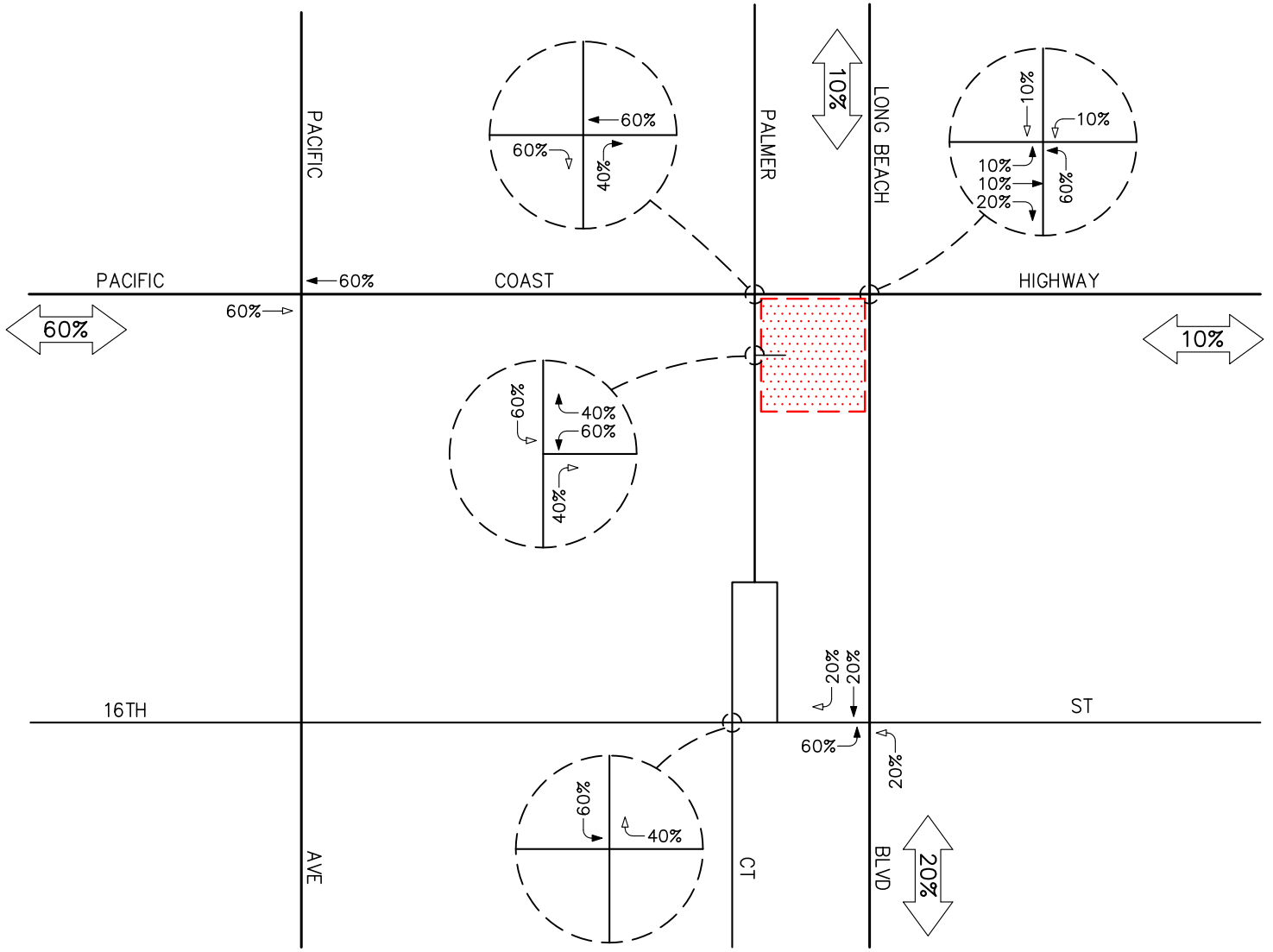
- location of site access points in relation to the surrounding street system,
- the site's proximity to major traffic carriers and regional access routes,
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns, and
- ingress/egress availability at the project site, plus parking layout and allocation within the subject property.

The anticipated AM and PM peak hour traffic volumes associated with the proposed Project are presented in ***Figures 5-2*** and ***5-3***, respectively. The traffic volume assignments presented in *Figures 5-2* and *5-3* reflect the traffic distribution characteristics shown in *Figure 5-1* and the traffic generation forecast presented in *Table 5-1*.

5.3 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 5-4 and ***5-5*** present projected AM and PM peak hour traffic volumes at the five (5) key study intersections with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively.



