Appendix I:
Transportation Supporting Information

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I.1 - Traffic Impact Analysis

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URBAN | CROSSROADS

THE MILL

TRAFFIC ANALYSIS

PREPARED BY: Charlene So, PE | cso@urbanxroads.com
Aric Evatt | aevatt@urbanxroads.com

Reference Number	Agency	Date
15477-06 TA Report	City of Anaheim	January 5, 2024

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ATAM	Anaheim Transportation Analysis Model
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CMP	Congestion Management Program
HCM	Highway Capacity Manual
ICU	Intersection Capacity Utilization
ITE	Institute of Transportation Engineers
LOS	Level of Service
OCTA	Orange County Transportation Authority
PHF	Peak Hour Factor
Project	The Mill
TA	Traffic Analysis
TIIF	Transportation Impact and Improvement Fee
v/c	Volume to Capacity
VMT	Vehicle Miles Traveled
vphgpl	Vehicles per Hour Green per Lane

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1 INTRODUCTION

This report presents the results of the Traffic Analysis (**TA**) for The Mill (**Project**), which is located at 275 E. Santa Ana Street in the City of Anaheim, as shown on Exhibit 1-1. The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This traffic study has been prepared in accordance with the City of Anaheim's Criteria for Preparation of Traffic Impact Studies and consultation with City staff during the traffic study scoping process. (1) The City approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

1.1 SUMMARY OF FINDINGS

The Project is to construct the following improvements as design features in conjunction with development of the site:

- Claudina Street, Philadelphia Street, Santa Ana Street, and Olive Street are currently built out to their ultimate half-section widths. However, the Project should make curb, gutter, sidewalk, and landscaping improvements along the Project's frontage per City standards.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report. There are no off-site deficiencies anticipated at the study area intersections for any future analysis scenario. As such, off-site intersection improvements have not been recommended as part of this TA.

1.2 PROJECT OVERVIEW

A preliminary land use plan for the proposed Project is shown on Exhibit 1-2. The site is currently vacant (no tenant) but is occupied by 40,644 square feet of warehousing/light industrial building space. The proposed Project is proposed to redevelop the site and replace the existing structures with 56 multifamily (low-rise) residential dwelling units. Ten percent (10%) of the units will be affordable. The Project is proposing a General Plan Amendment to increase the currently adopted Land Use designation for the site (Low-Medium Density Residential which allows 0-18.0 dwelling units to the acre) to Medium Density Residential. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (**ITE**) Trip Generation Manual (11th Edition, 2021) for ITE land use code for Multifamily Housing (Low-Rise, 2-3 Floors) has been utilized. In order to conduct a conservative analysis, no trip credit has been taken for the existing allowable use. (2) The Project is anticipated to generate a total of 368 vehicle trip-ends per day with 23 AM peak hour trips and 28 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

Access to the Project site will be provided via the alley on the north side of the Project. The alley intersects with Claudina Street, Philadelphia Street, and Olive Street and all intersections are assumed to have full access (no turn restrictions). The Project will be developed within a single phase with an anticipated opening year of 2027. Exhibit 1-3 depicts the location of the proposed Project in relation to the existing roadway network and the study area intersections.

EXHIBIT 1-1: LOCATION MAP

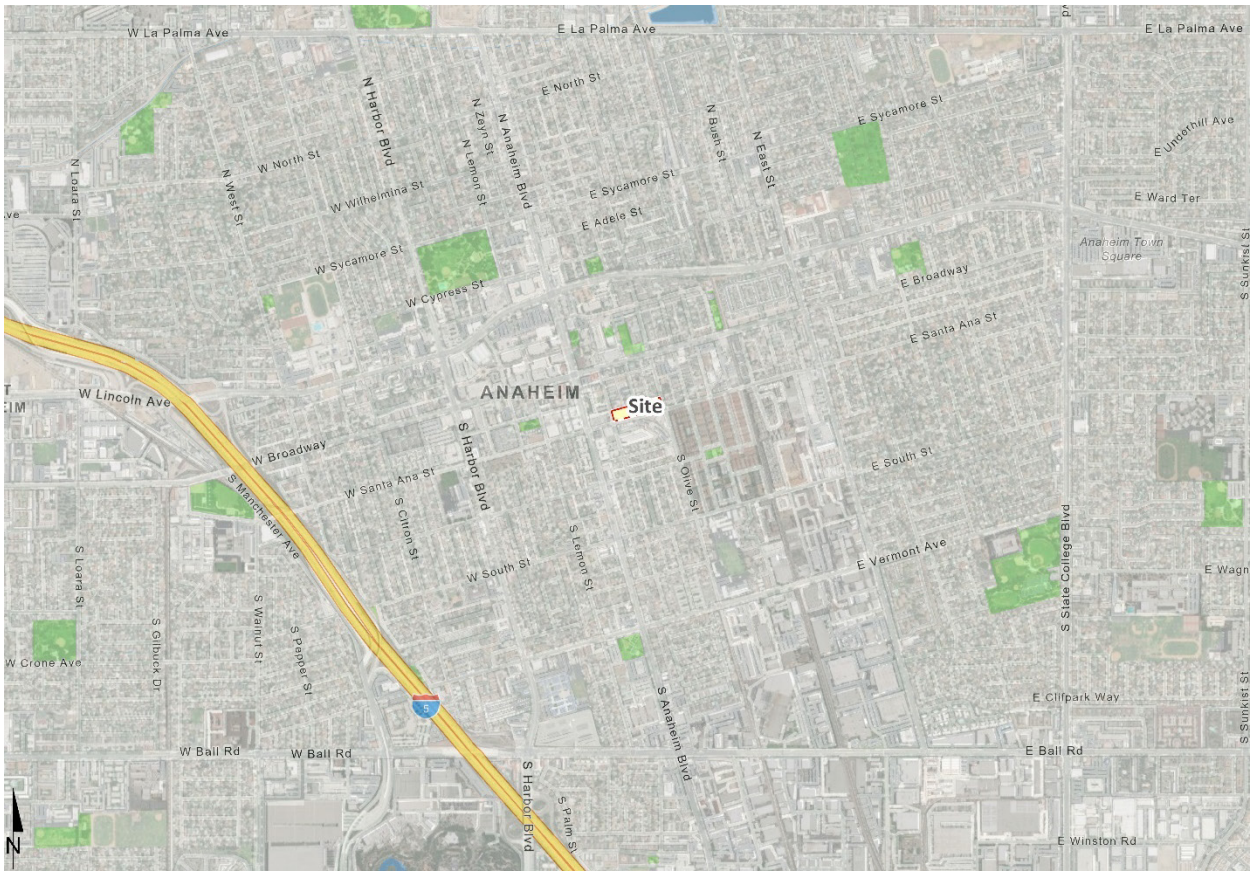
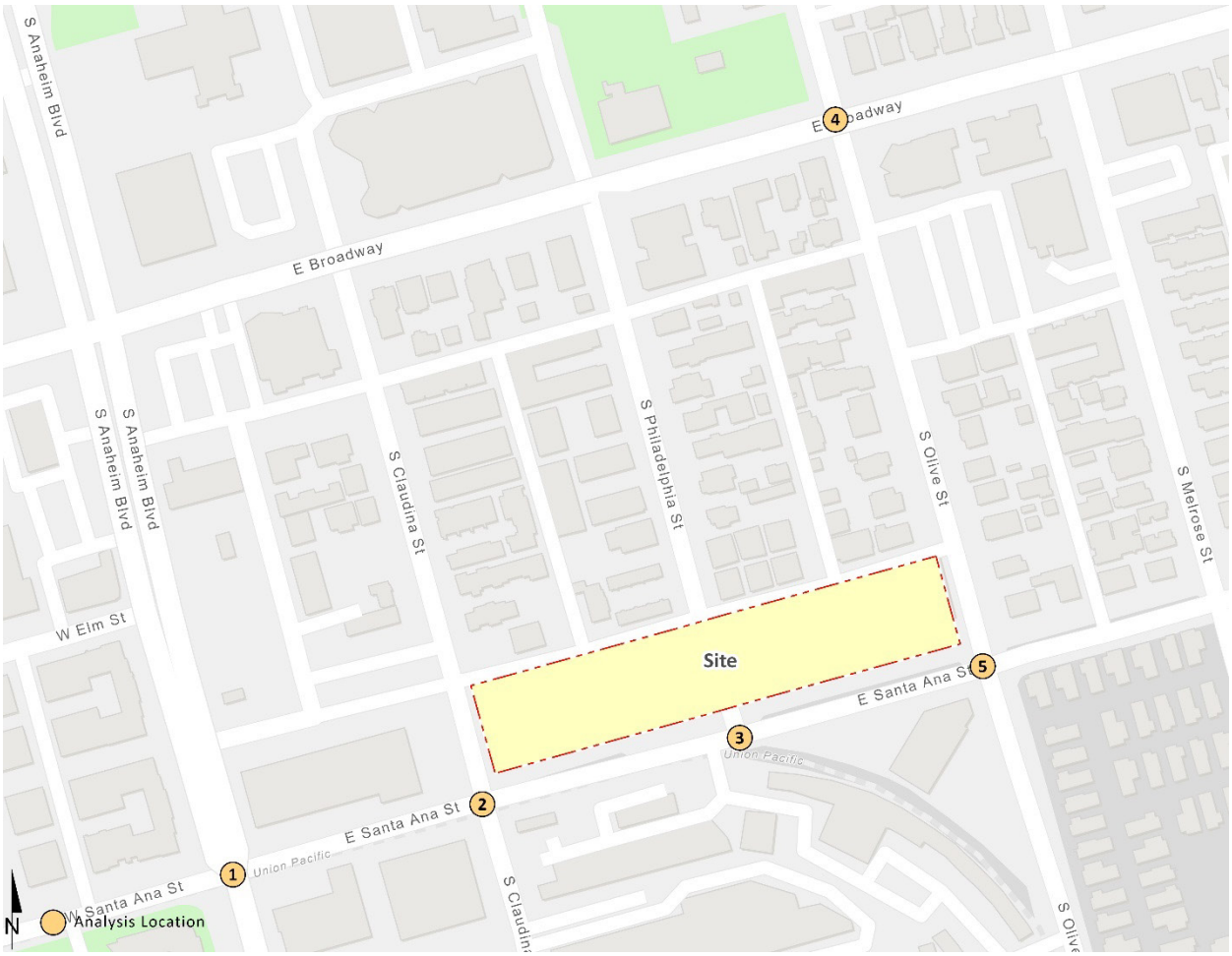


EXHIBIT 1-2: PRELIMINARY SITE PLAN

EXHIBIT 1-3: STUDY AREA



1.3 ANALYSIS SCENARIOS

Consistent with the City's traffic study guidelines, for the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2023) Conditions
- Existing Plus Approved Plus Ambient Growth (2027) Conditions: Cumulative existing traffic conditions plus all developments within the study area which have not yet been constructed but has been approved through a discretionary action or building permit issuance. This alternative corresponds to the no project alternative for purposes of an EIR.
- Existing Plus Approved Plus Ambient Growth Plus Project (2027) Conditions
- Future Conditions Without Project (2027) Conditions: Short-Range Impact Analysis (3–7-year horizon) without project
- Future Conditions (2027) With Project Conditions
- General Plan Buildout Without Project Conditions: Buildout of all developments anticipated in the City's General Plan or implied by the City's Zoning Ordinance. Anaheim Transportation Analysis Model (**ATAM**) Year 2025 or later projections shall be utilized for this purpose.
- General Plan Buildout With Project Conditions

1.3.1 EXISTING (2023) CONDITIONS

Information for Existing (2023) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.3.2 EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) CONDITIONS

The Existing Plus Approved Plus Ambient Growth (2027) conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2023) conditions of 4.06 percent (1 percent per year, compounded over 4 years) is included for Existing Plus Approved Plus Ambient Growth (2027) conditions, in conjunction with traffic associated from approved cumulative development projects. This comprehensive list was compiled from information provided by the City of Anaheim. The assumed ambient growth factor is based on the requirements per the City of Anaheim traffic study guidelines. The Existing Plus Approved Plus Ambient Growth (2027) conditions analysis is intended to identify "Opening Year" deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

The Existing Plus Approved Plus Ambient Growth Plus Project (2027) conditions include the Existing Plus Approved Plus Ambient Growth (2027) conditions traffic forecasts plus the traffic generated by the proposed Project.

1.3.3 FUTURE CONDITIONS (2027) CONDITIONS

The Future Conditions (2027) Without Project conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic

growth, an ambient growth factor from Existing (2023) conditions of 4.06% (1 percent per year, compounded over 4 years) is included for Future Conditions (2027) Without Project conditions, in conjunction with traffic associated from both pending and approved cumulative development projects. This comprehensive list was compiled from information provided by the City of Anaheim. The assumed ambient growth factor is based on the requirements per the City of Anaheim traffic study guidelines. The Future Conditions (2027) analysis is intended to identify "Opening Year" deficiencies associated with the development of the proposed Project based on the expected background growth within the study area, plus traffic from known cumulative projects. The Future Conditions (2027) With Project conditions includes the Future Conditions (2027) Without Project conditions traffic forecasts plus the traffic generated by the proposed Project.

1.3.4 GENERAL PLAN BUILDOUT CONDITIONS

Traffic projections for General Plan Buildout conditions were derived from the latest ATAM using accepted procedures for model forecast refinement and smoothing. The General Plan Buildout conditions volumes have been provided by the City's traffic consultant. The General Plan Buildout conditions analysis has been utilized to determine if improvements funded through regional transportation mitigation fee programs can accommodate the long-range cumulative traffic at the target Level of Service (**LOS**) identified in the City of Anaheim (lead agency) General Plan. Each of the applicable transportation fee programs are discussed in more detail in Section 8 *Local and Regional Funding Mechanisms*.

1.4 STUDY AREA

To ensure that this TA satisfies the City of Anaheim's traffic study requirements, Urban Crossroads, Inc. prepared a Project traffic study scoping package for review by City of Anaheim staff prior to the preparation of this report. This agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The agreement approved by the City is included in Appendix 1.1 of this TA.

The following 5 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for this TA based on consultation with City of Anaheim staff. The "50 peak hour trip" criterion utilized by the City of Anaheim is consistent with the methodology employed by the County of Orange, and generally represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of influence (i.e., study area). Other analysis intersections within the adjacent cities were not selected for evaluation as the Project is anticipated to contribute less than 50 peak hour trips.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jurisdiction	CMP Facility?
1	Anaheim Bl. & Santa Ana St.	Anaheim	No
2	Claudina St. & Santa Ana St.	Anaheim	No
3	Philadelphia St. & Santa Ana St.	Anaheim	No
4	Olive St. & Broadway	Anaheim	No
5	Olive St. & Santa Ana St.	Anaheim	No

The intent of a Congestion Management Program (**CMP**) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. There are no study area intersections that are identified as CMP facilities in the County of Orange per the Orange County CMP. (3)

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 3 *Area Conditions*, Section 5 *Existing Plus Approved Plus Ambient Growth (2027) Traffic Conditions*, and Section 6 *Future Year (2027) Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented in Table 1-2.

1.5.1 EXISTING (2023) CONDITIONS

The study area intersections are currently operating at an acceptable LOS during the peak hours.

1.5.2 EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) CONDITIONS

The study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under both Existing Plus Approved Plus Ambient Growth (2027) and Existing Plus Approved Plus Ambient Growth (2027) Plus Project traffic conditions.

1.5.3 FUTURE CONDITIONS (2027) CONDITIONS

The study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under both Future Conditions (2027) Without Project and With Project traffic conditions.

1.5.4 GENERAL PLAN BUILDOUT CONDITIONS

The study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under both General Plan Buildout Without Project and With Project traffic conditions.

TABLE 1-2: SUMMARY OF LOS

#	Intersection	Existing (2023) AM	Existing (2023) PM	Existing Plus Approved Plus Ambient Growth (2027) AM	Existing Plus Approved Plus Ambient Growth (2027) PM	Existing Plus Approved Plus Ambient Growth (2027) Plus Project AM	Existing Plus Approved Plus Ambient Growth (2027) Plus Project PM	Future Conditions (2027) Without Project AM	Future Conditions (2027) Without Project PM	Future Conditions (2027) With Project AM	Future Conditions (2027) With Project PM	General Plan Buildout Without Project AM	General Plan Buildout Without Project PM	General Plan Buildout With Project AM	General Plan Buildout With Project PM
1	Anaheim Bl. & Santa Ana St.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2	Claudina St. & Santa Ana St.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3	Philadelphia St. & Santa Ana St.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
4	Olive St. & Broadway	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5	Olive St. & Santa Ana St.	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● = A - D ● = E ● = F

1.6 RECOMMENDATIONS

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project. The site adjacent recommendations are shown on Exhibit 1-4. The site adjacent queuing analysis worksheets are provided in Appendix 1.2.

The existing traffic control and intersection geometry should remain at the intersections of Claudina Street & Santa Ana Street (#2), Philadelphia Street & Santa Ana Street (#3), and Olive Street & Santa Ana Street (#5).

Recommendation 1 – Claudina Street is a north-south oriented roadway located on the Project's western boundary. According to the City of Anaheim General Plan, Claudina Street is currently built out to its ultimate half-section width. However, the Project should make curb, gutter, sidewalk, and landscaping improvements on Claudina Street along the Project's frontage per City standards.