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N NO SCALE

KEY

= INBOUND PERCENTAGE

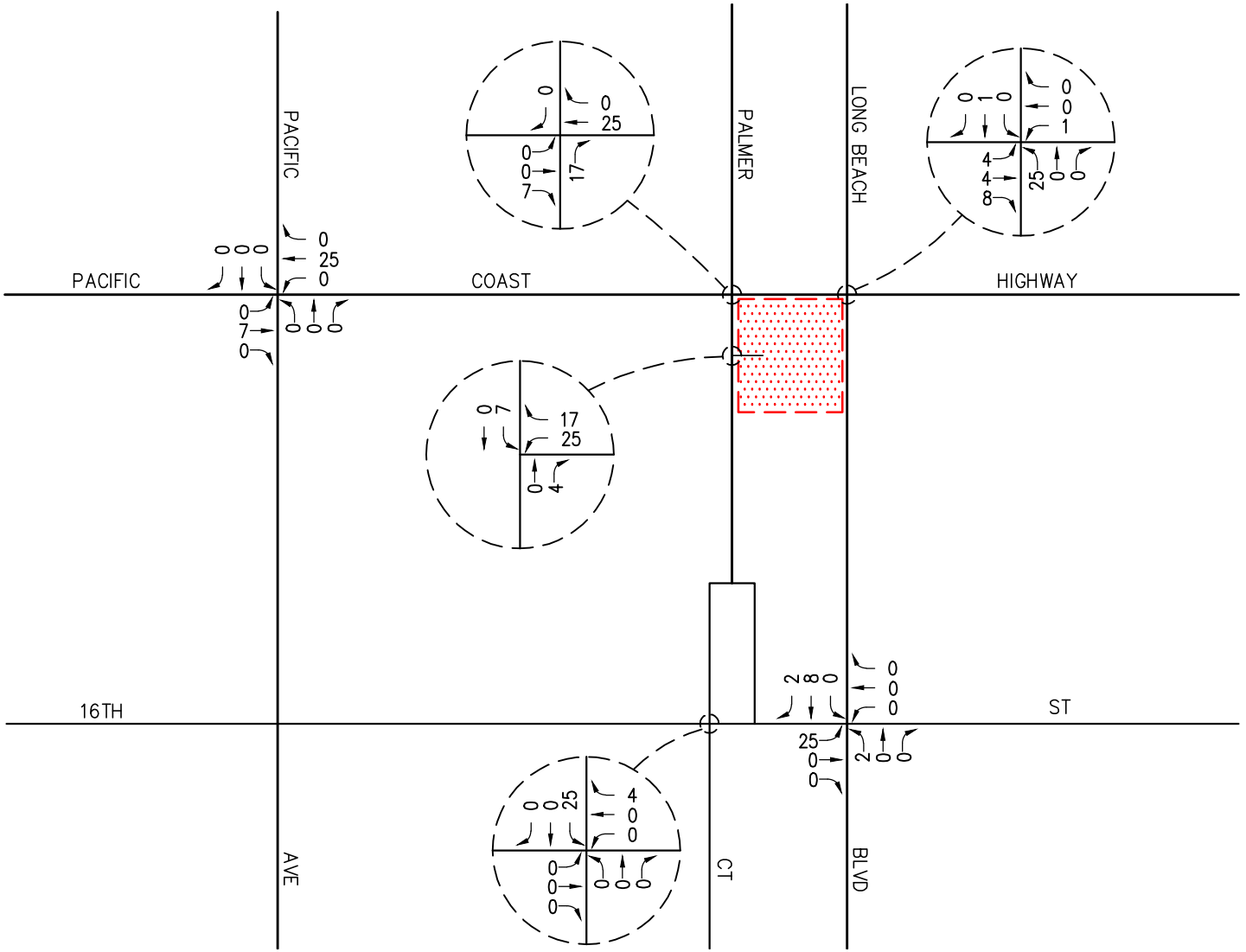
= OUTBOUND PERCENTAGE

= PROJECT SITE

FIGURE 5-1

PROJECT TRAFFIC DISTRIBUTION PATTERN

1795 LONG BEACH BOULEVARD, LONG BEACH



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KEY

= PROJECT SITE

FIGURE 5-2

AM PEAK HOUR PROJECT TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH

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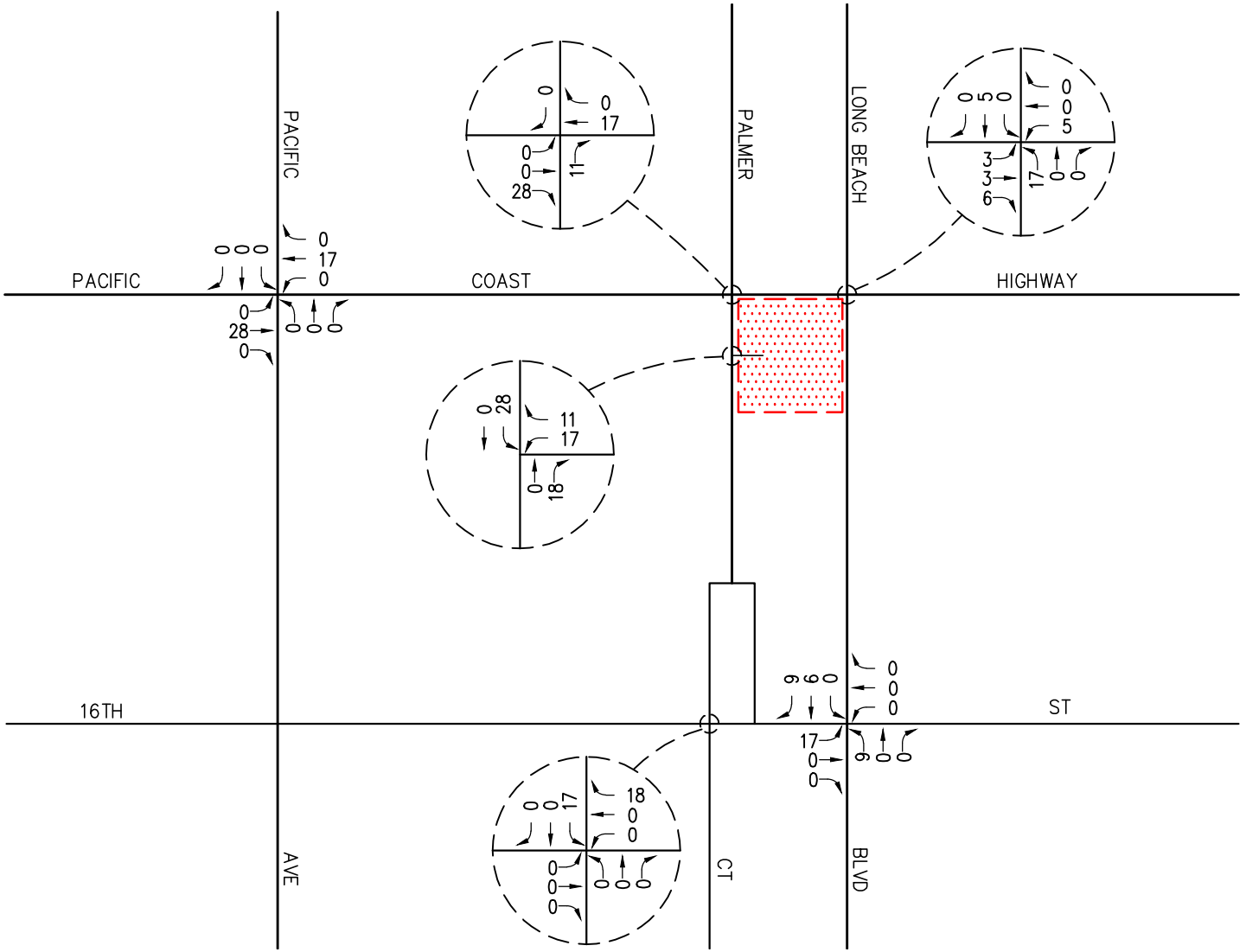

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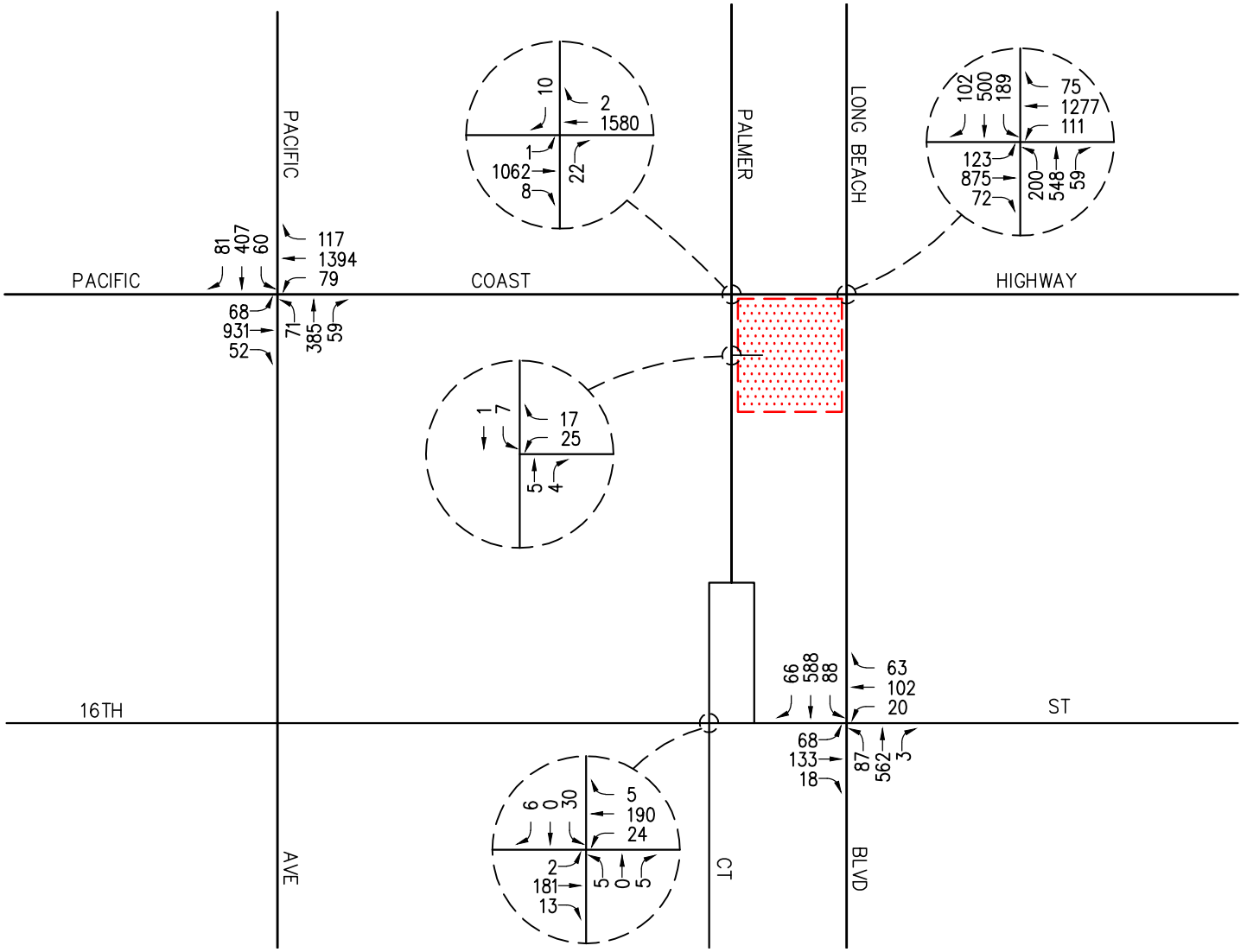
KEY

= PROJECT SITE

FIGURE 5-3

PM PEAK HOUR PROJECT TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH



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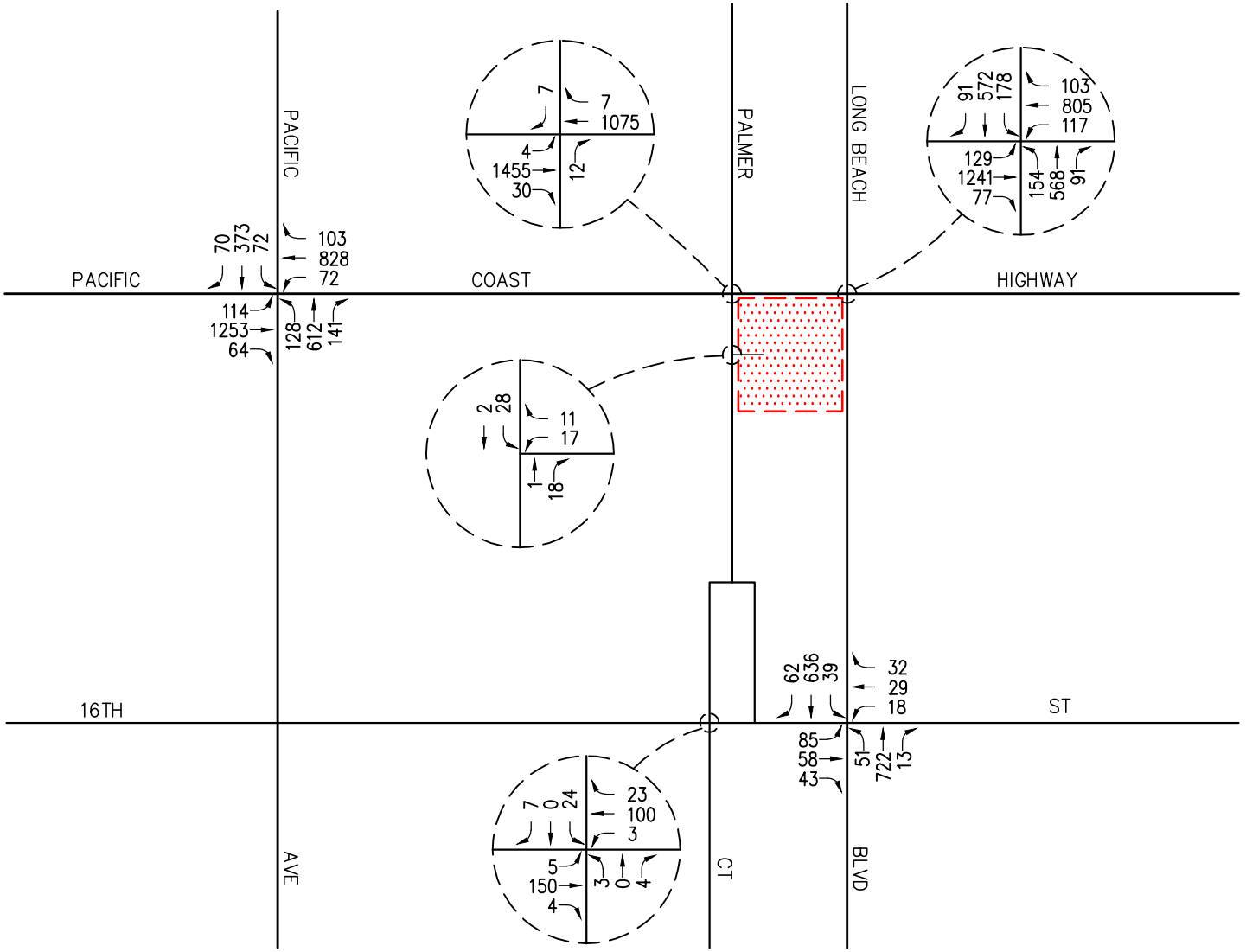
KEY

= PROJECT SITE

FIGURE 5-4

EXISTING PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH



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KEY

= PROJECT SITE

FIGURE 5-5

EXISTING PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, 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 2017 traffic volumes results in a four percent (3%) 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

The City of Long Beach identified twenty-six (26) cumulative projects within the Project study area. Cumulative projects, as defined by Section 15355 of the CEQA Guidelines, are "closely related past, present and reasonably foreseeable probable future projects". The Traffic Impact Analysis assumes that all of these cumulative projects will be developed and operational when the proposed Project is operational. This is the most conservative, worst-case approach, since the exact timing of each cumulative project is uncertain. In addition, impacts for these cumulative projects would likely be, or have been, subject to mitigation measures, which could reduce potential impacts. Under this analysis, however, those mitigation measures are not considered. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. These twenty-six (26) cumulative projects have been included as part of the cumulative background setting.

Table 6-1 provides the location and a brief description for each of the twenty-six (26) 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 twenty-six (26) cumulative projects. As shown in *Table 6-2*, the twenty-six (26) cumulative projects are expected to generate a combined total of 43,395 daily trips, 3,260 AM peak hour trips (1,384 inbound and 1,876 outbound) and 3,563 PM peak hour trips (1,902 inbound and 1,661 outbound) on a typical weekday.

The AM and PM peak hour traffic volumes associated with the twenty-six (26) cumulative projects are presented in ***Figures 6-2*** and ***6-3*** respectively.

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[5]

No.	Cumulative Project	Location	Description
1.	207 East Seaside Way Apartments	207 East Seaside Way	117 apartments
2.	Silversands	2010 East Ocean Boulevard	40 hotel rooms and 56 DU condominiums
3.	Mixed-Use Project	135 Linden Avenue	44 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	74 apartments, 5,000 SF restaurant and 5,400 SF retail
6.	Oceanaire Residential Project	150 West Ocean Boulevard	216 apartments
7.	442 West Ocean Boulevard Apartments	442 West Ocean Boulevard	94 DU apartments
8.	SRG 1st Alamitos Development	101 Alamitos Avenue	136 DU condominiums and 2,700 SF commercial
9.	200 W. Ocean Boulevard Apartments	200 W. Ocean Boulevard	94 DU apartments and 4,597 SF commercial
10.	City Ventures Development	227 Elm Avenue	40 DU townhomes
11.	Shoreline Gateway West Tower (The Current)	707 E. Ocean Boulevard, north of Ocean Boulevard, east of Broadway Court and west of Alamitos Avenue	223 apartment homes and 9,182 SF of retail/restaurant, consisting of 2,636 SF of retail space and 6,546 SF of café/restaurant uses. [6]
12.	New Long Beach Civic Center	North of Ocean Boulevard and south of Broadway, between Magnolia Avenue and Pacific Avenue in downtown Long Beach	3rd & Pacific – 163 condominiums; Civic Center – 270,000 SF City Hall and 240,000 SF Port Administration; Lincoln Park – 92,000 SF Library and 3.17 Acres City Park; Center Block – 580 apartment homes, 200-room hotel, 32,000 SF of retail and 8,000 SF of restaurant uses. Existing 138,000 SF Main Library, 283,000 SF City Hall and 2.60 acre City Park to be replaced.
13.	Golden Shore Master Plan	East side and west side of Golden Shore, south of Ocean Boulevard and north of Shoreline Drive	1,110 DU high-rise residential condominiums, 340,000 SF office, 27,000 SF retail, 27,000 SF banquet area, and 400 room hotel

[5] Source: City of Long Beach Planning Department.

[6] To provide a conservative assessment the approved retail mix (i.e. 9,182 SF of retail/restaurant space was used in place of what was built (i.e. 6,502 SF of retail/restaurant space), which results in 6 more AM peak hour trips and 24 more PM peak hour trips.

TABLE 6-1 (CONTINUED)

LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[7]

No.	Cumulative Project	Location	Description
14.	Parc Building (State Building)	245 W. Broadway	222 DU apartments with 8,500 SF retail
15.	LC Professional Building	117 E. 8th Street	91 bed assisted living residential care facility
16.	Security Pacific National Bank Building	110 Pine Avenue	118 DU condominiums
17.	Commercial Reuse	743 E. 4th Street	3,657 SF restaurant with bar
18.	635 Pine Avenue Residential	635 Pine Avenue	142 DU apartments
19.	810 Pine Avenue Residential	810 Pine Avenue	64 DU apartments
20.	115 E. Broadway Apartments	115 E. Broadway	141 DU apartments with 3,650 SF retail
21.	507 Pacific Avenue Condominiums	507 Pacific Avenue	134 DU condominiums with 7,200 SF commercial space
22.	300 Alamitos Avenue Apartments	300 Alamitos Avenue	77 DU apartments
23.	434 E. 4th Street Apartments	434 E. 4th Street	49 DU apartments with 2,350 SF retail
24.	230 W. 3rd Street Apartments	230 W. 3rd Street	163 DU apartments
25.	Shoreline Gateway East Tower	777 E. Ocean Boulevard	315 DU apartments, 5,731 SF café/restaurant, and 1,380 SF retail
26.	1570 Long Beach Boulevard	1570 Long Beach Boulevard	36 DU condominiums and 10,000 SF retail space

[7] Source: City of Long Beach Planning Department.

TABLE 6-2

CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[8]

Cumulative Project Description	Daily 2-way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1. 207 East Seaside Way Apartments[9]	778	12	48	60	47	26	73
2. Silversands	652	16	30	46	31	22	53
3. Mixed-Use Project	293	4	18	22	18	9	27
4. City Hall East	1,192	18	65	83	69	41	110
5. Ocean Center Building Reuse	1,359	41	56	97	69	46	115
6. Oceanaire Residential Project[10]	1,436	22	89	111	86	48	134
7. 442 West Ocean Boulevard Apartments[11]	625	10	38	48	38	20	58
8. SRG 1st Alamitos Development	790	10	50	60	48	23	71
9. 200 W. Ocean Boulevard	801	12	40	52	43	26	69
10. City Ventures Development	232	3	15	18	14	7	21
11. Shoreline Gateway West Tower (The Current)	1,781	28	89	117	101	62	163
12. New Long Beach Civic Center[12]	10,923	377	294	671	247	305	552
13. Golden Shore Master Plan	11,004	640	432	1,072	444	648	1,092
14. Parc Building (State Building)	1,476	23	90	113	90	48	138
15. LC Professional Building	242	8	5	13	9	11	20
16. Security Pacific National Bank	686	9	43	52	41	20	61
17. Commercial Reuse	418	20	16	36	13	8	21
18. 635 Pine Avenue Residential	944	14	58	72	57	31	88
19. 810 Pine Avenue Residential	426	7	26	33	26	14	40
20. 115 E. Broadway Apartments	938	14	58	72	57	30	87
21. 507 Pacific Avenue Condominiums	779	10	49	59	47	23	70
22. 300 Alamitos Avenue Apartments	512	8	31	39	31	17	48
23. 434 E. 4th Street Apartments	326	5	20	25	20	10	30

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

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

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

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

12 Source: *Traffic Impact Analysis for the New Long Beach Civic Center Project*, prepared by LLG.

TABLE 6-2

CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST (CONTINUED)[13]

Cumulative Project Description	Daily 2-way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
24. 230 W. 3rd Street Apartments	1,084	17	66	83	66	35	101
25. Shoreline Gateway East Tower[14]	3,105	48	133	181	165	113	278
26. 1570 Long Beach Boulevard	593	8	17	25	25	18	43
Total Cumulative Projects Trip Generation Potential	**43,395**	**1,384**	**1,876**	**3,260**	**1,902**	**1,661**	**3,563**