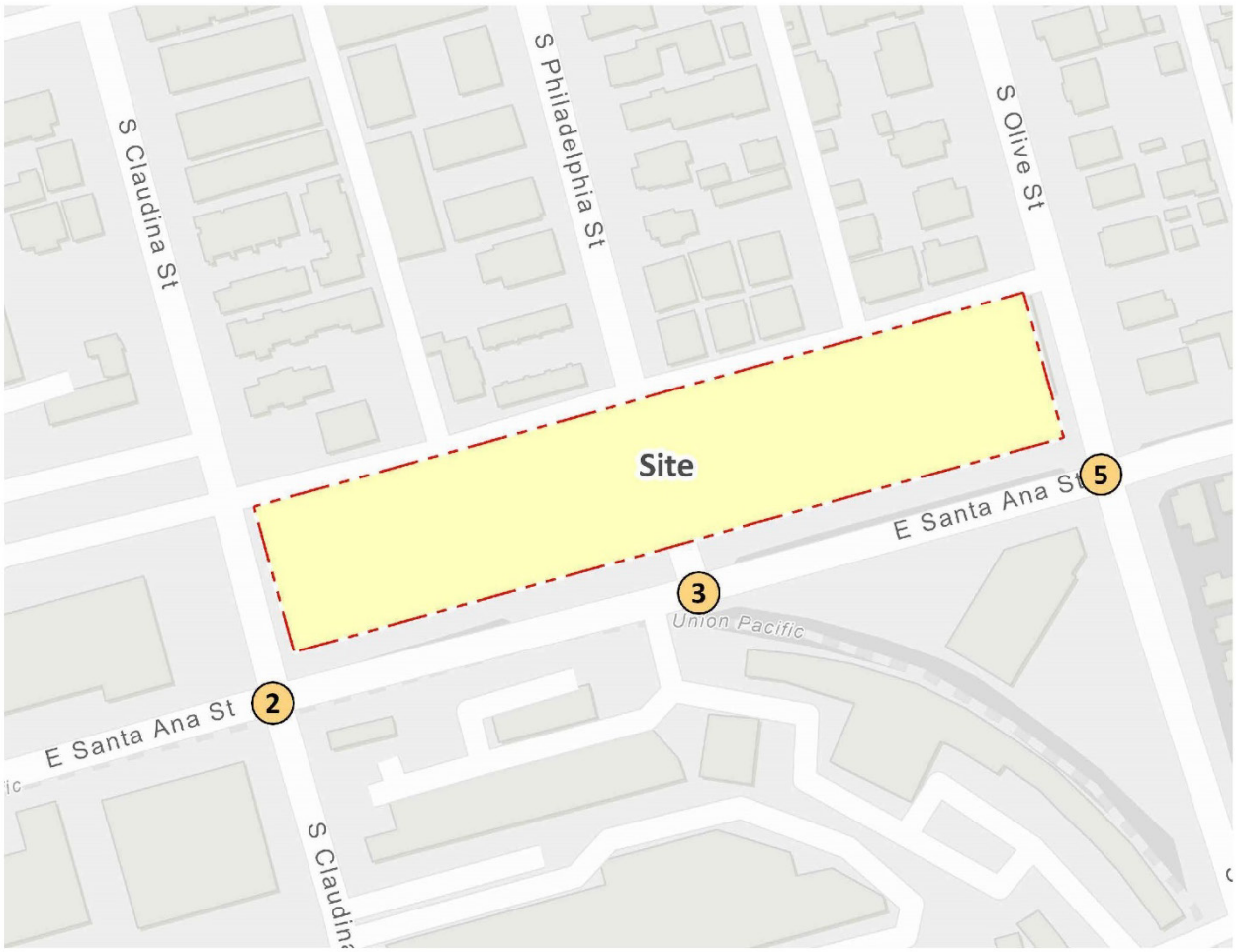
Recommendation 2 – Philadelphia Street is a north-south oriented roadway that bisects the Project site. According to the City of Anaheim General Plan, Philadelphia Street is currently built out to its ultimate full-section width. However, the Project should make curb, gutter, sidewalk, and landscaping improvements on Philadelphia Street along the Project's frontage per City standards.

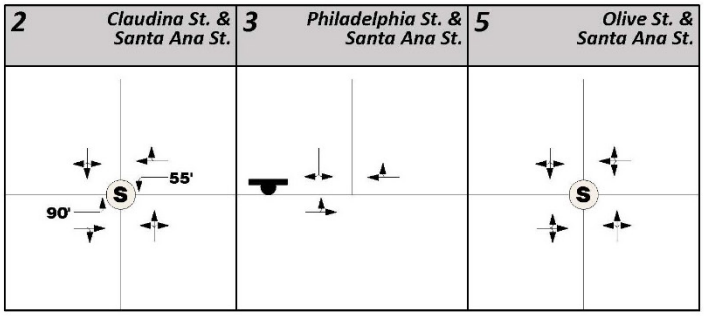
Recommendation 3 – Olive Street is a north-south oriented roadway located on the Project's eastern boundary. According to the City of Anaheim General Plan, Olive Street is currently built out to its ultimate half-section width. However, the Project should make curb, gutter, sidewalk, and landscaping improvements on Olive Street along the Project's frontage per City standards.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Manual on Uniform Traffic Control Devices (**CA MUTCD**) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard California Department of Transportation (**Caltrans**) and City of Anaheim sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

EXHIBIT 1-4: SITE ACCESS RECOMMENDATIONS





= Stop Sign
= Existing Lane
100' = Minimum Turn Pocket Length

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2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with the City of Anaheim's traffic study guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (**LOS**). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Anaheim requires signalized intersection operations analysis to be evaluated through Intersection Capacity Utilization (**ICU**) methodology, which compares the peak hour traffic volumes to intersection capacity. Lane capacities of 1,700 vehicles per hour green per lane (**vphgpl**) have been utilized for this analysis, consistent with the City's traffic study guidelines. A 0.10 Volume-to-Capacity (**V/C**) ratio is assumed, which represents 12 seconds of delay for the yellow and all-red signal identification and inherent vehicle delay between cycles with an assumed cycle length of 120 seconds. Typical minimum yellow and all-red values are based on posted speed limits (e.g., between 5-6 seconds). The ICU LOS definitions based on V/C ratio are presented in Table 2-1.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Level of Service	Critical Volume-to-Capacity (V/C) Ratio
A	0.00 - 0.60
B	0.61 - 0.70
C	0.71 - 0.80
D	0.81 - 0.90
E	0.91 - 1.00
F	> 1.00

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Anaheim require the operations of unsignalized intersections be evaluated using the methodology described in the 6th Edition Highway Capacity Manual (**HCM**) methodology, which expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (4) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze unsignalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length.

The peak hour traffic volumes have been adjusted using a peak hour factor (**PHF**) to reflect peak 15-minute volumes. Customary practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (4)

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (**CA MUTCD**). (5)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (5) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Urban warrants have been used as posted speed limits on the major roadways with unsignalized intersections are 40 miles per hour or below and rural warrants have been used where speeds exceed 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (**ADT**) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. Traffic signal warrant analyses were performed for the following study area intersection shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection
2	Claudina St. & Santa Ana St.
3	Philadelphia St. & Santa Ana St.
5	Olive St. & Santa Ana St.

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *Existing Plus Approved Plus Ambient Growth (2027) Traffic Conditions*, Section 6 *Future Conditions (2027) Conditions*, and Section 7 *General Plan Buildout Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

The City's Growth Management Element requires a V/C ratio of 0.90 (Level of Service or LOS D) shall be the lowest acceptable LOS at intersections following implementation of improvements. Intersection improvement sufficient to bring intersections and roadway segments to the acceptable service levels must be identified. In order to maintain LOS D at intersections, arterial links should be maintained to LOS C or better.

2.5 DEFICIENCY CRITERIA

A transportation impact on an intersection shall be deemed significant in accordance with the following table (per the City's Guidelines):

LOS	Final v/c Ratio	Project-Related Increase in v/c
C	> 0.701-0.800	≥ 0.050
D	> 0.801-0.900	≥ 0.030
E, F	> 0.901	≥ 0.010

Cumulative traffic deficiencies are created as a result of a combination of the proposed Project together with other future developments contributing to the overall traffic deficiencies requiring additional improvements to maintain acceptable level of service operations with or without the Project. When the pre-Project condition is already below LOS D (i.e., unacceptable LOS), the Project will be responsible for contributing to the recommended improvements at intersections that receive 50 or more peak hour project-related trips through payment of fees into pre-existing fee programs or fair share contribution.

2.6 FAIR SHARE CONTRIBUTION

For study area intersections identified as meeting the City's deficiency thresholds (see Section 2.5 *Deficiency Criteria*), Project's equitable share is to be calculated using the following equation:

$$P = T / (To - Te)$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during peak hour of adjacent street, vph.

To = Opening Year + Cumulative + Project traffic volume, vph.

Te = Existing traffic, vph.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Anaheim General Plan Circulation Network, and a review of existing peak hour intersection operations and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Anaheim staff (Appendix 1.1), the study area includes a total of 5 existing and future intersections as shown previously on Exhibit 1-3. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF ANAHEIM GENERAL PLAN CIRCULATION ELEMENT

Exhibit 3-2 shows the City of Anaheim General Plan Circulation Element. The City of Anaheim General Plan does not include roadway cross-sections.

Primary Arterials are four-to-six-lane divided roadways with a 106-foot right-of-way. Typical primary arterials with six-lanes do not include parking; four-lane primary arterials include left turn pockets and parking lanes. The following study area roadway within the City of Anaheim is classified as a Primary Arterial:

- Anaheim Boulevard

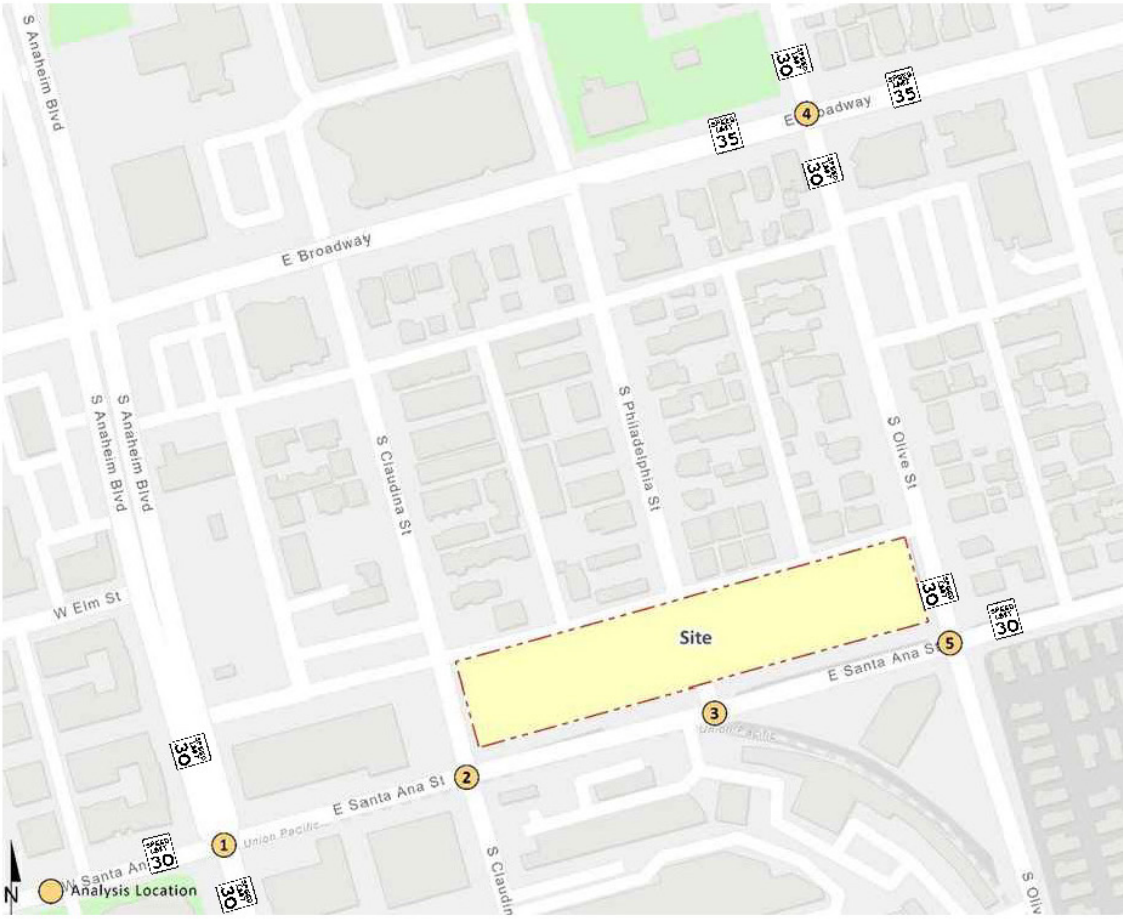
Secondary Arterials are four-lane undivided roadways that circulation traffic within the City. Secondary arterials typically have with a 90-foot right-of-way. The following study area roadway within the City of Anaheim is classified as a Secondary Arterial:

- Broadway

Collector Streets are two-lane undivided roadways that distribute residential traffic to higher capacity facilities. Collector Streets typically have a 64-foot right-of-way. The following study area roadways within the City of Anaheim are classified as Collector Streets:

- Olive Street
- Santa Ana Street

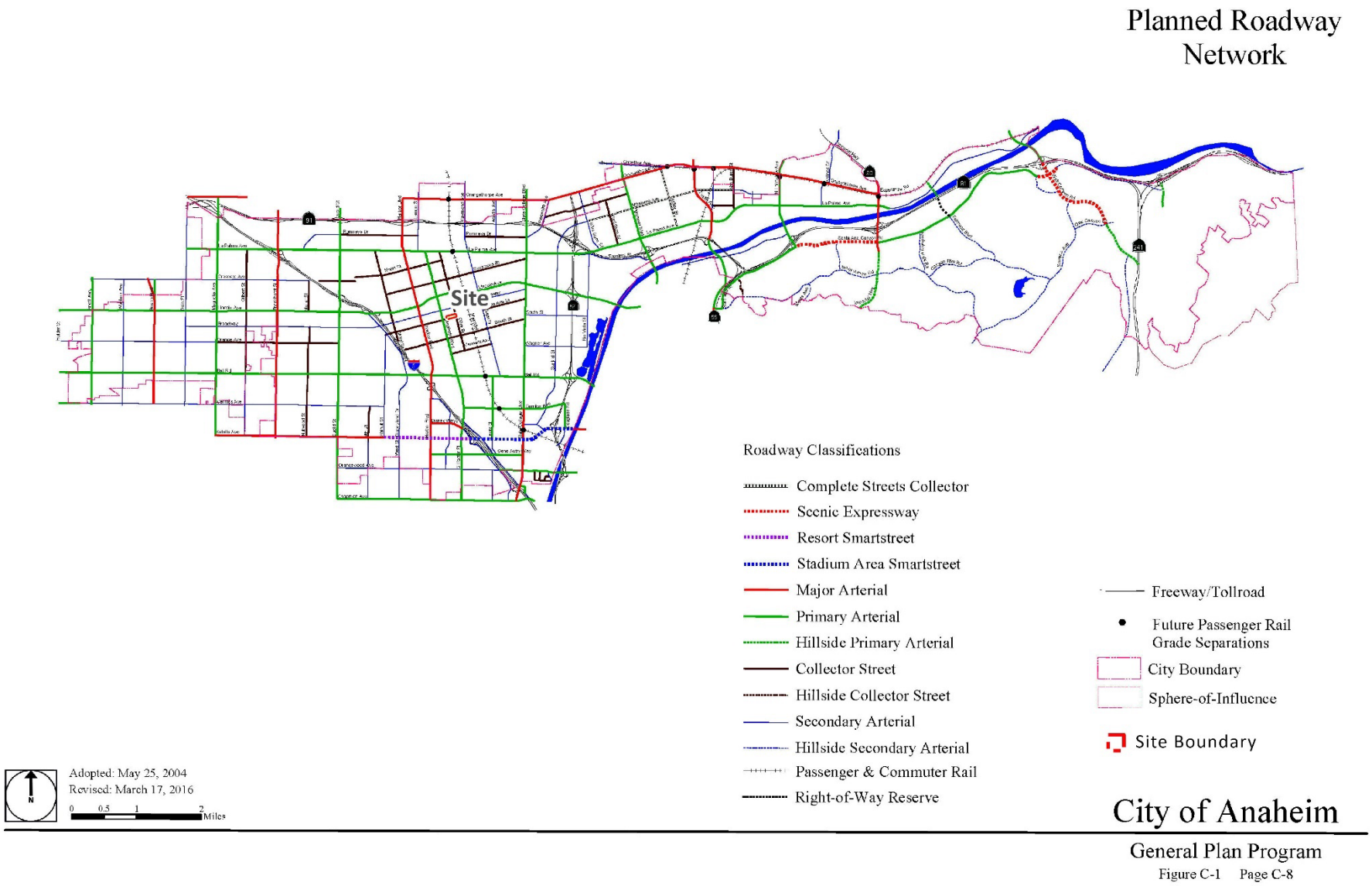
EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



1 Anaheim Bl. & Santa Ana St.	2 Claudina St. & Santa Ana St.	3 Philadelphia St. & Santa Ana St.	4 Olive St. & Broadway	5 Olive St. & Santa Ana St.
4D / 2D / 2D / 4D	2U / 2D / 2D / 2U	2U / 2D / 2D	2U / 4U / 4D / 2U	2U / 2U / 2U / 2U

= Traffic Signal
= All Way Stop
= Stop Sign
4 = Number of Lanes
D = Divided
U = Undivided
= Speed Limit (MPH)

EXHIBIT 3-2: CITY OF ANAHEIM GENERAL PLAN CIRCULATION ELEMENT



3.3 BICYCLE AND PEDESTRIAN FACILITIES

Exhibit 3-3 illustrates the City of Anaheim existing and planned bicycle facilities. As shown on Exhibit 3-3, there are existing Class III bike routes on Anaheim Boulevard, south of Santa Ana Street, and on Santa Ana Street, west of Anaheim Boulevard. There is a planned Class III bike route along the Project's frontage on Olive Street and Santa Ana Street, east of Anaheim Boulevard. Class III bike lanes are signed shared, on-road bike routes without dedicated bike lane striping. There is a planned Class II bike lane on Anaheim Boulevard in the vicinity of the Project. Class II bike lanes are signed and striped bike lanes on the roadway.

Existing pedestrian facilities within the study area are shown on Exhibit 3-4. As shown on Exhibit 3-4, there are existing pedestrian facilities along Anaheim Boulevard, Philadelphia Street, Olive Street, and along portions of Santa Ana Street in the vicinity of the Project site. Field observations and traffic counts conducted in May 2023 indicate moderate pedestrian and bicycle activity in the vicinity of the Project site due to the proximity of the adjacent businesses.

3.4 TRANSIT SERVICE

Exhibit 3-5 shows the City of Anaheim transit facilities. The study area within the City of Anaheim is currently served by Orange County Transit Agency (**OCTA**), a public transit agency serving various jurisdictions within Orange County. The closest OCTA transit route runs along Anaheim Boulevard (near Santa Ana Street) which could potentially serve the proposed Project. Transit service is reviewed and updated by OCTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

3.5 EXISTING (2023) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in May 2023. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The 2023 weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. As such, no additional adjustments were made to the traffic counts to establish the baseline condition. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1. Existing weekday ADT volumes are shown on Exhibit 3-6. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 11.35 = Leg Volume

EXHIBIT 3-3: CITY OF ANAHEIM EXISTING AND PLANNED BICYCLE FACILITIES

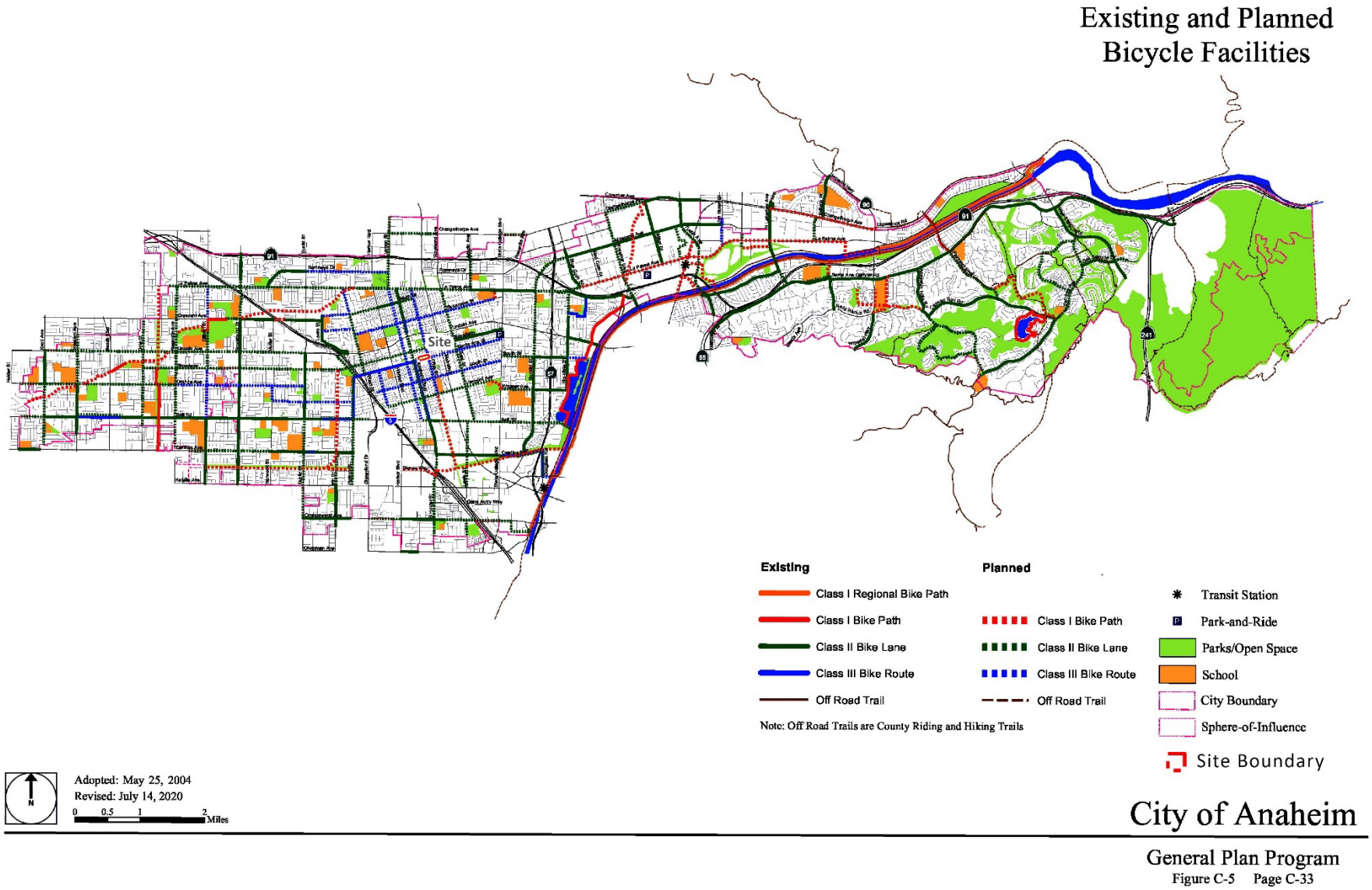


EXHIBIT 3-4: EXISTING PEDESTRIAN FACILITIES

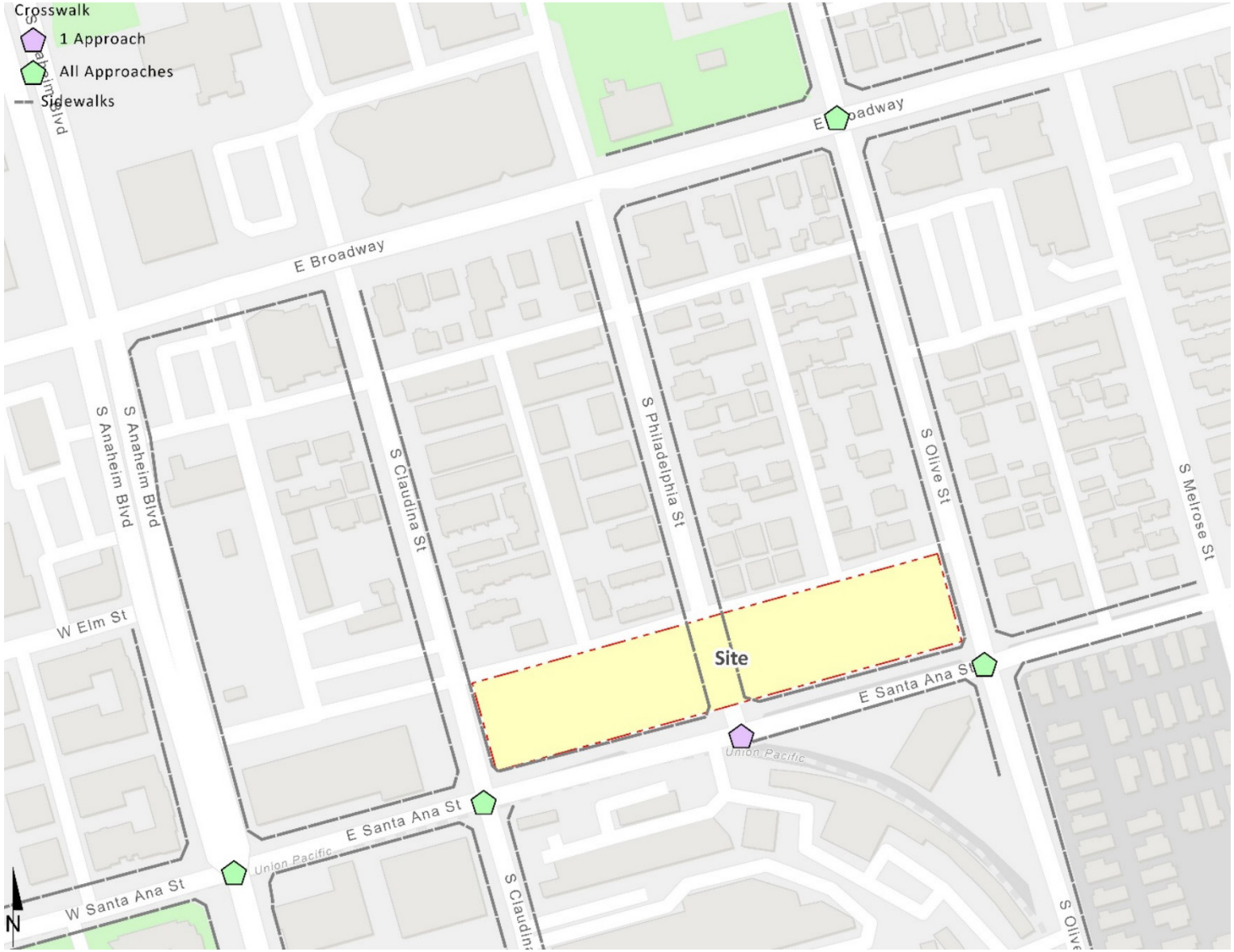


EXHIBIT 3-5: CITY OF ANAHEIM TRANSIT FACILITIES

EXHIBIT 3-6: EXISTING (2023) TRAFFIC VOLUMES


S Anaheim Blvd
E Broadway
E Broadway
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S Claudina St
S Philadelphia St
S Olive St
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W Elm St
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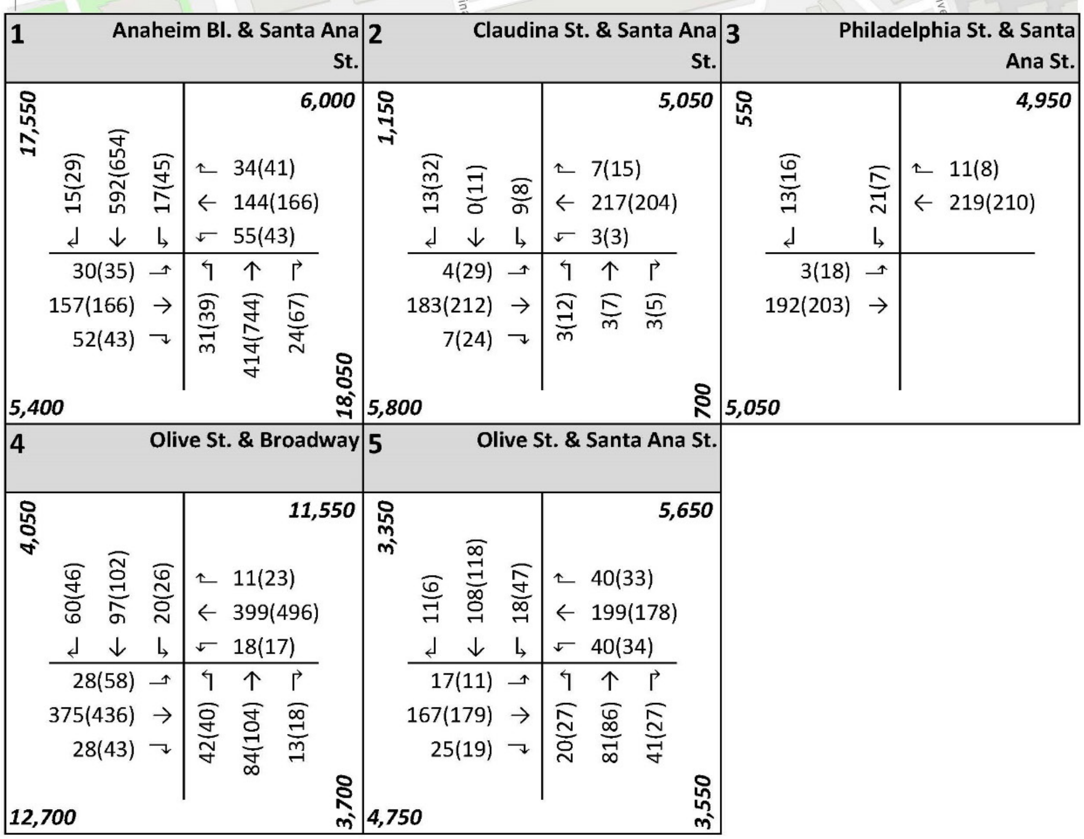
1 Anaheim Bl. & Santa Ana St.
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592(654)
17(45)
34(41)
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30(35)
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81(86)
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4,750
3,550

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 8.81 percent. As such, the above equation utilizing a factor of 11.35 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of 8.81 percent (i.e., 1/0.0881 = 11.35) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday and weekend peak hour intersection volumes are also shown on Exhibit 3-6.

3.6 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that the study area intersections are currently operating at an acceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2023) CONDITIONS

#	Intersection	Traffic Control[2]	Delay[1] (secs.)		Volume-to-Capacity (V/C)		Level of Service	
			AM	PM	AM	PM	AM	PM
1	Anaheim Bl. & Santa Ana St.	TS	--[3]	--[3]	0.452	0.513	A	A
2	Claudina St. & Santa Ana St.	AWS	9.7	9.6	--[3]	--[3]	A	A
3	Philadelphia St. & Santa Ana St.	CSS	11.2	10.4	--[3]	--[3]	B	B
4	Olive St. & Broadway	TS	--[3]	--[3]	0.366	0.413	A	A
5	Olive St. & Santa Ana St.	AWS	11.3	10.9	--[3]	--[3]	B	B

1 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

2 TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop

3 Delay is only reported for unsignalized intersections; V/C is only reported for signalized intersections.

3.7 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. There are no unsignalized study area intersections that currently meet a traffic signal warrant under Existing (2023) traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

3.8 EXISTING DEFICIENCIES AND IMPROVEMENTS

All study area intersections currently operate at an acceptable LOS during the peak hours under Existing (2023) traffic conditions. As such, no improvements have been identified.

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The site is currently vacant (no tenant) but is occupied by 40,644 square feet of warehousing/light industrial building space. The preliminary site plan for the proposed Project is shown previously on Exhibit 1-2. The proposed Project is to redevelop the site and replace the existing structures with 56 multifamily (low-rise) residential dwelling units. Ten percent (10%) of the units will be affordable. Access to the Project site will be provided via the alley on the north side of the Project. The alley intersects with Claudina Street, Philadelphia Street, and Olive Street and all intersections are assumed to have full access (no turn restrictions). The Project will be developed within a single phase with an anticipated opening year of 2027.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

The trip generation rates used the proposed Project are based upon information collected by the ITE as provided in their latest Trip Generation Manual, 11th Edition, 2021 for ITE land use code for Multifamily Housing (Low-Rise, 2-3 Floors, ITE 220) and Affordable Housing (ITE 223) have been used for the proposed Project (see Table 4-1). (2) The proposed Project trip generation summary is shown in Table 4-2.

TABLE 4-1: PROPOSED PROJECT TRIP GENERATION RATES

Land Use[1]	ITE LU Code	Units[2]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Multifamily (Low-Rise) Residential	220	DU	0.10	0.30	0.40	0.32	0.19	0.51	6.74
Affordable Housing	223	DU	0.10	0.26	0.36	0.27	0.19	0.46	4.81

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] DU = Dwelling Units

TABLE 4-2: PROPOSED PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Multifamily (Low-Rise) Residential	50	DU	5	15	20	16	9	25	338
Affordable Housing	6	DU	1	2	3	2	1	3	30
Project Total			**6**	**17**	**23**	**18**	**10**	**28**	**368**

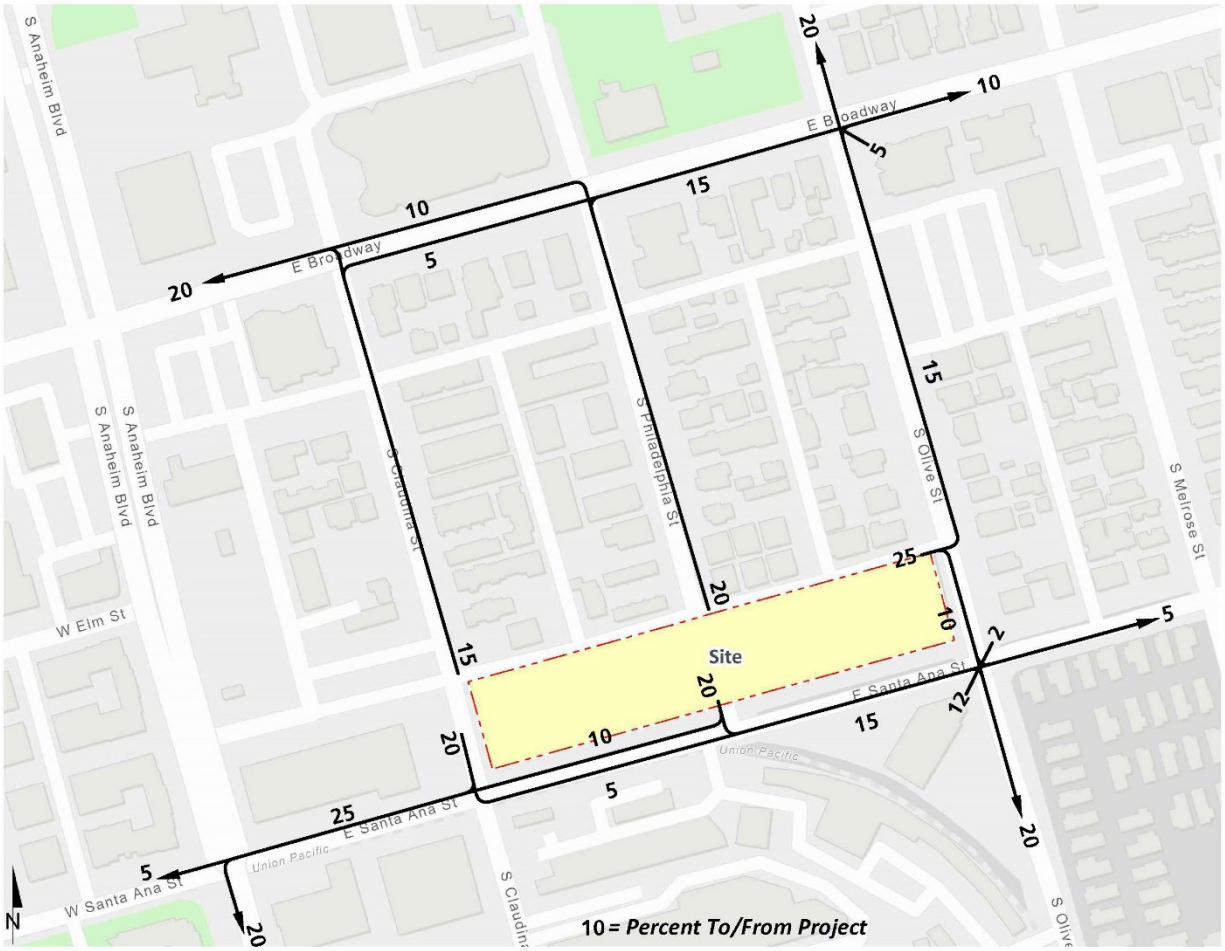
[1] DU = Dwelling Units

As shown in Table 4-2, the proposed Project is anticipated to generate a total of 368 two-way trips per day with 23 AM peak hour trips and 28 PM peak hour trips.

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Exhibit 4-1 illustrates the Project trip distribution patterns for the proposed Project.

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION



4.3 MODAL SPLIT

The potential for Project trips to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project weekday ADT and weekday peak hour intersection turning movement volumes are shown on Exhibit 4-2.