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

14 Source: *Shoreline Gateway East Tower TIA*, prepared by LLG.

KEY

1. 207 EAST SEASIDE WAY APARTMENTS
2. SILVERSANDS
3. MIXED–USE PROJECT
4. CITY HALL EAST
5. OCEAN CENTER BUILDING REUSE
6. OCEANAIRE RESIDENTIAL PROJECT
7. 442 WEST OCEAN BOULEVARD APARTMENTS
8. SRG 1ST ALAMITOS DEVELOPMENT
9. 200 W. OCEAN BOULEVARD APARTMENTS
10. CITY VENTURES DEVELOPMENT
11. SHORELINE GATEWAY WEST TOWER (THE CURRENT)
12. NEW LONG BEACH CIVIC CENTER
13. GOLDEN SHORE MASTER PLAN
14. PARC BUILDING (STATE BUILDING)
15. LC PROFESSIONAL BUILDING
16. SECURITY PACIFIC NATIONAL BANK BUILDING
17. COMMERCIAL REUSE
18. 635 PINE AVENUE RESIDENTIAL
19. 810 PINE AVENUE RESIDENTIAL
20. 115 E. BROADWAY APARTMENTS
21. 507 PACIFIC AVENUE CONDOMINIUMS
22. 300 ALAMITOS AVENUE APARTMENTS
23. 434 E. 4TH STREET APARTMENTS
24. 230 W. 3RD STREET APARTMENTS
25. SHORELINE GATEWAY EAST TOWER
26. 1570 LONG BEACH BOULEVARD

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KEY

(#) = CUMULATIVE PROJECT LOCATION

= PROJECT SITE

FIGURE 6–1

LOCATION OF CUMULATIVE PROJECTS
1795 LONG BEACH BOULEVARD, LONG BEACH

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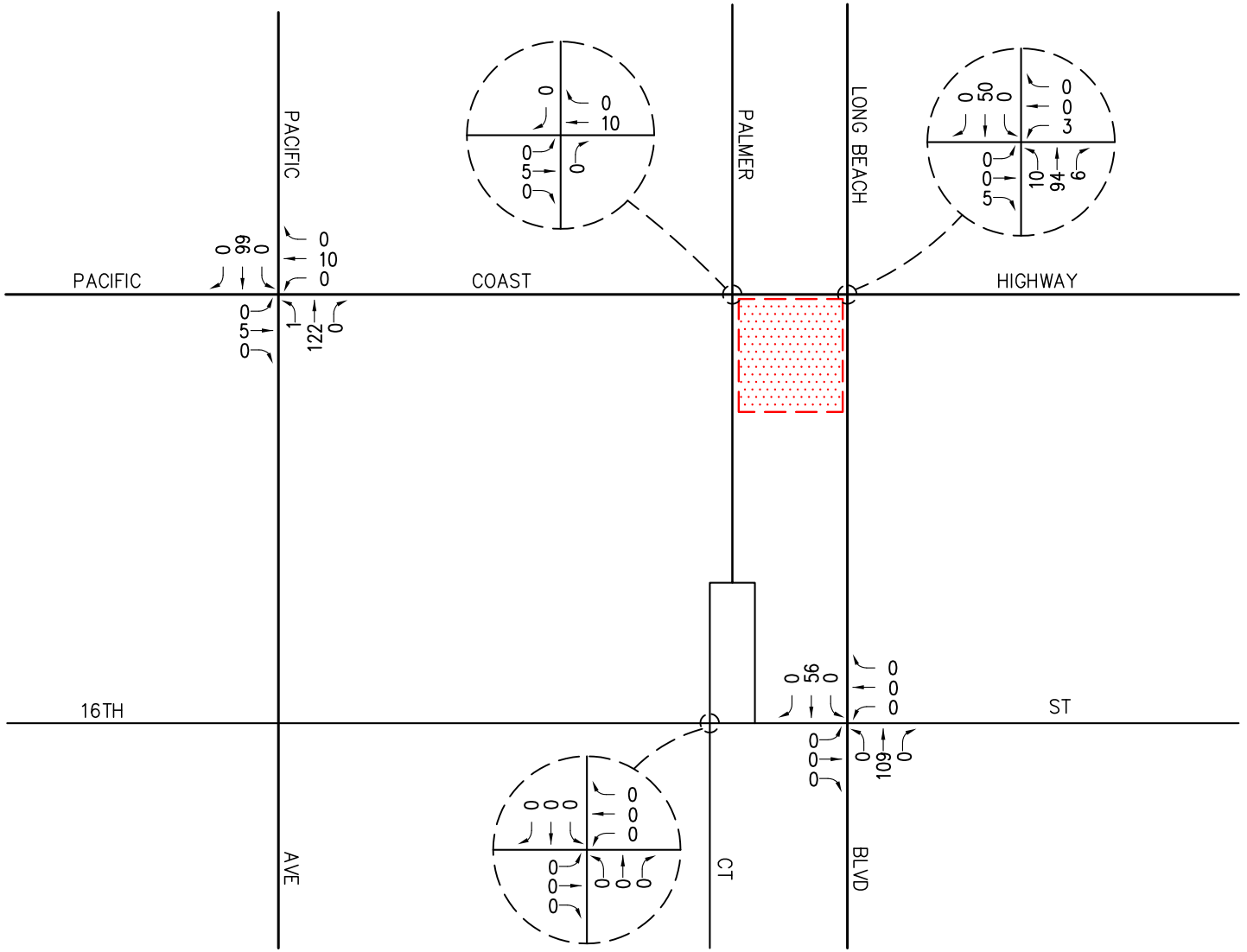

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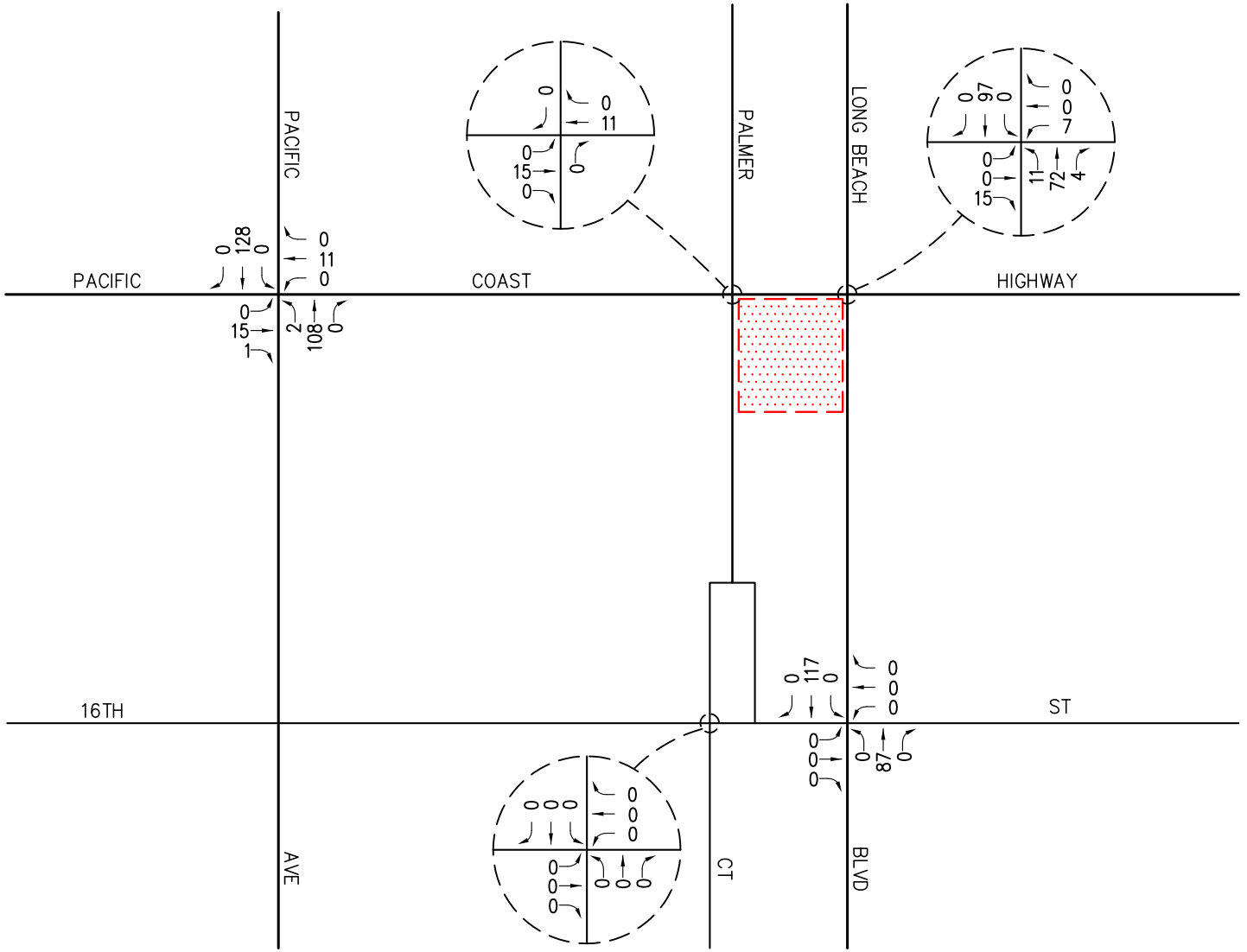
KEY