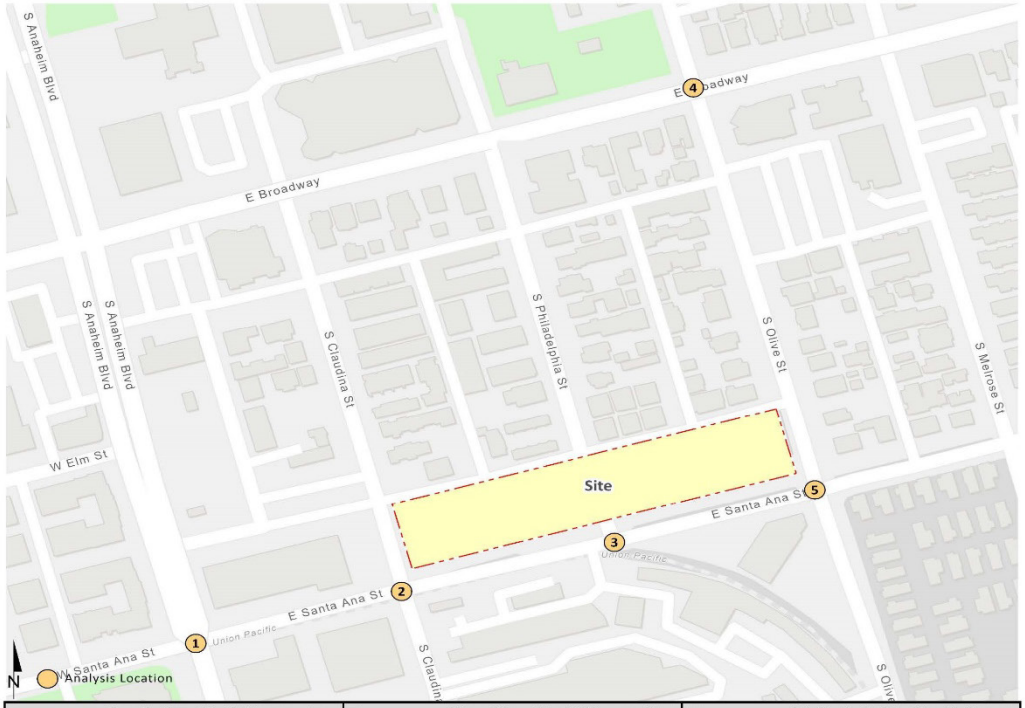
4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 1 percent per year, compounded annually, for 2027 traffic conditions. The total ambient growth is 4.06 percent for 2027 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in conjunction with traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. 2027 traffic volumes are provided in Section 5 and Section 6 of this report. The traffic generated by the proposed Project was then manually added to the base volume to determine With Project forecasts.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Anaheim. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. Exhibit 4-3 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-3. Consistent with the City's traffic study guidelines, traffic from approved cumulative development projects was added to the Existing Plus Approved Plus Ambient Growth (2027) traffic forecasts and traffic from both pending and approved cumulative development projects were added to the Future Conditions (2027) traffic forecasts. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5 *Background Traffic*. It should be noted, there are no approved cumulative projects in the vicinity of the Project site that contribute traffic to the study area intersections. The pending Cumulative Only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-4.

EXHIBIT 4-2: PROJECT ONLY TRAFFIC VOLUMES



1 Anaheim Bl. & Santa Ana St.

			100
		← 1(1)	
		↰ 3(2)	
			↱
0(1) →			1(4)
			Nominal

2 Claudina St. & Santa Ana St.

Nominal			Nominal
3(2)	1(1)		↰ 0(1)
↲	↳		← 2(1)
1(3) →			
1(2) →			
100			

3 Philadelphia St. & Santa Ana St.

Nominal			Nominal
2(1)	2(1)		↰ 1(2)
↲	↳		← 0(1)
1(2) →			
1(1) →			
Nominal			

4 Olive St. & Broadway

Nominal			Nominal
1(2)	1(2)		← 0(1)
↲	↓		↰ 0(1)
2(1) →			↑ ↱
1(1) →			2(1) 1(1)
Nominal			Nominal

5 Olive St. & Santa Ana St.

Nominal			
1(1)			← 0(1)
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			↰ ↑
1(0) →			1(2) 0(1)
2(1) ↲			
Nominal			Nominal

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 4-3: CUMULATIVE DEVELOPMENT LOCATION MAP

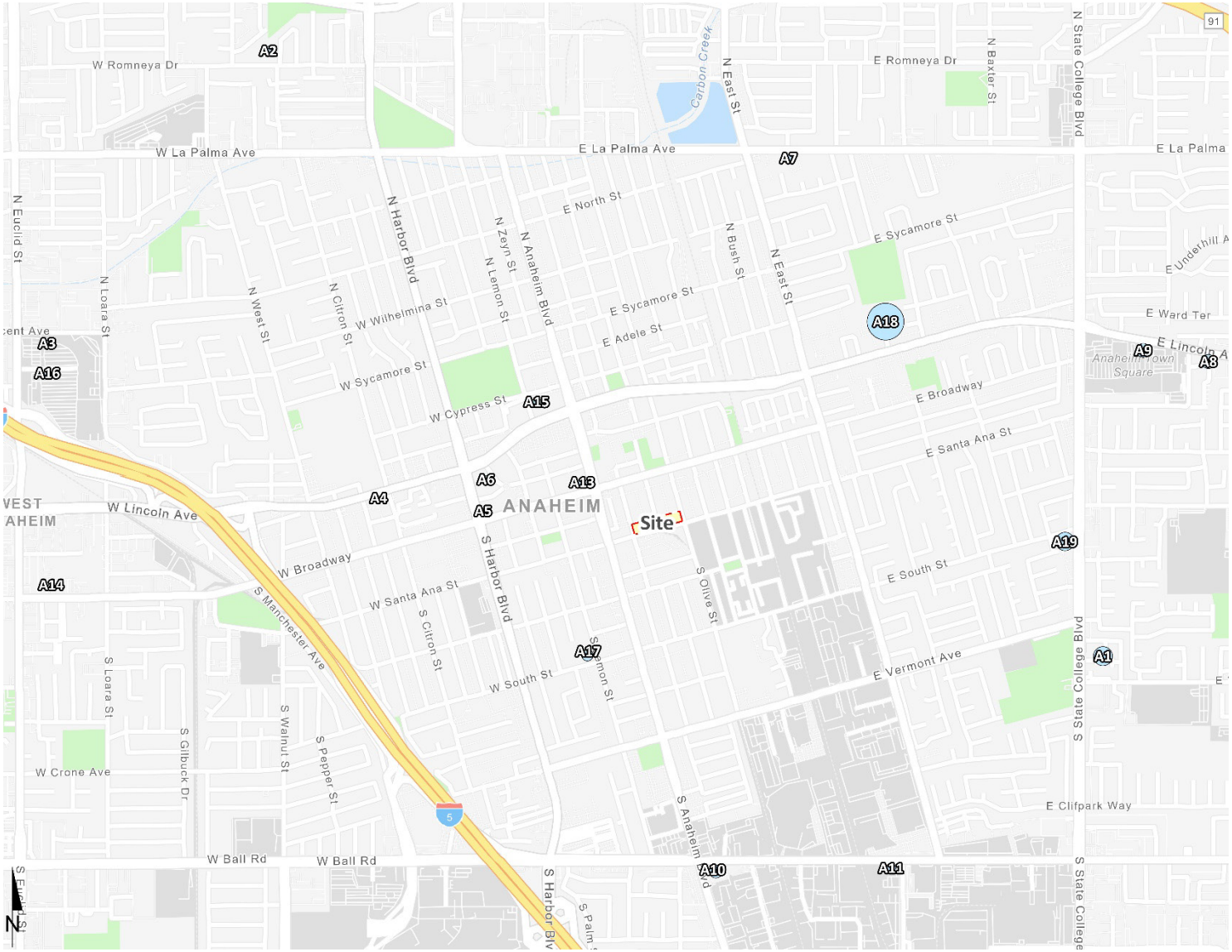
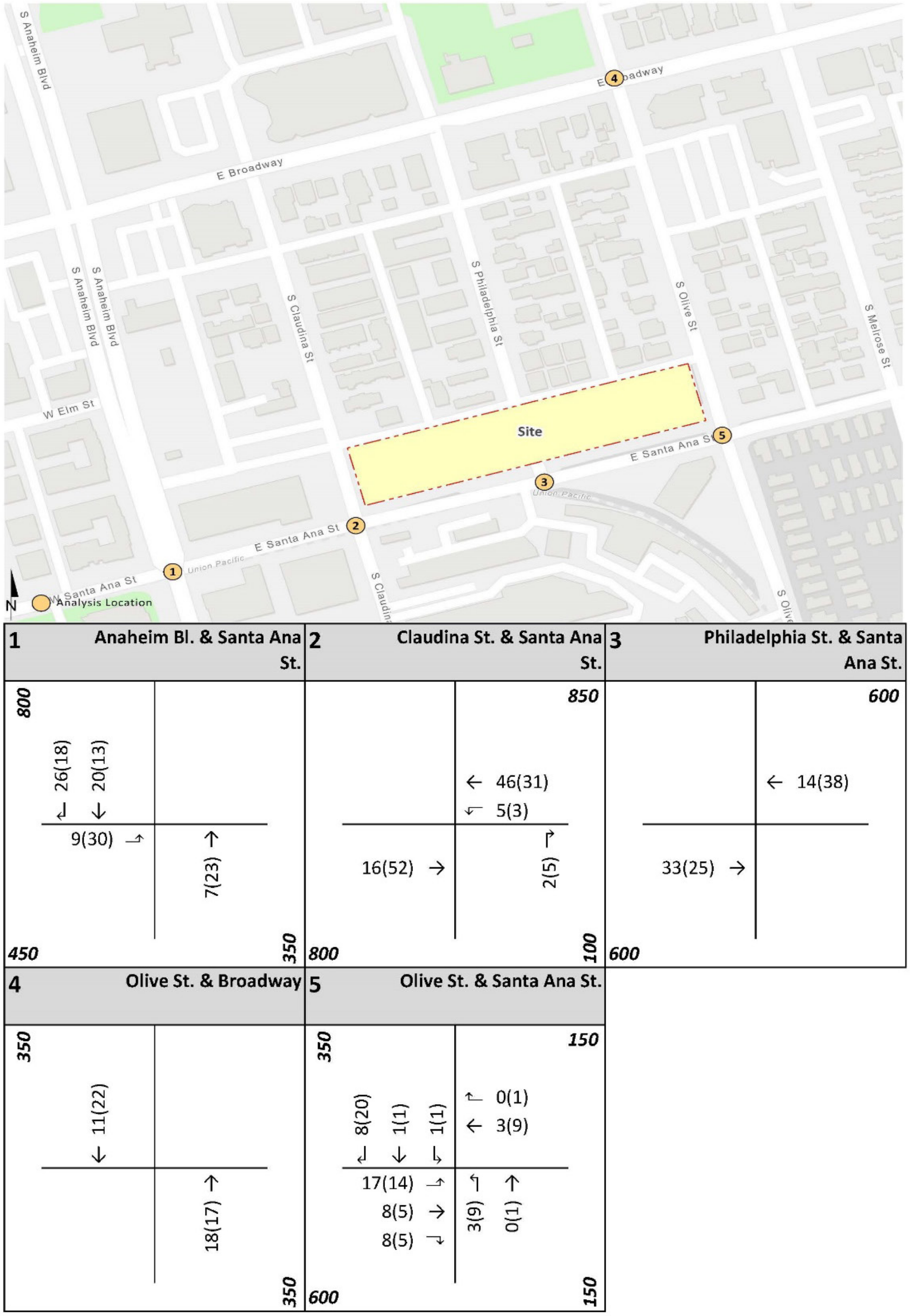


EXHIBIT 4-4: CUMULATIVE ONLY TRAFFIC VOLUMES


S Anaheim Blvd
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S Claudina St
S Philadelphia St
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S Melrose St
W Elm St
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E Santa Ana St
W Santa Ana St
Union Pacific
N
Analysis Location
1 Anaheim Bl. & Santa Ana St.
800
26(18)
20(13)
9(30)
7(23)
450
350
2 Claudina St. & Santa Ana St.
850
46(31)
5(3)
16(52)
2(5)
800
100
3 Philadelphia St. & Santa Ana St.
600
14(38)
33(25)
600
4 Olive St. & Broadway
350
11(22)
18(17)
350
5 Olive St. & Santa Ana St.
350
150
8(20)
1(1)
1(1)
0(1)
3(9)
17(14)
8(5)
8(5)
3(9)
0(1)
600
150

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

TABLE 4-3: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

No.	Project Name / Case Number	Land Use	Quantity	Units[1]	Status	Location
A1	Childtime 209 (DEV2019-00014)	Daycare	2.301	TSF	Pending	
A2	DEV2022-00054	Apartments	42	DU	Pending	811 W Romenya Dr.
A3	In-N-Out (DEV2022-00005)	Drive-Thru Restaurant	3.879	TSF	Pending	540 N Euclid St.
A4	DEV2019-00179	Apartments	43	DU	Approved	898 W Lincoln Av.
A5	DEV2019-00008	Insurance Agency	11.125	TSF	Pending	222 S Harbor Blvd 900
A6	DEV2019-00003	Brewery	11.232	TSF	Pending	405 W Center Street
A7	1272 E La Palma Apartments (DEV2020-00098)	Apartments	18	DU	Pending	1272 E La Palma Av.
A8	Sunkist Lincoln Townhomes (DEV2021-00180)	Townhomes	83	DU	Pending	2420 E Lincoln Av.
A9	DEV2020-00143	Retail Store	11.899	TSF	Pending	2230 E Lincoln Av.
A10	Pacific Resort Plaza (DEV2019-00161)	Hotel	120	Rooms	Pending	125 E. Ball Rd.
		Drive-Thru Restaurant	2.800	TSF		
A11	DEV2021-00064	Tilt-Up Warehouse	105.000	TSF	Pending	900 E Ball Rd.
A12	DEV2021-00123	Townhomes	187	DU	Pending	1200 S Anaheim Blvd
		Flats	36	DU		
		Commercial	4.586	TSF		
A13	Broadway Tower Apartments (DEV2019-00168)	Apartments	32	DU	Pending	122 W Broadway
A14	Anaheim A - Broadway Townhomes	Townhomes	34	DU	Pending	1661 W Broadway
A15	Alexan Center City (DEV2020-00146)	Apartments	11	DU	Approved	255 N Anaheim Blvd
A16	Starbucks (DEV2020-00083)	Coffee Shop w/ Drive-Thru	2.500	TSF	Approved	555 N Euclid St.
A17	Habitat for Humanity (DEV2022-00069)	Townhomes	24	DU	Pending	311 W. South St.
A18	Dutch Bros. Coffee (DEV2022-00066)	Coffee Shop w/ Drive-Thru	0.950	TSF	Pending	1425 E. Lincoln Av.
A19	McDonald's (DEV2022-00033)	Drive-Thru Restaurant		TSF	Pending	801 S. State College Bl.

[1] DU = Dwelling Units; TSF = Thousand Square Feet

4.7 NEAR-TERM TRAFFIC CONDITIONS

The "buildup" approach combines existing traffic counts with a background ambient growth factor to forecast Opening Year Cumulative (2027) traffic conditions. An ambient growth factor accounts for background (area-wide) traffic increases that occur over time up to the year 2027 from the year 2023. Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2027 roadway networks are similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project. The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Existing Plus Approved Plus Ambient Growth (2027) Conditions
    - Existing 2023 counts
    - Ambient growth traffic (4.06%)
    - Approved Cumulative Development Traffic
- Existing Plus Approved Plus Ambient Growth (2027) Plus Project Conditions
    - Existing 2023 counts
    - Ambient growth traffic (4.06%)
    - Approved Cumulative Development Traffic
    - Project traffic
- Future Conditions (2027) Without Project Conditions
    - Existing 2023 counts
    - Ambient growth traffic (4.06%)
    - Approved Cumulative Development Traffic
    - Pending Cumulative Development Traffic
- Future Conditions (2027) With Project Conditions
    - Existing 2023 counts
    - Ambient growth traffic (4.06%)
    - Approved Cumulative Development Traffic
    - Pending Cumulative Development Traffic
    - Project traffic

4.8 GENERAL PLAN BUILDOUT VOLUME DEVELOPMENT

Traffic projections for Horizon Year (2040) without Project conditions were derived from the ATAM using accepted procedures for model forecast refinement and smoothing for study area intersections located within the City of Anaheim. The traffic forecasts reflect the area-wide growth anticipated in the City's General Plan or implied by the City's Zoning Ordinance.

The General Plan Buildout Without Project peak hour turning movements were then reviewed by Urban Crossroads, Inc. for reasonableness, and in some cases, were adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes. Flow conservation checks ensure that traffic flow between two closely spaced intersections, such as two adjacent driveway locations, is verified in order to make certain that vehicles leaving one intersection are entering the adjacent intersection and that there is no unexplained loss of vehicles. The result of this traffic forecasting procedure is a series of traffic volumes which are suitable for traffic operations analysis. Project traffic was then added for all With Project traffic conditions. The long-range traffic forecasts were developed by the City's traffic consultant and are included in Appendix 4.1.

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5 EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Existing Plus Approved Plus Ambient Growth (2027) conditions and the resulting intersection operations and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Existing Plus Approved Plus Ambient Growth (2027) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Existing Plus Approved Plus Ambient Growth (2027) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.2 EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes with the application of a 4.06 percent growth adjustment factor plus the addition of traffic generated by approved cumulative development projects. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Existing Plus Approved Plus Ambient Growth (2027) traffic conditions are shown on Exhibit 5-1.