= PROJECT SITE

FIGURE 6-2

AM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH



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KEY

= PROJECT SITE

FIGURE 6-3

PM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH

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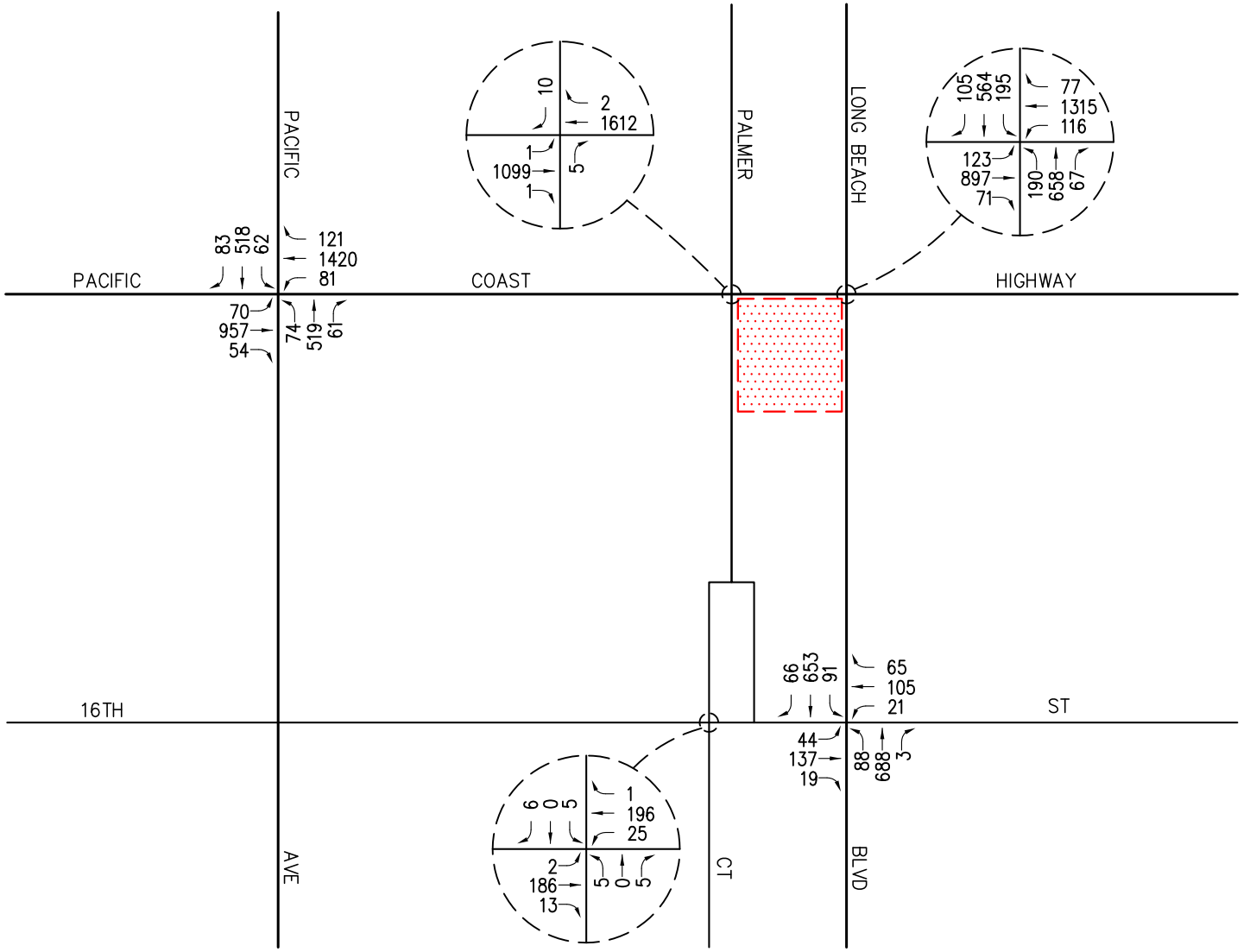
6.3 Year 2020 Traffic Volumes

Figures 6-4 and ***6-5*** present future AM and PM peak hour cumulative traffic volumes at the five (5) 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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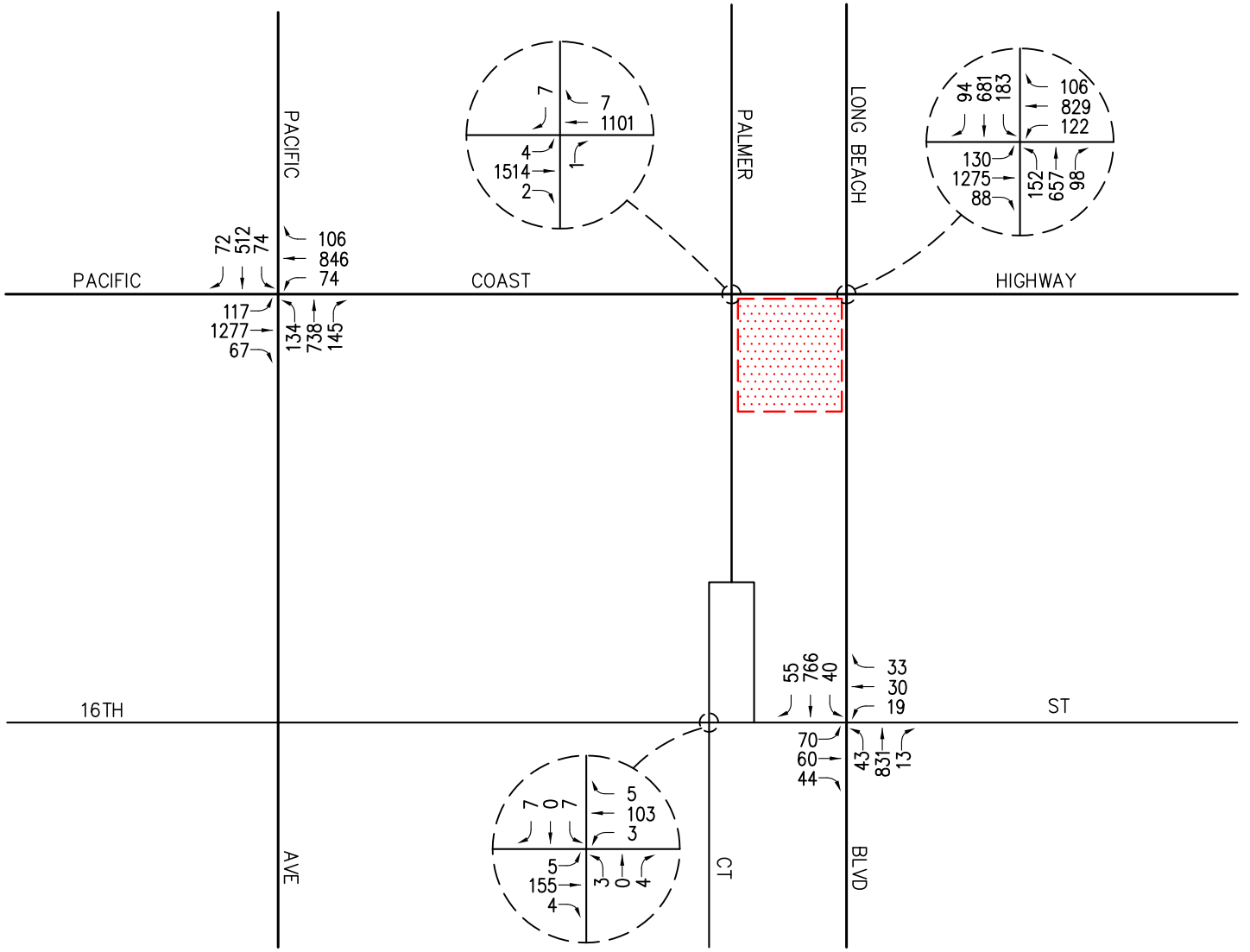
KEY

= PROJECT SITE

FIGURE 6-4

YEAR 2020 CUMULATIVE AM PEAK HOUR TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH