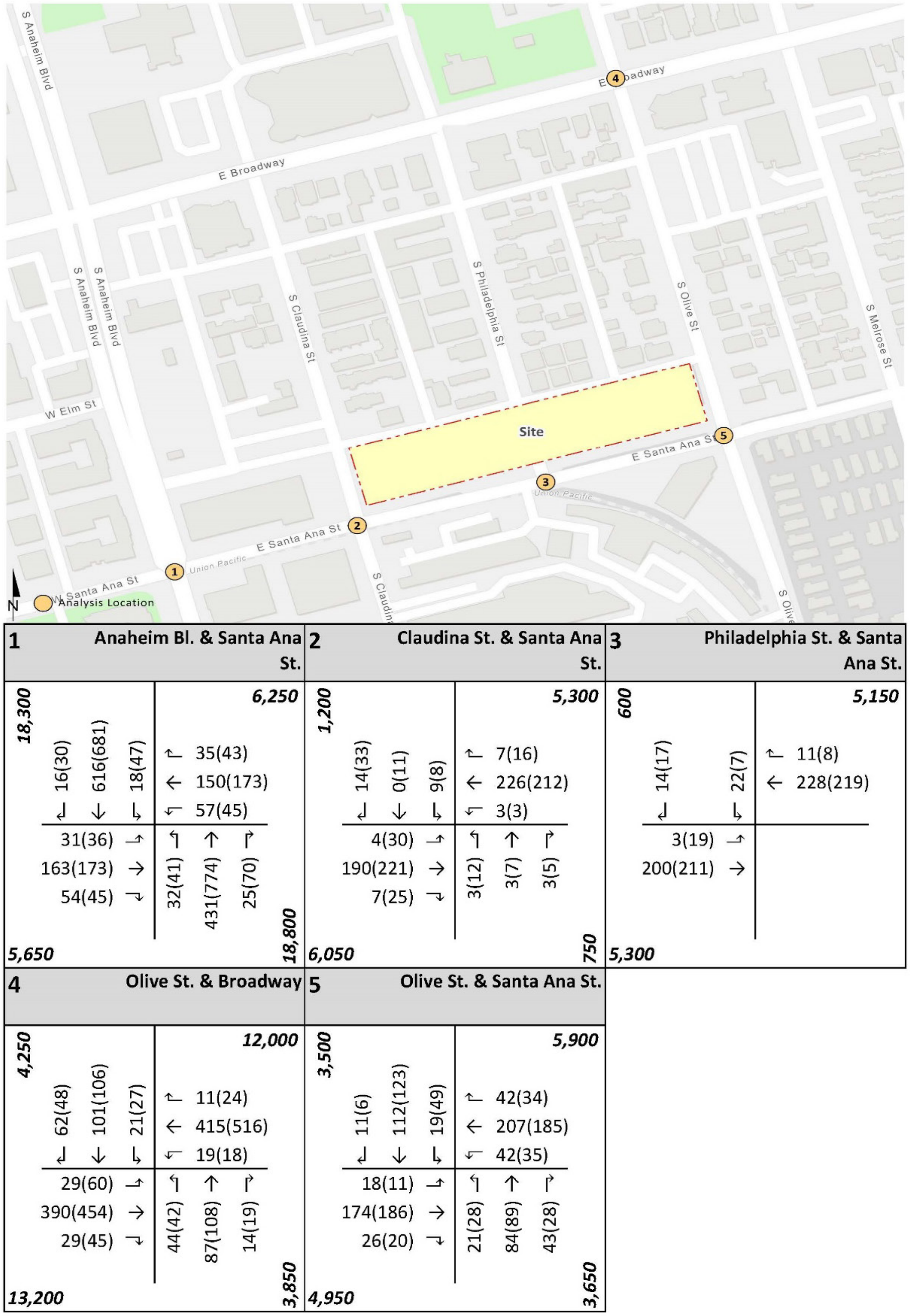
5.3 EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes with the application of a 4.06 percent growth adjustment factor plus the addition of traffic generated by approved cumulative development projects plus the addition of traffic generated by the proposed Project. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Existing Plus Approved Plus Ambient Growth (2027) Plus Project traffic conditions are shown on Exhibit 5-2.

5.4 INTERSECTION OPERATIONS ANALYSIS

Existing Plus Approved Plus Ambient Growth (2027) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1 for Existing Plus Approved Plus Ambient Growth (2027) traffic conditions, which indicates that the study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under both Existing Plus Approved Plus Ambient Growth (2027) and Existing Plus Approved Plus Ambient Growth (2027) Plus Project traffic conditions, consistent with Existing (2023) traffic conditions. The intersection operations analysis worksheets for Existing Plus Approved Plus Ambient Growth (2027) and Existing Plus Approved Plus Ambient Growth (2027) Plus Project traffic conditions are included in Appendices 5.1 and 5.2, respectively.

EXHIBIT 5-1: EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) TRAFFIC VOLUMES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18(11)
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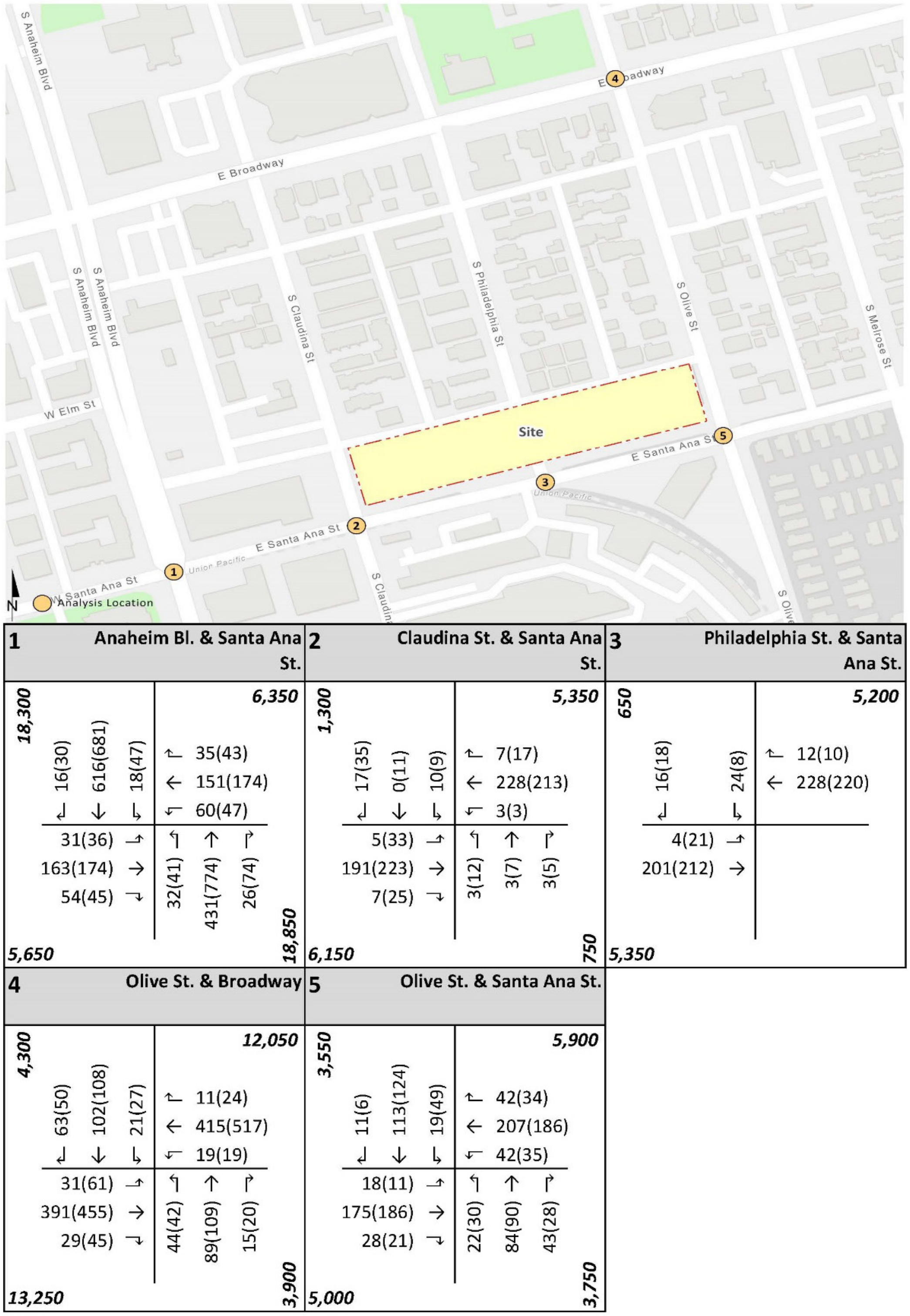
4,950
3,650

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 5-2: EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) PLUS PROJECT TRAFFIC VOLUMES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##(##) AM(PM) Peak Hour Intersection Volumes

***Average Daily Trips***

TABLE 5-1: INTERSECTION ANALYSIS FOR EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) PLUS PROJECT CONDITIONS

#	Intersection	Traffic Control[2]	Existing Plus Approved Plus Ambient Growth (2027) Delay[1] (secs.) AM	PM	Volume-to-Capacity (V/C) AM	PM	Level of Service AM	PM	Existing Plus Approved Plus Ambient Growth (2027) Plus Project Delay[1] (secs.) AM	PM	Volume-to-Capacity (V/C) AM	PM	Level of Service AM	PM	Project-Related Increase in V/C AM	PM
1	Anaheim Bl. & Santa Ana St.	TS	--[3]	--[3]	0.466	0.531	A	A	--[3]	--[3]	0.468	0.534	A	A	0.002	0.003
2	Claudina St. & Santa Ana St.	AWS	9.8	9.7	--[3]	--[3]	A	A	10.0	9.8	--[3]	--[3]	A	A	--	--
3	Philadelphia St. & Santa Ana St.	CSS	11.4	10.5	--[3]	--[3]	B	B	11.4	10.6	--[3]	--[3]	B	B	--	--
4	Olive St. & Broadway	TS	--[3]	--[3]	0.376	0.425	A	A	--[3]	--[3]	0.379	0.429	A	A	0.003	0.004
5	Olive St. & Santa Ana St.	AWS	11.8	11.2	--[3]	--[3]	B	B	11.9	11.3	--[3]	--[3]	B	B	--	--

1 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

2 TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop

3 Delay is only reported for unsignalized intersections; V/C is only reported for signalized intersections.

5.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for Existing Plus Approved Plus Ambient Growth (2027) and Existing Plus Approved Plus Ambient Growth (2027) Plus Project traffic conditions is based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. There are no unsignalized study area intersections anticipated to meet a traffic signal warrant under both Existing Plus Approved Plus Ambient Growth (2027) and Existing Plus Approved Plus Ambient Growth (2027) Plus Project traffic conditions (see Appendices 5.3 and 5.4).

5.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

All study area intersections are anticipated to operate at an acceptable LOS during the peak hours and the addition of Project-related traffic is not anticipated to meet the City's deficiency criteria based on the increase in V/C ratio. As such, no improvements have been identified.

6 FUTURE CONDITIONS (2027) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Future Conditions (2027) conditions and the resulting intersection operations and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Future Conditions (2027) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Future Conditions (2027) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

6.2 FUTURE CONDITIONS (2027) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes with the application of a 4.06 percent growth adjustment factor plus the addition of traffic generated by both pending and approved cumulative development projects. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Future Conditions (2027) Without Project traffic conditions are shown on Exhibit 6-1.

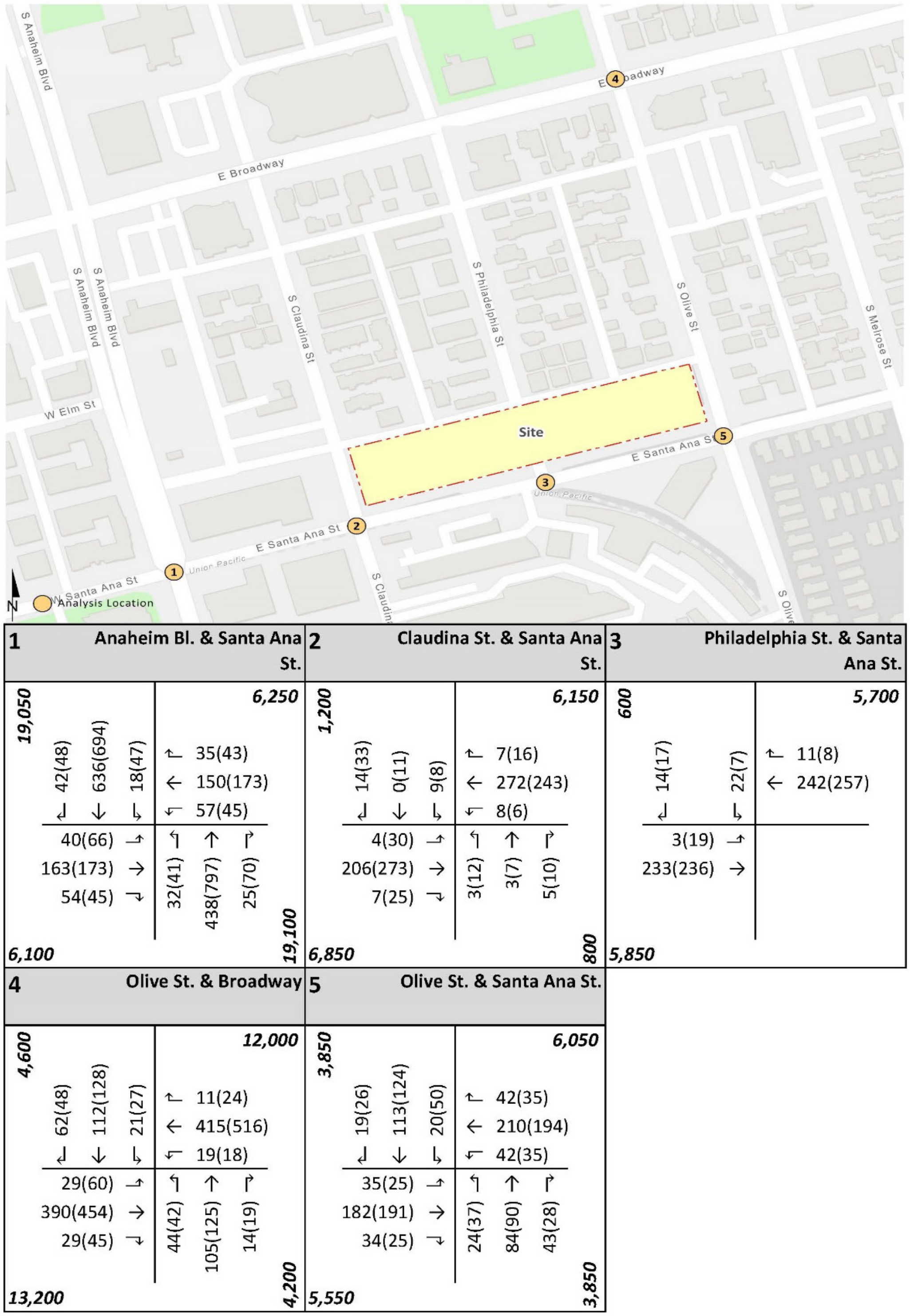
6.3 FUTURE CONDITIONS (2027) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes with the application of a 4.06 percent growth adjustment factor plus the addition of traffic generated by both pending and approved cumulative development projects plus the addition of traffic generated by the proposed Project. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Future Conditions (2027) With Project traffic conditions are shown on Exhibit 6-2.

6.4 INTERSECTION OPERATIONS ANALYSIS

Future Conditions (2027) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 6-1 for Future Conditions (2027) traffic conditions, which indicates that the study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under both Future Conditions (2027) Without Project and Future Conditions (2027) With Project traffic conditions, consistent with Existing (2023) traffic conditions. The intersection operations analysis worksheets for Future Conditions (2027) Without Project and With Project traffic conditions are included in Appendices 6.1 and 6.2, respectively.

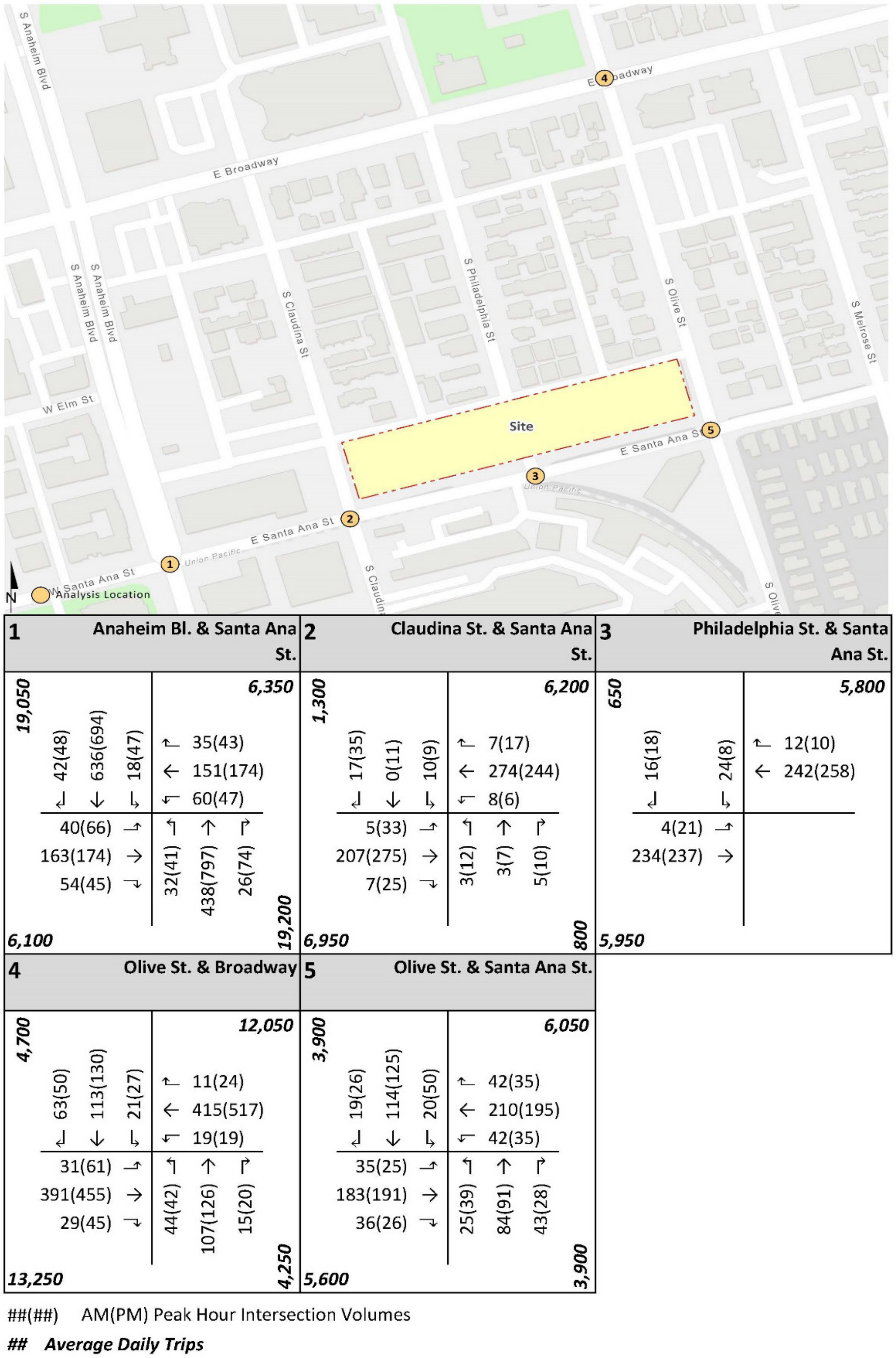
EXHIBIT 6-1: FUTURE CONDITIONS (2027) WITHOUT PROJECT TRAFFIC VOLUMES


S Anaheim Blvd
E Broadway
S Claudina St
S Philadelphia St
S Olive St
S Melrose St
W Elm St
Site
E Santa Ana St
W Santa Ana St
Union Pacific
N
Analysis Location
1 Anaheim Bl. & Santa Ana St.
19,050
6,250
42(48) 636(694) 18(47)
35(43)
150(173)
57(45)
40(66)
163(173)
54(45)
32(41) 438(797) 25(70)
6,100
19,100
2 Claudina St. & Santa Ana St.
1,200
6,150
14(33) 0(11) 9(8)
7(16)
272(243)
8(6)
4(30)
206(273)
7(25)
3(12) 3(7) 5(10)
6,850
800
3 Philadelphia St. & Santa Ana St.
600
5,700
14(17) 22(7)
11(8)
242(257)
3(19)
233(236)
5,850
4 Olive St. & Broadway
4,600
12,000
62(48) 112(128) 21(27)
11(24)
415(516)
19(18)
29(60)
390(454)
29(45)
44(42) 105(125) 14(19)
13,200
4,200
5 Olive St. & Santa Ana St.
3,850
6,050
19(26) 113(124) 20(50)
42(35)
210(194)
42(35)
35(25)
182(191)
34(25)
24(37) 84(90) 43(28)
5,550
3,850

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 6-2: FUTURE CONDITIONS (2027) WITH PROJECT TRAFFIC VOLUMES



S Anaheim Blvd
E Broadway
S Claudina St
S Philadelphia St
S Olive St
S Melrose St
W Elm St
Site
E Santa Ana St
W Santa Ana St
Union Pacific
N
Analysis Location
1 Anaheim Bl. & Santa Ana St.
19,050
6,350
42(48) 636(694) 18(47)
35(43)
151(174)
60(47)
40(66)
163(174)
54(45)
32(41) 438(797) 26(74)
6,100
19,200
2 Claudina St. & Santa Ana St.
1,300
6,200
17(35) 0(11) 10(9)
7(17)
274(244)
8(6)
5(33)
207(275)
7(25)
3(12) 3(7) 5(10)
6,950
800
3 Philadelphia St. & Santa Ana St.
650
5,800
16(18) 24(8)
12(10)
242(258)
4(21)
234(237)
5,950
4 Olive St. & Broadway
4,700
12,050
63(50) 113(130) 21(27)
11(24)
415(517)
19(19)
31(61)
391(455)
29(45)
44(42) 107(126) 15(20)
13,250
4,250
5 Olive St. & Santa Ana St.
3,900
6,050
19(26) 114(125) 20(50)
42(35)
210(195)
42(35)
35(25)
183(191)
36(26)
25(39) 84(91) 43(28)
5,600
3,900
##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

TABLE 6-1: INTERSECTION ANALYSIS FOR FUTURE CONDITIONS (2027) CONDITIONS

#	Intersection	Traffic Control[2]	Future Conditions (2027) Without Project						Future Conditions (2027) With Project						Project-Related Increase in V/C	
			Delay[1] (secs.)		Volume-to-Capacity (V/C)		Level of Service		Delay[1] (secs.)		Volume-to-Capacity (V/C)		Level of Service			
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Anaheim Bl. & Santa Ana St.	TS	--[3]	--[3]	0.479	0.549	A	A	--[3]	--[3]	0.481	0.550	A	A	0.002	0.001
2	Claudina St. & Santa Ana St.	AWS	10.6	10.6	--[3]	--[3]	B	B	10.7	10.6	--[3]	--[3]	B	B	--	--
3	Philadelphia St. & Santa Ana St.	CSS	11.7	10.9	--[3]	--[3]	B	B	11.8	11.0	--[3]	--[3]	B	B	--	--
4	Olive St. & Broadway	TS	--[3]	--[3]	0.383	0.438	A	A	--[3]	--[3]	0.385	0.441	A	A	0.002	0.003
5	Olive St. & Santa Ana St.	AWS	12.4	12.0	--[3]	--[3]	B	B	12.5	12.1	--[3]	--[3]	B	B	--	--

[1] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

[2] TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop

[3] Delay is only reported for unsignalized intersections; V/C is only reported for signalized intersections.

6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for Future Conditions (2027) Without Project and With Project traffic conditions is based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. There are no unsignalized study area intersections anticipated to meet a traffic signal warrant under both Future Conditions (2027) Without Project and With Project traffic conditions (see Appendices 6.3 and 6.4).

6.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

All study area intersections are anticipated to operate at an acceptable LOS during the peak hours and the addition of Project-related traffic is not anticipated to meet the City's deficiency criteria based on the increase in V/C ratio. As such, no improvements have been identified.

7 GENERAL BUILDOUT TRAFFIC CONDITIONS

This section discusses the methods used to develop General Plan Buildout traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for General Plan Buildout conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for General Plan Buildout conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- If applicable, driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for General Plan Buildout conditions only.
- Other parallel facilities, that although not evaluated for the purposes of this analysis, are anticipated to be in place for General Plan Buildout traffic conditions and would affect the travel patterns within the study area.

7.2 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the ATAM (see Section 4.8 *General Plan Buildout Volume Development* of this TA for additional discussion on the development of the long-range traffic forecasts). The weekday ADT and weekday peak hour volumes which can be expected for General Plan Buildout Without Project traffic conditions are shown on Exhibit 7-1.

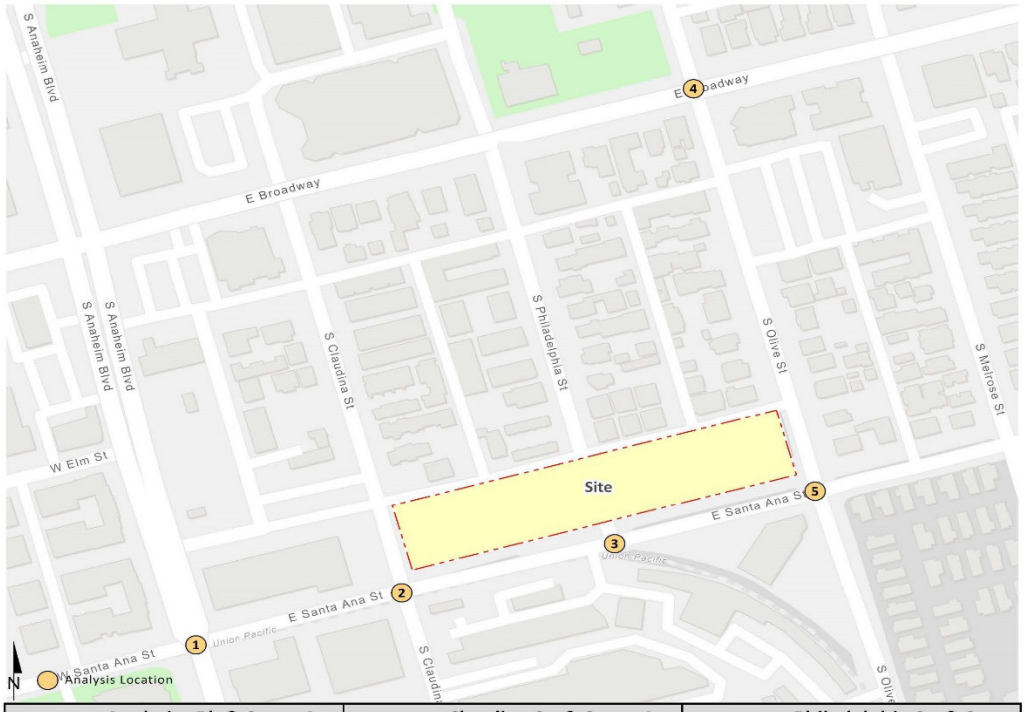
7.3 HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the ATAM plus traffic generated by the proposed Project. The weekday ADT and weekday peak hour volumes which can be expected for General Plan Buildout With Project traffic conditions are shown on Exhibit 7-2.

7.4 INTERSECTION OPERATIONS ANALYSIS

General Plan Buildout peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 7-1 for General Plan Buildout traffic conditions, which indicates that the study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under both General Plan Buildout Without Project and With Project traffic conditions, consistent with Existing (2023) traffic conditions. The intersection operations analysis worksheets for General Plan Buildout Without Project and With Project traffic conditions are included in Appendices 7.1 and 7.2, respectively.

EXHIBIT 7-1: GENERAL PLAN BUILDOUT WITHOUT PROJECT TRAFFIC VOLUMES



1 Anaheim Bl. & Santa Ana St.

								6,850
	46(91)	1521(1189)	28(52)				↱	69(47)
							←	165(190)
							↰	63(59)
	50(73)	↳	↰	→	↱			
	180(190)	→	35(58)	793(1830)	41(77)			
	60(49)	↲						
21,000						21,050		
6,700								

2 Claudina St. & Santa Ana St.

								6,750
	36(37)	11(15)	20(19)				↱	8(33)
							←	299(271)
							↰	9(10)
	5(40)	↳	↰	→	↱			
	230(300)	→	7(33)	4(8)	6(22)			
	8(27)	↲						
1,350						900		
7,550								

3 Philadelphia St. & Santa Ana St.

								6,300
	20(21)	38(8)					↰	17(10)
							←	271(284)
	5(21)	↳						
	256(260)	→						
650								
6,450								

4 Olive St. & Broadway

								13,200
	84(56)	220(141)	96(30)				↱	25(53)
							←	568(568)
							↰	77(40)
	32(66)	↳	↰	→	↱			
	978(756)	→	55(98)	116(138)	51(35)			
	32(51)	↲						
5,050						4,600		
14,550								

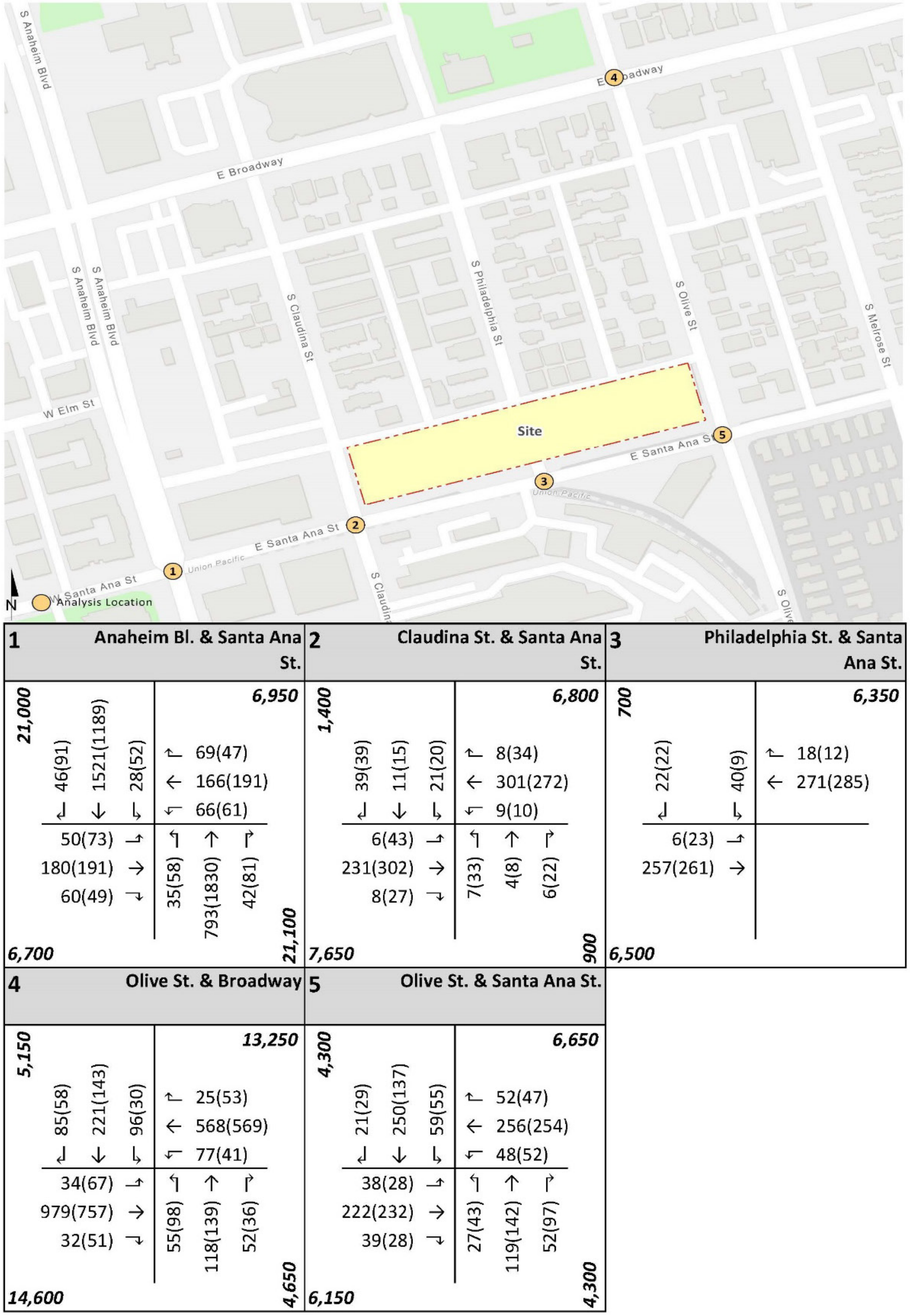
5 Olive St. & Santa Ana St.

								6,650
	21(29)	249(136)	59(55)				↱	52(47)
							←	256(253)
							↰	48(52)
	38(28)	↳	↰	→	↱			
	221(232)	→	26(41)	119(141)	52(97)			
	37(27)	↲						
4,250						4,200		
6,100								

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 7-2: GENERAL PLAN BUILDOUT WITH PROJECT TRAFFIC VOLUMES


S Anaheim Blvd
E Broadway
S Claudina St
S Philadelphia St
S Olive St
S Melrose St
W Elm St
Site
E Santa Ana St
Union Pacific
W Santa Ana St
N
Analysis Location
1 Anaheim Bl. & Santa Ana St.
21,000
6,950
46(91) 1521(1189) 28(52)
69(47)
166(191)
66(61)
50(73)
180(191)
60(49)
35(58) 793(1830) 42(81)
6,700
21,100
2 Claudina St. & Santa Ana St.
1,400
6,800
39(39) 11(15) 21(20)
8(34)
301(272)
9(10)
6(43)
231(302)
8(27)
7(33) 4(8) 6(22)
7,650
900
3 Philadelphia St. & Santa Ana St.
700
6,350
22(22) 40(9)
18(12)
271(285)
6(23)
257(261)
6,500
4 Olive St. & Broadway
5,150
13,250
85(58) 221(143) 96(30)
25(53)
568(569)
77(41)
34(67)
979(757)
32(51)
55(98) 118(139) 52(36)
14,600
4,650
5 Olive St. & Santa Ana St.
4,300
6,650
21(29) 250(137) 59(55)
52(47)
256(254)
48(52)
38(28)
222(232)
39(28)
27(43) 119(142) 52(97)
6,150
4,300

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

TABLE 7-1: INTERSECTION ANALYSIS FOR GENERAL PLAN BUILDOUT CONDITIONS

			General Plan Buildout Without Project						General Plan Buildout With Project						Project-Related Increase in V/C	
			Delay[1] (secs.)		Volume-to-Capacity (V/C)		Level of Service		Delay[1] (secs.)		Volume-to-Capacity (V/C)		Level of Service			
#	Intersection	Traffic Control[2]	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Anaheim Bl. & Santa Ana St.	TS	--[3]	--[3]	0.760	0.874	C	D	--[3]	--[3]	0.761	0.875	C	D	0.001	0.001
2	Claudina St. & Santa Ana St.	AWS	11.7	11.8	--[3]	--[3]	B	B	11.8	11.9	--[3]	--[3]	B	B	--	--
3	Philadelphia St. & Santa Ana St.	CSS	12.9	11.2	--[3]	--[3]	B	B	12.9	11.4	--[3]	--[3]	B	B	--	--
4	Olive St. & Broadway	TS	--[3]	--[3]	0.710	0.538	C	A	--[3]	--[3]	0.711	0.540	C	A	0.001	0.002
5	Olive St. & Santa Ana St.	AWS	29.4	20.0	--[3]	--[3]	D	C	29.9	20.3	--[3]	--[3]	D	C	--	--

[1] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

[2] TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop

[3] Delay is only reported for unsignalized intersections; V/C is only reported for signalized intersections.

7.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for General Plan Buildout Without Project and With Project traffic conditions is based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. There are no unsignalized study area intersections anticipated to meet a traffic signal warrant under both General Plan Buildout Without Project and With Project traffic conditions traffic conditions (see Appendices 7.3 and 7.4).

7.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

All study area intersections are anticipated to operate at an acceptable LOS during the peak hours and the addition of Project-related traffic is not anticipated to meet the City's deficiency criteria based on the increase in V/C ratio. As such, no improvements have been identified.

8 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Anaheim are funded through a combination of construction of improvements, development impact fee programs or fair share contributions, such as the City of Anaheim Transportation Impact and Improvement Fee (**TIIF**) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

8.1 CITY OF ANAHEIM TRANSPORTATION IMPACT AND IMPROVEMENT FEE PROGRAM

The Project will also be subject to City of Anaheim's TIIF program which includes a component for streets, traffic signals, and bridges. This program aims to mitigate the additional traffic burdens created by new development to the City's arterial and collector street system. A transportation fee will be imposed on all new development in the City to finance the costs of street improvements, including widening and reconstruction, new traffic signals, street landscaping, intersection improvements, and freeway interchange improvements.

8.2 FAIR SHARE CONTRIBUTION

Project improvement may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City's discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases.

Based on the results of the TA, there are no off-site improvements identified and fair share contribution is not applicable.

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9 REFERENCES

1. **City of Anaheim.** *Criteria for Preparation of Traffic Impact Studies.* City of Anaheim : s.n.
2. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.
3. **Orange County Transportation Commission.** *2021 Orange County Congestion Management Program.* County of Orange : s.n., November 2021.
4. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
5. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014, Updated March 30, 2021 (Revision 6).