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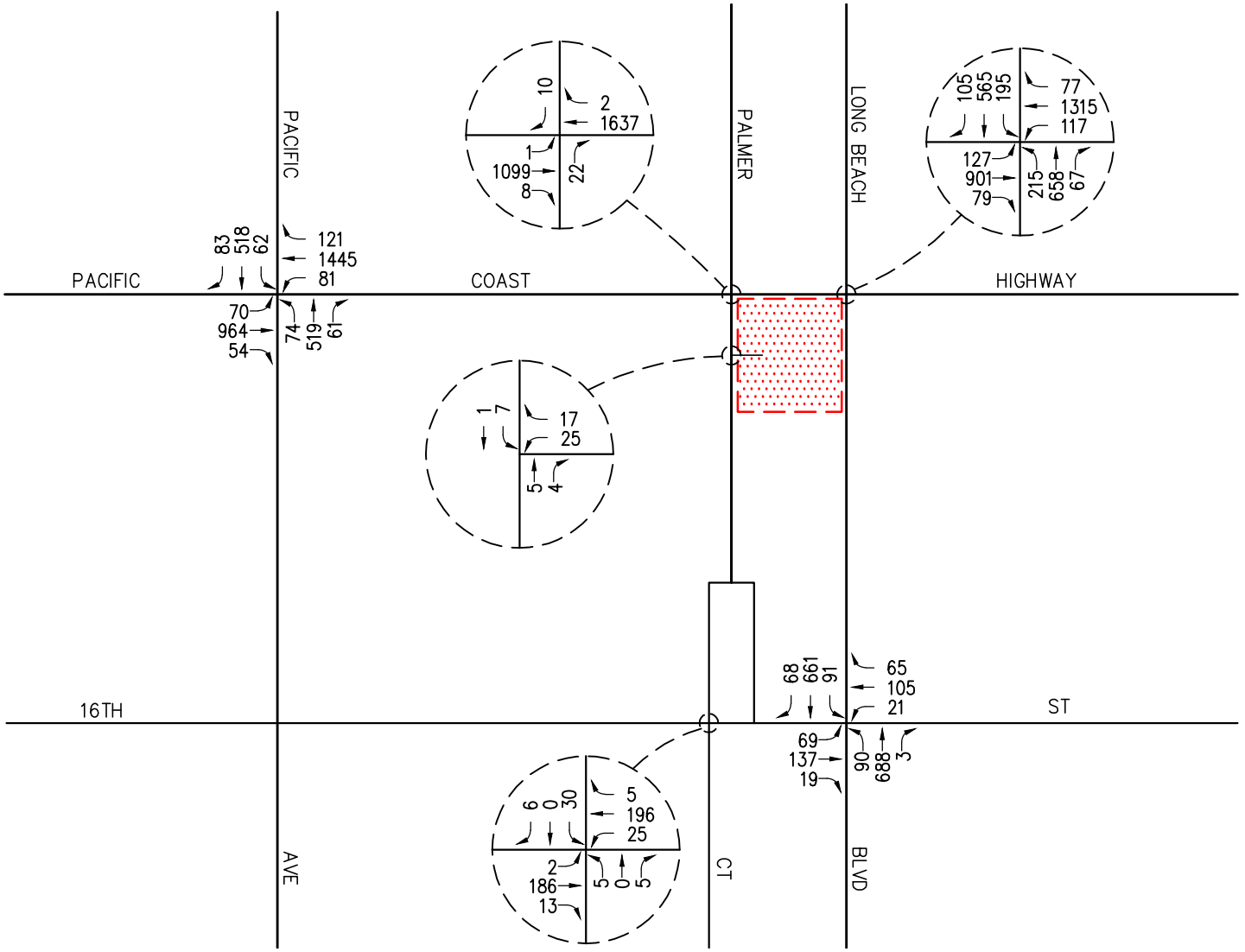
KEY

= PROJECT SITE

FIGURE 6-5

YEAR 2020 CUMULATIVE PM PEAK HOUR TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH



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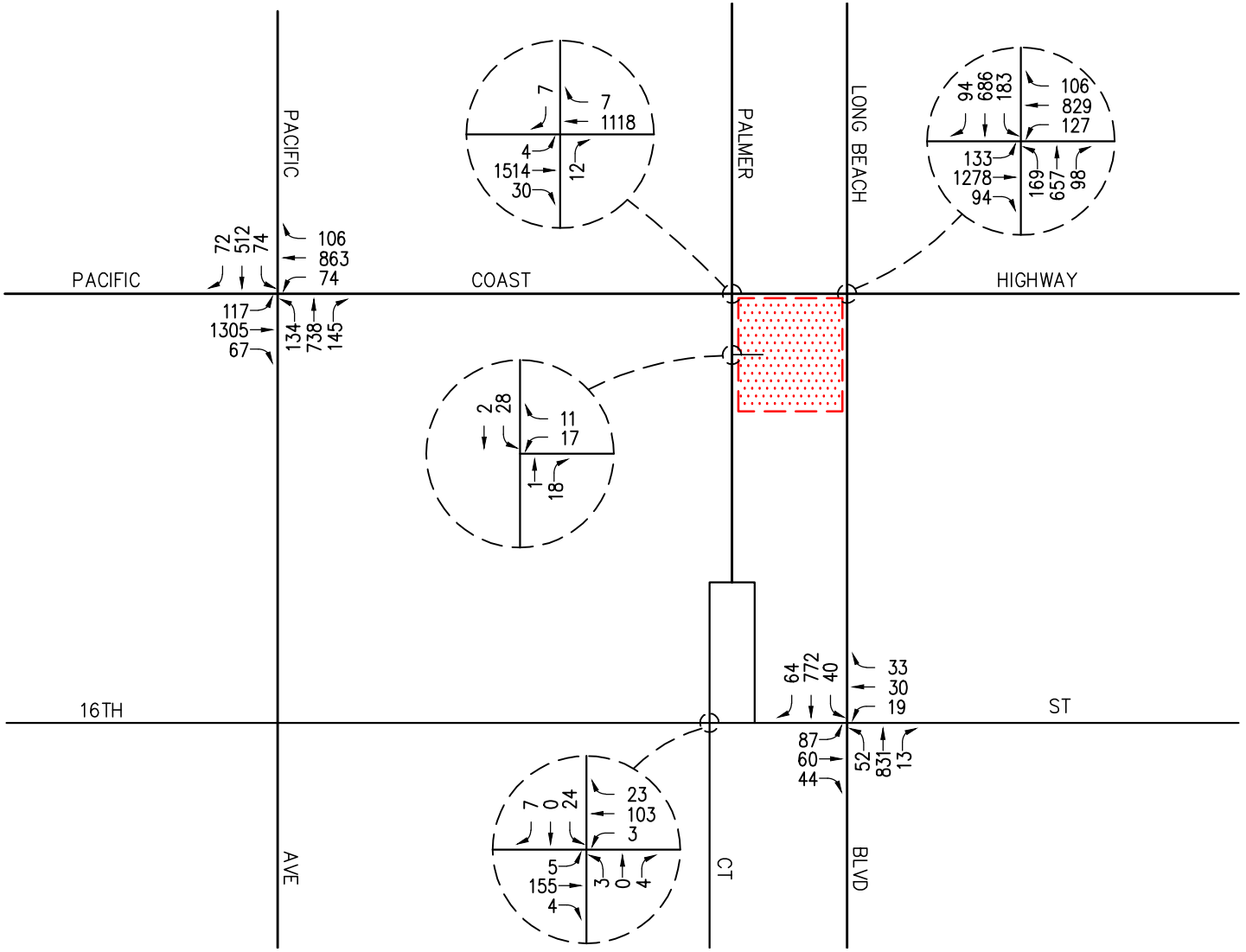
= PROJECT SITE

FIGURE 6-6

YEAR 2020 CUMULATIVE PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH



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KEY

= PROJECT SITE

FIGURE 6-7

YEAR 2020 CUMULATIVE PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

1795 LONG BEACH BOULEVARD, LONG BEACH

7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

7.1 Impact Criteria and Thresholds

The potential 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 five (5) 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:

- The project causes a study intersection to deteriorate from Level of Service (LOS) D to LOS E or F. The City of Long Beach considers LOS D (ICU = 0.801 - 0.900) to be the minimum acceptable LOS for all intersections; or

- 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) when an intersection is operating at LOS E or F in the baseline condition.

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 five (5) 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 3-3*). The second column (2) lists existing plus project traffic conditions with current intersection geometry/lane configurations. 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. The fourth column (4) indicates the anticipated level of service with improvements, if any.

8.1.1 *Existing Traffic Conditions*

As previously presented in *Table 3-3*, all five (5) key study intersections currently operate at an acceptable level of service (LOS D or better) during the AM and PM peak hours.

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 five (5) key study intersections. The five (5) 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 C presents the existing plus project weekday ICU/LOS and HCM/LOS calculations for the five (5) key study intersections.

TABLE 8-1

EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Project Traffic Conditions with Improvements	
		ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
1. Pacific Avenue at Pacific Coast Highway	AM	0.649	B	0.654	B	0.005	No	--	--
	PM	0.694	B	0.700	B	0.006	No	--	--
2. N. Palmer Court at Pacific Coast Highway	AM	17.8 s/v	C	18.1 s/v	C	0.3 s/v	No	--	--
	PM	16.5 s/v	C	17.2 s/v	C	0.7 s/v	No	--	--
3. Long Beach Boulevard at Pacific Coast Highway	AM	0.745	C	0.748	C	0.003	No	--	--
	PM	0.731	C	0.736	C	0.005	No	--	--
4. N. Palmer Court at 16th Street	AM	10.5 s/v	B	11.9 s/v	B	1.4 s/v	No	--	--
	PM	9.6 s/v	A	10.3 s/v	B	0.7 s/v	No	--	--
5. Long Beach Boulevard at 16th Street	AM	0.497	A	0.517	A	0.020	No	--	--
	PM	0.471	A	0.482	A	0.011	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* 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

8.2 Year 2020 Traffic Conditions

Table 8-2 summarizes the peak hour Level of Service results at the five (5) key study intersections or 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 3-3*). The second column (2) lists future Year 2020 cumulative traffic conditions (existing plus ambient growth traffic plus cumulative projects traffic), 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. The fifth column (5) indicates the anticipated level of service with improvements, if any.

8.2.1 *Year 2020 Cumulative Traffic Conditions*

Review of Column 2 of *Table 8-2* indicates that all five (5) key study intersections are forecast to operate at an acceptable level of service (LOS D or better) with the addition of ambient traffic growth and cumulative project traffic.

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 five (5) key study intersections. The five (5) 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.