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APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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MEMORANDUM

URBAN | CROSSROADS

DATE: July 3, 2023
TO: Rafael Cobian, City of Anaheim
FROM: Charlene So, Urban Crossroads
JOB NO: 15477-03 TA Scope

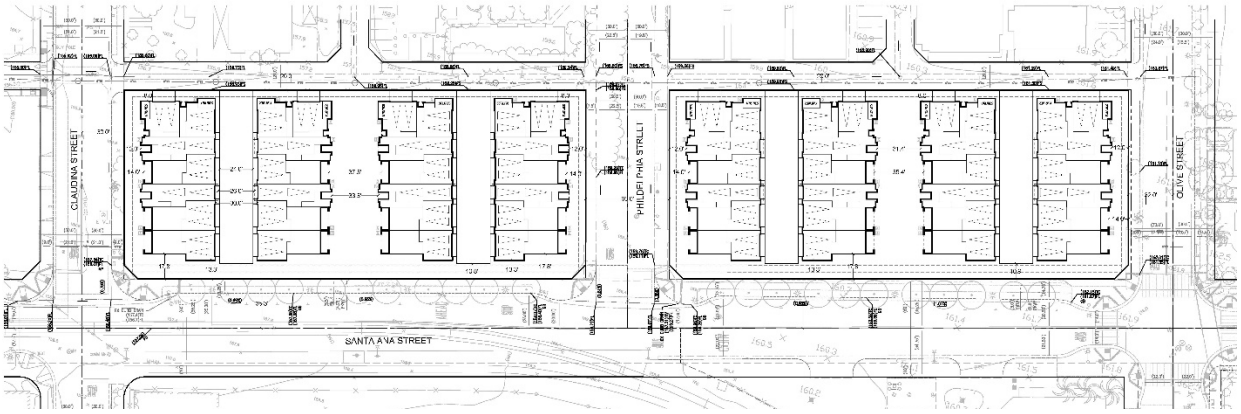
THE MILL TRAFFIC STUDY SCOPING AGREEMENT

Urban Crossroads, Inc. is pleased to submit this scoping letter to the City of Anaheim regarding the proposed The Mill development (**Project**), which is located 275 E. Santa Ana Street in the City of Anaheim. Our goal is to obtain comments from City of Anaheim staff, to ensure that the traffic analysis fully addresses the potential deficiencies of the proposed Project. The remainder of this letter describes the draft proposed analysis methodology, project trip generation, trip distribution, and project traffic assignment/project trips on the surrounding roadway network, which have been used to establish the draft proposed project study area and analysis locations. The following scope of work is consistent with the City of Anaheim's Criteria for Preparation of Traffic Impact Studies (**City Guidelines**).

PROPOSED PROJECT

The existing site was formerly a lumberyard but is no longer in operation (no tenant) but is occupied by 40,644 square feet of warehousing/light industrial building space. It is our understanding that the Project would redevelop the site and replace the existing structures with 56 multifamily (low-rise) residential dwelling units. Ten percent (10%) of the units will be affordable. Access to the Project site will be provided via the alley on the north side of the Project. The alley intersects with Claudina Street, Philadelphia Street, and Olive Street and all intersections are assumed to have full access (no turn restrictions). A preliminary site plan is shown on Exhibit 1. The Project will be developed within a single phase for the purposes of the Traffic Analysis with an anticipated opening year of 2027.

EXHIBIT 1: PRELIMINARY SITE PLAN



TRIP GENERATION

Trip generation rates for the proposed uses are shown on Table 1. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual (11th Edition, 2021). For purposes of the trip generation assessment, ITE land use code for Multifamily Housing (Low-Rise, 2-3 Floors) and Affordable Housing have been used for the proposed Project (see Table 1).

TABLE 1: ITE TRIP GENERATION RATES

Land Use[1]	ITE LU Code	Units[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Multifamily (Low-Rise) Residential	220	DU	0.10	0.30	0.40	0.32	0.19	0.51	6.74
Affordable Housing	223	DU	0.10	0.26	0.36	0.27	0.19	0.46	4.81

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] DU = Dwelling Units

The site is currently vacant (no tenant) but is occupied by 40,644 square feet of warehousing/light industrial building space. The proposed Project will redevelop the site to replace the existing general light industrial uses with 56 multifamily (low-rise) residential dwelling units (of which 6 dwelling units are affordable). The Project is proposing a General Plan Amendment to increase the currently adopted Land Use designation for the site (Low-Medium Density Residential which allows 0-18.0 dwelling units to the acre) to Medium Density Residential. In order to conduct a conservative analysis, no trip credit has been taken for the existing use.

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 2 based on the trip generation rates previously identified on Table 1. As shown on Table 2, the proposed Project is anticipated to generate 368 two-way trips per day with 23 AM peak hour trips and 28 PM peak hour trips.

TABLE 2: PROJECT TRIP GENERATION SUMMARY

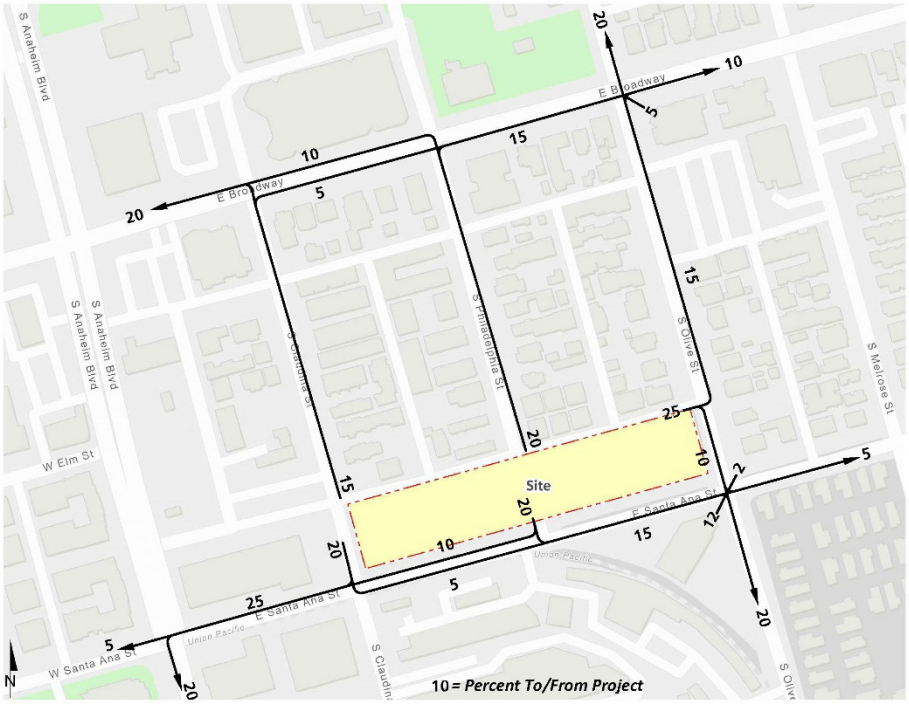
Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Multifamily (Low-Rise) Residential	50	DU	5	15	20	16	9	25	338
Affordable Housing	6	DU	1	2	3	2	1	3	30
Total			**6**	**17**	**23**	**18**	**10**	**28**	**368**

[1] DU = Dwelling Units

TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding land uses, and the proximity to the regional freeway system. Exhibit 2 illustrates the trip distribution patterns for the proposed Project.

EXHIBIT 2: PROJECT TRIP DISTRIBUTION



ANALYSIS SCENARIOS

The following analysis scenarios will be analyzed for this traffic study, consistent with the City's guidelines (for projects processing a General Plan Amendment):

- Existing (2022)
- Existing Plus Approved Plus Ambient Growth (2026): Cumulative existing traffic conditions plus all developments within the study area which have not yet been constructed but have been approved through a discretionary action or building permit issuance. This alternative corresponds to the no project alternative for purposes of an EIR.
- Existing Plus Approved Plus Ambient Growth Plus Project (2026)
- Future Conditions Without Project (2026): Short-Range Impact Analysis (3–7-year horizon) without project
- Future Conditions With Project
- General Plan Buildout Without Project: Buildout of all developments anticipated in the City's General Plan or implied by the City's Zoning Ordinance. ATAM Year 2025 or later projections shall be utilized for this purpose.
- General Plan Buildout With Project

General Plan Buildout traffic forecasts will be derived from the latest Anaheim Transportation Analysis Model (ATAM). Project traffic will then be manually added for General Plan Buildout With Project traffic conditions.

METHODOLOGY

Capacity analysis will be conducted using the Intersection Capacity Utilization (ICU) for all signalized intersections and the Highway Capacity Manual (HCM, 6th Edition) methodology for unsignalized intersections. Per the City's Guidelines, the minimum clearance interval of 0.05 will be used in conjunction with a lane capacity of 1,700 per hour green time for through and turn lanes.

STUDY AREA

The study area limits have been set based upon preliminary discussions with City staff as the Project would contribute fewer than 50 peak hour project trips to any off-site study area intersection. The proposed intersection analysis locations have been identified on Exhibit 3 and listed in Table 3.

EXHIBIT 3: STUDY AREA

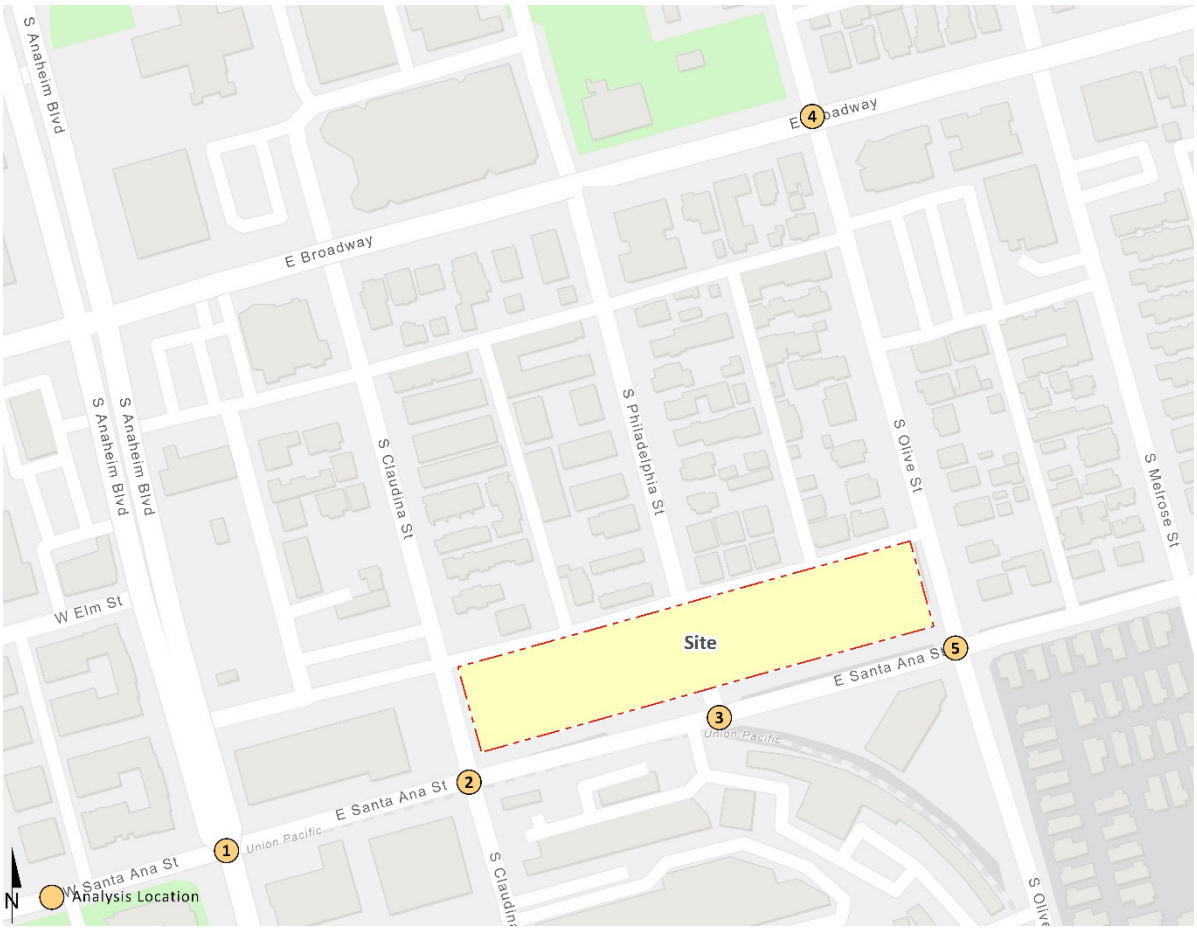


TABLE 3: LIST OF STUDY INTERSECTIONS

#	Intersection
1	Anaheim Bl. & E. Santa Ana St.
2	Claudina St. & E. Santa Ana St.
3	Philadelphia St. & E. Santa Ana St.
4	Olive St. & E. Broadway
5	Olive St. & E. Santa Ana St.

The intersections of Anaheim Boulevard at E. Santa Ana Avenue and Olive Street at E. Broadway are General Plan intersections.

EXISTING COUNT DATA

Traffic counts were already conducted on May 9, 2023, when local schools were open and operating on normal bell schedules. No additional adjustments are proposed for the purpose of establishing the existing baseline conditions (except for adjustments needed for volume balancing).

AMBIENT GROWTH

Consistent with other City of Anaheim traffic studies performed by Urban Crossroads, an ambient growth rate of 1 percent per year, compounded annually, will be used for this analysis (1% per year over 4 years or 4.06%).

LEVEL OF SERVICE (LOS) CRITERIA

The City's Growth Management Element requires a volume/capacity (v/c) ratio of 0.90 (Level of Service or LOS D) shall be the lowest acceptable LOS at intersections following implementation of improvements. Intersection improvement sufficient to bring intersections and roadway segments to acceptable service levels must be identified. In order to maintain LOS D at intersections, arterial links should be maintained to LOS C or better.

A transportation impact on an intersection shall be deemed significant in accordance with the following table (per the City's Guidelines):

LOS	Final v/c Ratio	Project-Related Increase in v/c
C	> 0.701-0.800	≥ 0.050
D	> 0.801-0.900	≥ 0.030
E, F	> 0.901	≥ 0.010

CUMULATIVE PROJECTS

It is requested that the City provide a list of cumulative projects in the immediate vicinity with applicable land use and intensity information for inclusion in our traffic study. We will also coordinate with the City of Corona to obtain a current list of cumulative projects.

SPECIAL ISSUES

The following special issues will also be addressed:

- *Traffic Signal Warrant Analysis*: Traffic signal warrant analysis will be performed for all full-access unsignalized study area intersections utilizing the California MUTCD peak-hour warrants for existing intersections, and the Caltrans daily (Planning level) warrant for new intersections.
- *Vehicle Miles Traveled (VMT)*: A VMT analysis will be prepared under separate cover.

If you have any questions or comments, I can be reached at cso@urbanxroads.com.

APPENDIX 1.2: SITE ADJACENT QUEUING ANALYSIS WORKSHEETS

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Intersection: 2: Claudina St. & E. Santa Ana St.

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	31	104	31	77	31	58
Average Queue (ft)	4	50	6	47	11	28
95th Queue (ft)	22	82	26	71	34	51
Link Distance (ft)		399		327	502	784
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	90		55			
Storage Blk Time (%)		0		2		
Queuing Penalty (veh)		0		0		

Intersection: 3: E. Santa Ana St. & Philadelphia St.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	37	84
Average Queue (ft)	3	32
95th Queue (ft)	18	61
Link Distance (ft)	327	791
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Olive St. & E. Santa Ana St.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	127	186	103	151
Average Queue (ft)	61	76	51	74
95th Queue (ft)	103	133	85	121
Link Distance (ft)	340	319	524	773
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection: 2: Claudina St. & E. Santa Ana St.

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	80	130	31	90	67	64
Average Queue (ft)	26	66	9	50	31	31
95th Queue (ft)	56	103	32	79	54	51
Link Distance (ft)		399		327	502	784
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	90		55			
Storage Blk Time (%)		1		4		
Queuing Penalty (veh)		1		0		

Intersection: 3: E. Santa Ana St. & Philadelphia St.

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	46	5	37
Average Queue (ft)	7	0	19
95th Queue (ft)	30	3	44
Link Distance (ft)	327	340	791
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Olive St. & E. Santa Ana St.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	98	153	133	110
Average Queue (ft)	57	76	63	58
95th Queue (ft)	86	122	101	94
Link Distance (ft)	340	319	524	773
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 1

APPENDIX 3.1: TRAFFIC COUNTS – MAY 2023

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INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 9, 23

LOCATION: Anaheim
NORTH & SOUTH: Anaheim
EAST & WEST: Santa Ana

PROJECT #: SC4018
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — N ▲ / ◄ W / E ► / S ▼

Add U-Turns to Left Turns

		NORTHBOUND Anaheim			SOUTHBOUND Anaheim			EASTBOUND Santa Ana			WESTBOUND Santa Ana			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
AM	7:00 AM	7	48	5	3	113	8	4	36	8	8	27	4	271
	7:15 AM	9	92	5	4	163	4	9	34	13	17	34	7	391
	7:30 AM	9	94	4	5	166	4	8	39	13	14	35	11	402
	7:45 AM	6	129	8	4	142	6	8	47	16	8	46	8	428
	8:00 AM	7	99	7	4	121	1	5	37	10	16	29	8	344
	8:15 AM	3	97	3	5	134	2	2	33	15	13	29	8	344
	8:30 AM	3	100	6	1	117	2	1	25	8	5	30	6	304
	8:45 AM	6	100	9	3	112	2	7	25	6	12	22	7	311
	VOLUMES	50	759	47	29	1,068	29	44	276	89	93	252	59	2,795
	APPROACH %	6%	89%	5%	3%	95%	3%	11%	67%	22%	23%	62%	15%	
	APP/DEPART	856	/	865	1,126	/	1,254	409	/	349	404	/	327	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	31	414	24	17	592	15	30	157	52	55	144	34	1,565
	APPROACH %	7%	88%	5%	3%	95%	2%	13%	66%	22%	24%	62%	15%	
	PEAK HR FACTOR		0.820			0.891			0.842			0.940		0.914
	APP/DEPART	469	/	481	624	/	700	239	/	195	233	/	189	0
PM	4:00 PM	8	165	10	13	150	9	11	31	17	8	34	12	468
	4:15 PM	11	179	12	12	146	6	7	50	10	7	35	14	489
	4:30 PM	17	181	11	9	146	8	10	46	9	9	47	11	504
	4:45 PM	7	187	10	10	179	3	7	45	10	13	40	11	522
	5:00 PM	7	193	22	16	150	7	11	40	12	15	41	9	523
	5:15 PM	8	183	24	10	179	11	7	35	12	6	38	10	523
	5:30 PM	13	192	15	8	126	7	11	32	6	12	28	9	459
	5:45 PM	13	161	11	15	128	9	3	42	5	13	27	13	440
	VOLUMES	84	1,441	115	93	1,204	60	67	321	81	83	290	89	3,928
	APPROACH %	5%	88%	7%	7%	89%	4%	14%	68%	17%	18%	63%	19%	
	APP/DEPART	1,640	/	1,607	1,357	/	1,381	469	/	519	462	/	421	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	39	744	67	45	654	29	35	166	43	43	166	41	2,072
	APPROACH %	5%	88%	8%	6%	90%	4%	14%	68%	18%	17%	66%	16%	
	PEAK HR FACTOR		0.957			0.910			0.938			0.933		0.990
	APP/DEPART	850	/	825	728	/	748	244	/	273	250	/	226	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
1	1	0	0	2
1	0	0	0	1
1	0	0	0	1
1	0	0	0	1
4	3	0	0	7
0	0	0	0	0
0	3	0	0	3
5	0	0	0	5
1	2	0	0	3
2	1	0	0	3
0	2	0	0	2
2	1	0	0	3
3	1	0	0	4
13	10	0	0	23