Appendix C presents the Year 2020 ICU/LOS and HCM/LOS calculations for the five (5) key study intersections.

TABLE 8-2

YEAR 2020 CUMULATIVE PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Year 2020 Cumulative Traffic Conditions		(3) Year 2020 Cumulative Plus Project Traffic Conditions		(4) Significant Impact		(5) Year 2020 Cumulative Plus Project Traffic Conditions with Improvements	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
1. Pacific Avenue at Pacific Coast Highway	AM	0.649	B	0.699	B	0.704	C	0.005	No	--	--
	PM	0.694	B	0.748	C	0.754	C	0.006	No	--	--
2. N. Palmer Court at Pacific Coast Highway	AM	17.8 s/v	C	18.4 s/v	C	18.7 s/v	C	0.3 s/v	No	--	--
	PM	16.5 s/v	C	17.0 s/v	C	17.8 s/v	C	0.8 s/v	No	--	--
3. Long Beach Boulevard at Pacific Coast Highway	AM	0.745	C	0.794	C	0.797	C	0.003	No	--	--
	PM	0.731	C	0.780	C	0.785	C	0.005	No	--	--
4. N. Palmer Court at 16th Street	AM	10.5 s/v	B	10.7 s/v	B	12.1 s/v	B	1.4 s/v	No	--	--
	PM	9.6 s/v	A	9.7 s/v	A	10.4 s/v	B	0.7 s/v	No	--	--
5. Long Beach Boulevard at 16th Street	AM	0.497	A	0.527	A	0.547	A	0.020	No	--	--
	PM	0.471	A	0.509	A	0.525	A	0.016	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* 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

9.0 STATE OF CALIFORNIA (CALTRANS) METHODOLOGY

In conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies*, existing and projected peak hour operating conditions at the three (3) state-controlled study intersections within the study area have been evaluated using the *Highway Capacity Manual* (HCM for signalized intersections) operations method of analysis. These state-controlled locations include the following three (3) of five study intersections:

1. Pacific Avenue at Pacific Coast Highway
2. N. Palmer Court at Pacific Coast Highway
3. Long Beach Boulevard at Pacific Coast Highway

Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess the project impacts at the state-controlled study intersections.

9.1 Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)

Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road.

In Chapter 19 of the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay.* Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in ***Table 9-1***.

9.2 Existing Plus Project Traffic Conditions

Table 9-2 summarizes the peak hour *Highway Capacity Manual* level of service results at the three (3) state-controlled study intersections within the study area for Existing plus Project traffic conditions. The first column (1) of HCM/LOS values in *Table 9-2* presents a summary of existing traffic conditions. The second column (2) presents existing plus project traffic conditions based on existing intersection geometry. The third column (3) indicates whether added peak hour Project trips will have a significant impact based on the significant impact criteria defined in this report.

9.2.1 *Existing Traffic Conditions*

Review of Column 1 of *Table 9-2* indicates that all three (3) state-controlled study intersections currently operate at an acceptable LOS D or better during the AM and PM peak hours under existing traffic conditions.

9.2.2 *Existing Plus Project Traffic Conditions*

Review of Columns 2 and 3 of *Table 9-2* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the three (3) state-controlled study intersections when compared to the LOS standards and significant impact criteria specified in this report. The three (3) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of Project generated traffic to existing traffic.

Appendix D presents the Existing weekday HCM/LOS calculations for the three (3) state-controlled study intersections.

9.3 Year 2020 Traffic Conditions

Table 9-3 summarizes the peak hour *Highway Capacity Manual level* of service results at the three (3) state-controlled study intersections within the study area for the 2020 horizon year. The first column (1) of HCM/LOS values in *Table 9-3* presents a summary of existing traffic conditions. The second column (2) presents Year 2020 cumulative traffic conditions based on existing intersection geometry, but without any Project generated traffic. The third column (3) presents future forecast traffic conditions with the addition of project traffic. The fourth column (4) indicates whether added peak hour Project trips will have a significant impact based on the significant impact criteria defined in this report.

9.3.1 *Year 2020 Cumulative Traffic Conditions*

Review of Column 2 of *Table 9-3* indicates that all three (3) state-controlled study intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours with the addition of ambient traffic growth and cumulative project traffic.

9.3.2 *Year 2020 Cumulative Plus Project Traffic Conditions*

Review of Columns 3 and 4 of *Table 9-3* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the three (3) state-controlled study intersections when compared to the LOS standards and significant impact criteria specified in this report. The three (3) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of Project generated traffic.

Appendix D presents the Year 2020 weekday HCM/LOS calculations for the three (3) state-controlled study intersections.

TABLE 9-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM METHODOLOGY)[15]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	$\leq$ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and $\leq$ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and $\leq$ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and $\leq$ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and $\leq$ 80.0	Very long traffic delays. This level is considered by many agencies (i.e. SANBAG) to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	$\geq$ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[15] Source: *Highway Capacity Manual 6th Edition,* Chapter 19 (Signalized Intersections).

TABLE 9-2

EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact	
			Delay	LOS	Delay	LOS	Increase	Yes/No
1.	Pacific Avenue at	AM	26.3 s/v	C	26.3 s/v	C	0.0 s/v	No
	Pacific Coast Highway	PM	27.1 s/v	C	27.1 s/v	C	0.0 s/v	No
2.	N. Palmer Court at	AM	17.8 s/v	C	18.1 s/v	C	0.3 s/v	No
	Pacific Coast Highway	PM	16.5 s/v	C	17.2 s/v	C	0.7 s/v	No
3.	Long Beach Boulevard at	AM	42.3 s/v	D	42.8 s/v	D	0.5 s/v	No
	Pacific Coast Highway	PM	41.6 s/v	D	42.0 s/v	D	0.4 s/v	No

Notes:

- s/v = seconds per vehicle (delay)
- **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

TABLE 9-3

YEAR 2020 CUMULATIVE PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Year 2020 Cumulative Traffic Conditions		(3) Year 2020 Cumulative Plus Project Traffic Conditions		(4) Significant Impact	
		Delay	LOS	Delay	LOS	Delay	LOS	Increase	Yes/No
1. Pacific Avenue at Pacific Coast Highway	AM	26.3 s/v	C	26.3 s/v	C	27.3 s/v	C	1.0 s/v	No
	PM	27.1 s/v	C	27.2 s/v	C	27.3 s/v	C	0.1 s/v	No
2. N. Palmer Court at Pacific Coast Highway	AM	17.8 s/v	C	18.4 s/v	C	18.7 s/v	C	0.3 s/v	No
	PM	16.5 s/v	C	17.0 s/v	C	17.8 s/v	C	0.8 s/v	No
3. Long Beach Boulevard at Pacific Coast Highway	AM	42.3 s/v	D	43.1 s/v	D	43.7 s/v	D	0.6 s/v	No
	PM	41.6 s/v	D	42.5 s/v	D	42.9 s/v	D	0.4 s/v	No

Notes:

- s/v = seconds per vehicle (delay)
- **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

10.0 AREA-WIDE TRAFFIC IMPROVEMENTS

10.1 Recommended Improvements

For those intersections where projected traffic volumes are expected to result in poor operating conditions, this report identifies roadway improvements that are expected to:

- Mitigate the impact of existing traffic, Project traffic and future non-project (ambient growth and cumulative project) traffic and
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

10.1.1 *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 five (5) 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.

10.1.2 *Year 2020 Cumulative 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 five (5) key study intersections under the "Year 2020 Cumulative Plus Project" traffic scenario. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

10.2 Transportation Improvement Fee

Pursuant to the requirements of the City of Long Beach Municipal Code, Transportation Improvement Frees will be required of the Project. The Transportation Improvement Fee, based on the size of all new commercial development in the City of Long Beach, is assessed as shown below:

- Residential: $1,125.00 per unit
- Retail (City-wide): $4.50 per square-foot

Based on a total Project development of 101 DU of residential and 4,051 SF of commercial/retail space, the proposed Project can be expected to pay up to **$131,855.00** in Transportation Improvement Fees. The precise fee will be determined by the City upon issuance of project building permits.

10.3 Project-Related Fair Share Contribution

The Midtown Specific Plan identified five (5) impacted intersection for which the proposed Project may need to contribute its proportionate "fair-share" towards. ***Table 10-1*** presents the AM and/or PM peak hour (time period impacted) project fair share percentage at the five (5) impacted locations.

As presented in this *Table 10-1*, the first column (1) presents a total of all intersection peak hour movements for the existing conditions. The second column (2) presents proposed Project volumes. The third column (3) presents Year 2035 buildout traffic volumes. The fourth column (4) represents what percentage of total intersection peak hour traffic is Project-related traffic.

Review of *Table 10-1* shows that the Project's fair share percentage at Long Beach Blvd and Spring Street is 0.81%. The four (4) remaining impacted intersections are not expected to have any added project volumes at these locations which results no Project contribution needed.

TABLE 10-1

MIDTOWN SPECIFIC PLAN PROJECT FAIR SHARE COST CONTRIBUTION

Key Intersections		Impacted Time Period	(1) Existing Traffic[16]	(2) Project Traffic	(3) Year 2035 Buildout Traffic[17]	(4) Project Percent Increase
1.	Long Beach Blvd at Spring Street	AM	3187	5	3943	0.66%
		PM	**3539**	**7**	**4399**	**0.81%**
2.	Pacific Avenue at E. Willow Street	AM	3901	0	4584	0.00%
		PM	4348	0	5198	0.00%
4.	Atlantic Avenue at E. Willow Street	AM	3593	0	4366	0.00%
		PM	4114	0	5035	0.00%
13.	Atlantic Avenue at Spring Street	AM	3613	0	4446	0.00%
		PM	4277	0	5227	0.00%
15.	Atlantic Avenue at 27th Street	AM	1987	0	2484	0.00%
		PM	1911	0	2398	0.00%

Notes:

- Net Project Percent Increase (4) = [Column (2)] / [Column (3) – Column (1)]
- **Bold Net Project Percent Increase** is based on worse case.

[16] Existing traffic volumes are based on information contain in the Midtown Specific Plan.

[17] Year 2035 Buildout traffic volumes are based on information contain in the Midtown Specific Plan.

11.0 SITE ACCESS EVALUATION

11.1 Site Access

Vehicular access to the proposed Project's parking garage will be provided via driveways located on N. Palmer Court, which is an existing alley way that provides vehicular access to the existing residential development located south of the subject property; no vehicular access is proposed from Long Beach Boulevard or Pacific Coast Highway.

Table 11-1 summarizes the intersection operation at the proposed driveway along N. Palmer Court for Future plus Project traffic conditions upon completion and full occupancy of the proposed Project. The operations analysis for the project driveway is based on the *Highway Capacity Manual* (HCM 6th Edition) methodology. A review of *Table 11-1* indicates that the proposed driveway is forecast to operate at acceptable LOS A during the AM peak hour and PM peak hour. Therefore, project site access is considered adequate.

Appendix E presents the level of service calculation worksheets for the proposed Project driveways.

11.2 Internal Circulation

The on-site circulation layout of the proposed Project on an overall basis is generally adequate. The existing alley way at Palmer Court, which is the primary access to the Project site, currently provides vehicular access to the existing residential development located south of the subject property. The intersection of Palmer Court at Pacific Coast Highway will remain unchanged, so vehicular access to/from Palmer Court will remain unchanged.

TABLE 11-1
PROJECT DRIVEWAY PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Project Driveway	Time Period	Intersection Control	Year 2020 Cumulative Plus Project Traffic Conditions	
			Delay	LOS
A. N. Palmer Court at Project Driveway	AM	One – Way Stop	8.7 s/v	A
	PM		8.8 s/v	A

Notes:

- s/v = seconds per vehicle (delay)

12.0 CONGESTION MANAGEMENT PROGRAM COMPLIANCE ASSESSMENT

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 (LACMTA). 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.

For purposes of the CMP, a significant impact occurs when the proposed Project increases traffic demand on a CMP facility by two percent of capacity ($V/C \geq 0.02$), causing LOS F ($V/C > 1.00$). If the facility is already at LOS F, a significant impact occurs when the proposed Project increases traffic demand on a CMP facility by two percent of capacity ($V/C \geq 0.02$).

12.1 Traffic Impact Review

As required by the current *Congestion Management Program for Los Angeles County*, a review has been made of designated monitoring locations on the CMP highway system for potential impact analysis. Per CMP TIA criteria, the geographic area examined in the TIA must include the following, at a minimum:

- All CMP arterial monitoring intersections, including freeway on and off-ramp intersections, where the project will add 50 or more trips during either the AM or PM weekday peak hours.

- Mainline freeway-monitoring stations where the project will add 150 or more trips, in either direction, during the AM or PM weekday peak hours.

12.1.1 *Intersections*

The following CMP intersection monitoring locations within the project study area have been identified:

CMP Station	Location
No. 37	Pacific Coast Highway at Orange Avenue
No. 38	Pacific Coast Highway at Santa Fe Avenue

As stated earlier, the CMP guidelines require that arterial monitoring intersection locations must be examined if the proposed Project will add 50 or more trips during either the AM or PM weekday peak hours (of adjacent street traffic) at CMP monitoring intersections. Based on the proposed Project's trip generation potential, trip distribution and trip assignment, the Project will not add 50 or more trips at the identified CMP intersections during the weekday AM peak hour or PM peak hour. Therefore a CMP intersection traffic impact analysis is not required.

12.1.2 *Freeways*

The following CMP freeway monitoring location in the project vicinity has been identified:

- CMP Station No. 1078 — Intersection/Jurisdiction: I-710, north of Route 1 (PCH), Willow Street

As stated earlier, the CMP TIA guidelines require that freeway monitoring locations must be examined if the proposed Project will add 150 or more trips (in either direction) during either the AM or PM weekday peak periods. Based on the project's trip generation potential and distribution pattern, the proposed Project will not add more than 150 trips during the AM or PM peak hour at this CMP mainline freeway-monitoring location. Therefore, a CMP freeway traffic impact analysis is not required.

12.2 Transit Impact Review

As required by the current *Congestion Management Program for Los Angeles County*, a review has been made of the potential impacts of the project on transit service. As previously discussed and shown in *Figures 3-4* and *3-5*, a number of transit services exist in the project area, necessitating the following transit impact review.

The project trip generation, as shown in *Table 5-1*, was adjusted by values set forth in the CMP (i.e. person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips) to estimate project-related transit trip generation. Pursuant to the CMP guidelines, the proposed Project is forecast to generate 3 transit trips (1 inbound and 2 outbound) during the AM peak hour and 4 transit trips (2 inbound and 2 outbound) during the PM peak hour. Over a 24-hour period the proposed Project is forecasted to generate 39 daily weekday transit trips.

It is anticipated that the existing transit service in the project area would be able to accommodate the project generated transit trips. Therefore, given the number of transit trips generated by the project and the existing transit routes in the project vicinity, it is concluded that the existing public transit system would not be significantly impacted by the proposed Project.

13.0 PARKING ANALYSIS

Due to the Project's unique parking characteristics attributable to the affordable housing units and close proximity to the Metrolink Blue Line Transit Center on Long Beach Boulevard, it was necessary to research parking ratios that would provide realistic estimates of the Project's parking needs that take into account its unique aspects and setting. The following presents a summary of parking ratios based on the Midtown Specific Plan and California Code Section 65915-65918 for Affordable Housing.

13.1 Midtown Specific Plan

Since the Project is located within the Long Beach Midtown Specific Plan area, parking requirements based on for development within Midtown have been considered. *Section 3.5.1 Off-Street Parking* in the Midtown Specific Plan specifies the following parking requirements for Residential Uses:

Number of Units/Bedrooms	Number of Spaces per Unit
0 – 1 bedrooms	1
2 bedrooms	1.25
3 or more bedrooms	1.25
Guest Parking	1 space/4 units

The above-referenced parking codes were applied to the proposed Project. ***Table 13-1*** summarizes the parking requirements for the proposed Project. As shown, direct application of the code from the Midtown Specific Plan to the proposed Project results in a code-parking requirement of 139 spaces. When compared against the proposed site parking supply of 73 spaces, the Project has a parking deficiency of 66 spaces.

13.2 California Code Section 65915-65918 for Affordable Housing

Since the Project is located adjacent to the Metrolink Blue Line Transit Center on Long Beach Boulevard, parking requirements based on the California Code Section 65915-65918 for Density Bonus and Other Incentives have been considered. The parking requirements are as follows:

- If the development is located within one-half mile of a major transit stop, as defined in subdivision (b) of Section 21155 of Public Resources Code, and there is unobstructed access to the major transit stop from the development, the ratio shall not exceed 0.5 spaces per unit.

Since the Project is located approximately 300 feet from the furthest edge of the project site to the transit center, the above parking rate applies. ***Table 13-2*** summarizes the parking requirements for the proposed Project. As shown, direct application of the state code to the proposed Project results in a code-parking requirement of 51 spaces. When compared against the proposed site parking supply of 73 spaces, the Project has a parking surplus of 22 spaces.

13.3 Parking Analysis Conclusion

Based on all of the above, the California Code parking rate is considered the most applicable code for this type of development. Application of the California Code would result in a parking requirement of 51 spaces, which when compared against the proposed site parking supply of 73 spaces, the Project would have a parking surplus of 22 spaces. Therefore, the proposed parking supply is considered adequate to accommodate the parking needs for the Project.

TABLE 13-1

MIDTOWN SPECIFIC PLAN PARKING REQUIREMENTS[18]

Project Description	Size	Code Parking Ratio	Spaces Required
Apartments			
▪ 1 Bedroom	50 DU	1 spaces per unit	50
▪ 2 Bedrooms	25 DU	1.25 spaces per unit	31
▪ 3 Bedrooms	26 DU	1.25 spaces per unit	33
▪ Guest Parking	--	1 space per 4 units	25
		Total Code Parking Requirement:	**139**
		Proposed Parking Supply:	**73**
		Parking Surplus/Deficiency (+/-):	**-66**

[18] Source: Midtown Specific Plan *Section 3.5.1 Off-Street Parking.*

TABLE 13-2
CALIFORNIA CODE PARKING REQUIREMENTS[19]

Project Description	Size	Code Parking Ratio	Spaces Required
Apartments	101 DU	0.5 spaces per unit	51
		Total Code Parking Requirement:	**51**
		Proposed Parking Supply:	**73**
		Parking Surplus/Deficiency (+/-):	**+22**

[19] Source: California Code Section 65915-65918 for Affordable Housing.