RTOR

NRR	SRR	ERR	WRR
0	0	2	2
1	1	2	2
1	0	2	3
0	1	3	4
0	0	2	2
0	0	3	2
0	0	2	1
2	0	2	1
4	2	18	17
2	2	9	11
2	3	8	2
2	2	2	6
3	0	2	1
0	0	2	1
2	1	2	2
1	1	6	1
1	1	2	3
0	1	1	3
11	9	25	19
6	2	12	5

Anaheim

NORTH SIDE

Santa Ana WEST SIDE EAST SIDE **Santa Ana**

SOUTH SIDE

Anaheim

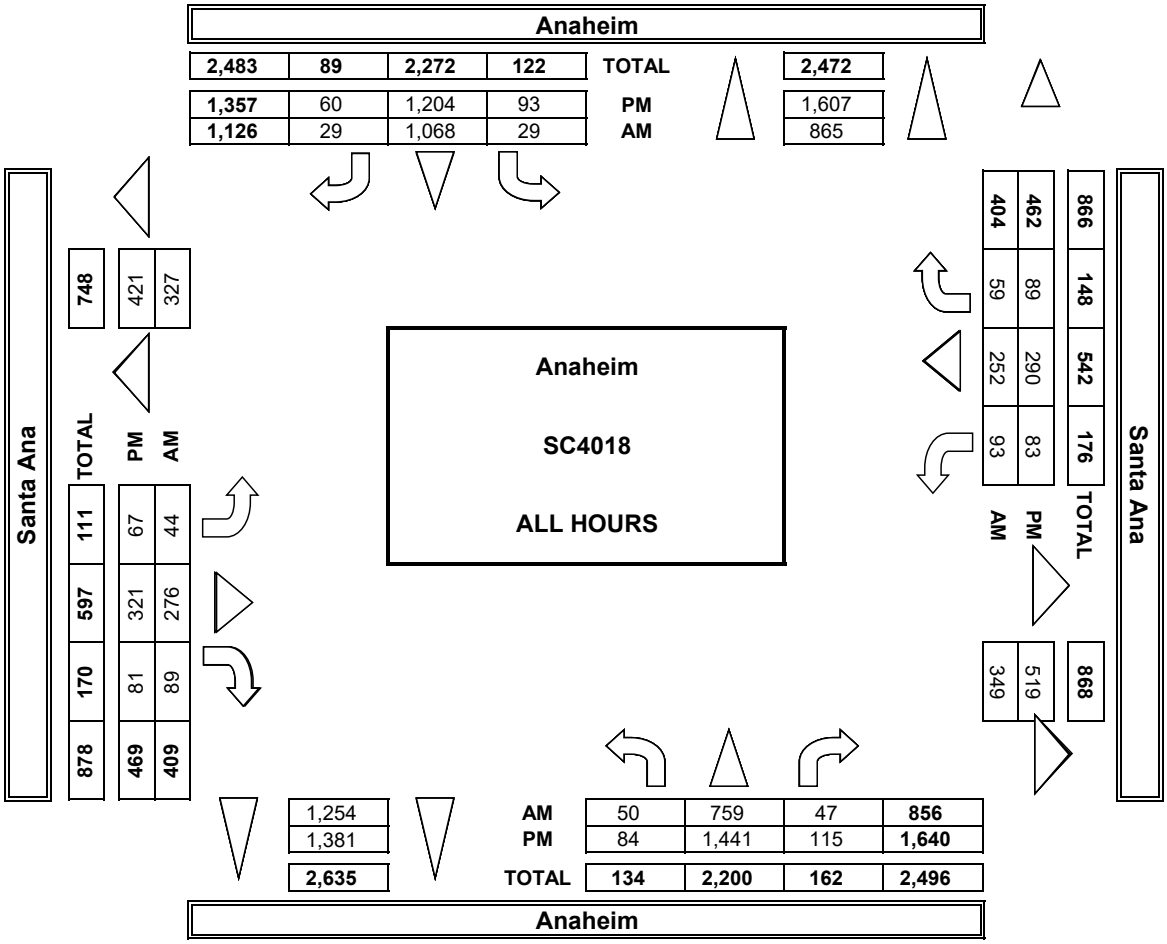
		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	2	1	1	2	6
	7:15 AM	1	0	1	0	2
	7:30 AM	1	1	1	0	3
	7:45 AM	4	2	1	0	7
	8:00 AM	0	3	1	0	4
	8:15 AM	2	2	4	1	9
	8:30 AM	4	0	3	0	7
	8:45 AM	1	0	1	2	4
	TOTAL	15	9	13	5	42
PM	4:00 PM	4	8	1	10	23
	4:15 PM	6	5	3	1	15
	4:30 PM	5	8	3	1	17
	4:45 PM	7	4	3	0	14
	5:00 PM	6	4	4	6	20
	5:15 PM	6	2	2	3	13
	5:30 PM	6	5	1	2	14
	5:45 PM	7	4	2	6	19
	TOTAL	47	40	19	29	135

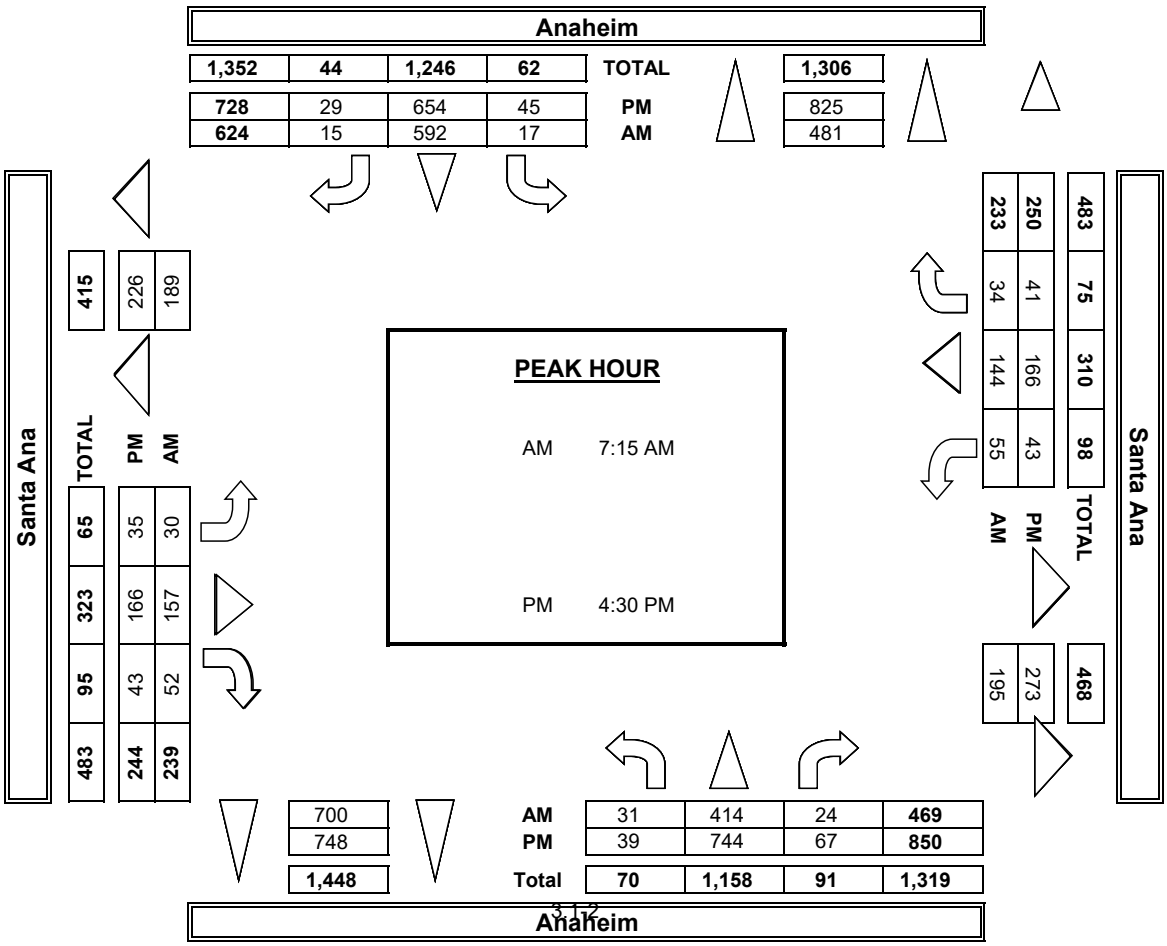
	PEDESTRIAN CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	1	1	0	2	4
7:15 AM	0	0	0	0	0
7:30 AM	1	1	0	0	2
7:45 AM	3	0	1	0	4
8:00 AM	0	2	1	0	3
8:15 AM	1	1	2	1	5
8:30 AM	3	0	3	0	6
8:45 AM	1	0	1	1	3
TOTAL	10	5	8	4	27
4:00 PM	2	6	1	10	19
4:15 PM	4	3	2	0	9
4:30 PM	5	6	3	0	14
4:45 PM	4	2	3	0	9
5:00 PM	4	2	4	4	14
5:15 PM	6	1	1	1	9
5:30 PM	6	2	0	2	10
5:45 PM	6	3	2	4	15
TOTAL	37	25	16	21	99

	BICYCLE CROSSINGS				
	ES	WS	SS	NS	TOTAL
7:00 AM	1	0	1	0	2
7:15 AM	1	0	1	0	2
7:30 AM	0	0	1	0	1
7:45 AM	1	2	0	0	3
8:00 AM	0	1	0	0	1
8:15 AM	1	1	2	0	4
8:30 AM	1	0	0	0	1
8:45 AM	0	0	0	1	1
TOTAL	5	4	5	1	15
4:00 PM	2	2	0	0	4
4:15 PM	2	2	1	1	6
4:30 PM	0	2	0	1	3
4:45 PM	3	2	0	0	5
5:00 PM	2	2	0	2	6
5:15 PM	0	1	1	2	4
5:30 PM	0	3	1	0	4
5:45 PM	1	1	0	2	4
TOTAL	10	15	3	8	36

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 9, 23

LOCATION: Anaheim
NORTH & SOUTH: Claudina
EAST & WEST: Santa Ana

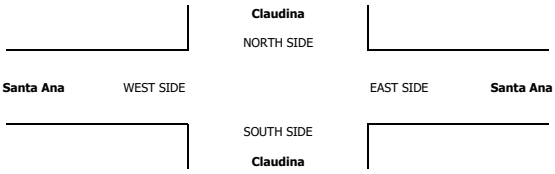
PROJECT #: SC4018
LOCATION #: 2
CONTROL: STOP ALL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

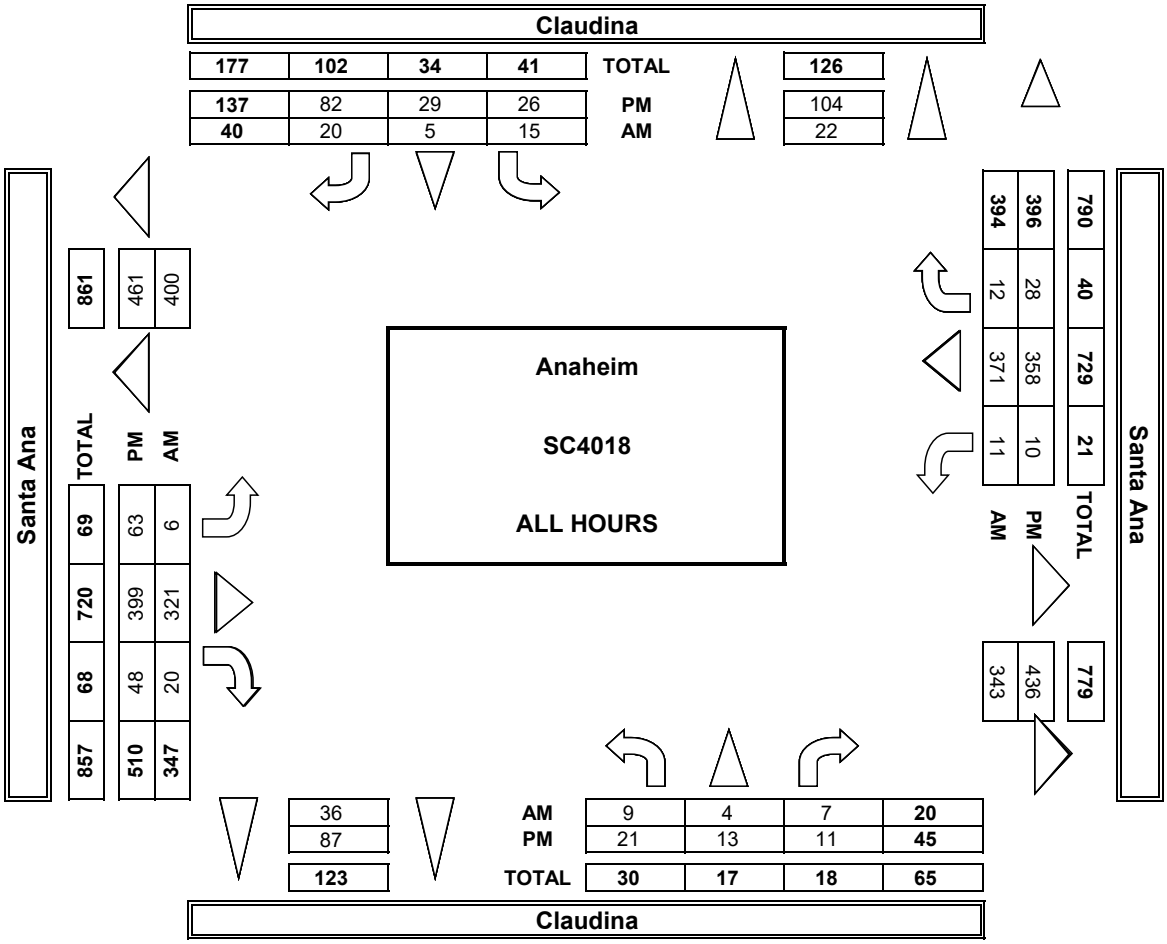
		NORTHBOUND Claudina			SOUTHBOUND Claudina			EASTBOUND Santa Ana			WESTBOUND Santa Ana				U-TURNS					RTOR			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR X	SRR X	ERR X	WRR X
AM	7:00 AM	0	0	0	4	4	3	0	41	1	3	33	2	91	0	0	0	0	0	0	0	0	0
	7:15 AM	1	2	1	3	0	4	0	38	2	0	61	5	117	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	1	2	0	3	1	49	0	0	53	0	110	0	0	0	0	0	0	0	0	0
	7:45 AM	0	1	1	1	0	1	2	57	2	2	65	2	134	0	0	0	0	0	0	0	0	0
	8:00 AM	1	0	0	3	0	5	1	39	3	1	38	0	91	0	0	0	0	0	0	0	0	0
	8:15 AM	2	0	2	0	1	1	0	33	3	1	40	3	86	0	0	0	0	0	0	0	0	0
	8:30 AM	1	0	0	2	0	1	0	33	3	3	40	0	83	0	0	0	0	0	0	0	0	0
	8:45 AM	3	1	2	0	0	2	2	31	6	1	41	0	89	0	0	0	0	0	0	0	0	0
	VOLUMES	9	4	7	15	5	20	6	321	20	11	371	12	801	0	0	0	0	0	0	0	0	0
	APPROACH %	45%	20%	35%	38%	13%	50%	2%	93%	6%	3%	94%	3%										
	APP/DEPART	20	/	22	40	/	36	347	/	343	394	/	400	0									
	BEGIN PEAK HR		7:00 AM																				
	VOLUMES	3	3	3	9	0	13	4	183	7	3	217	7	452						0	0	0	0
	APPROACH %	33%	33%	33%	41%	0%	59%	2%	94%	4%	1%	96%	3%										
	PEAK HR FACTOR		0.563			0.500			0.795			0.822		0.843									
	APP/DEPART	9	/	14	22	/	10	194	/	195	227	/	233	0									
PM	4:00 PM	3	2	0	8	5	12	1	50	4	1	40	3	129	0	0	0	0	0	0	0	0	0
	4:15 PM	5	0	1	3	2	6	8	54	6	0	52	6	143	0	0	0	0	0	0	0	0	0
	4:30 PM	1	3	2	0	6	8	6	50	7	2	55	6	146	0	0	0	0	0	0	0	0	0
	4:45 PM	2	1	1	2	2	9	7	50	5	0	50	1	130	0	0	0	0	0	0	0	0	0
	5:00 PM	4	3	1	3	1	9	8	58	6	1	47	2	143	0	0	0	0	0	0	0	0	0
	5:15 PM	2	2	2	7	1	8	12	49	4	4	46	2	139	0	0	0	0	0	0	0	0	0
	5:30 PM	2	2	2	0	5	9	9	41	4	1	38	4	117	0	0	0	0	0	0	0	0	0
	5:45 PM	2	0	2	3	7	21	12	47	12	1	30	4	141	0	0	0	0	0	0	0	0	0
	VOLUMES	21	13	11	26	29	82	63	399	48	10	358	28	1,088	0	0	0	0	0	0	0	0	0
	APPROACH %	47%	29%	24%	19%	21%	60%	12%	78%	9%	3%	90%	7%										
	APP/DEPART	45	/	104	137	/	87	510	/	436	396	/	461	0									
	BEGIN PEAK HR		4:15 PM																				
	VOLUMES	12	7	5	8	11	32	29	212	24	3	204	15	562						0	0	0	0
	APPROACH %	50%	29%	21%	16%	22%	63%	11%	80%	9%	1%	92%	7%										
	PEAK HR FACTOR		0.750			0.911			0.920			0.881		0.962									
	APP/DEPART	24	/	51	51	/	38	265	/	225	222	/	248	0									

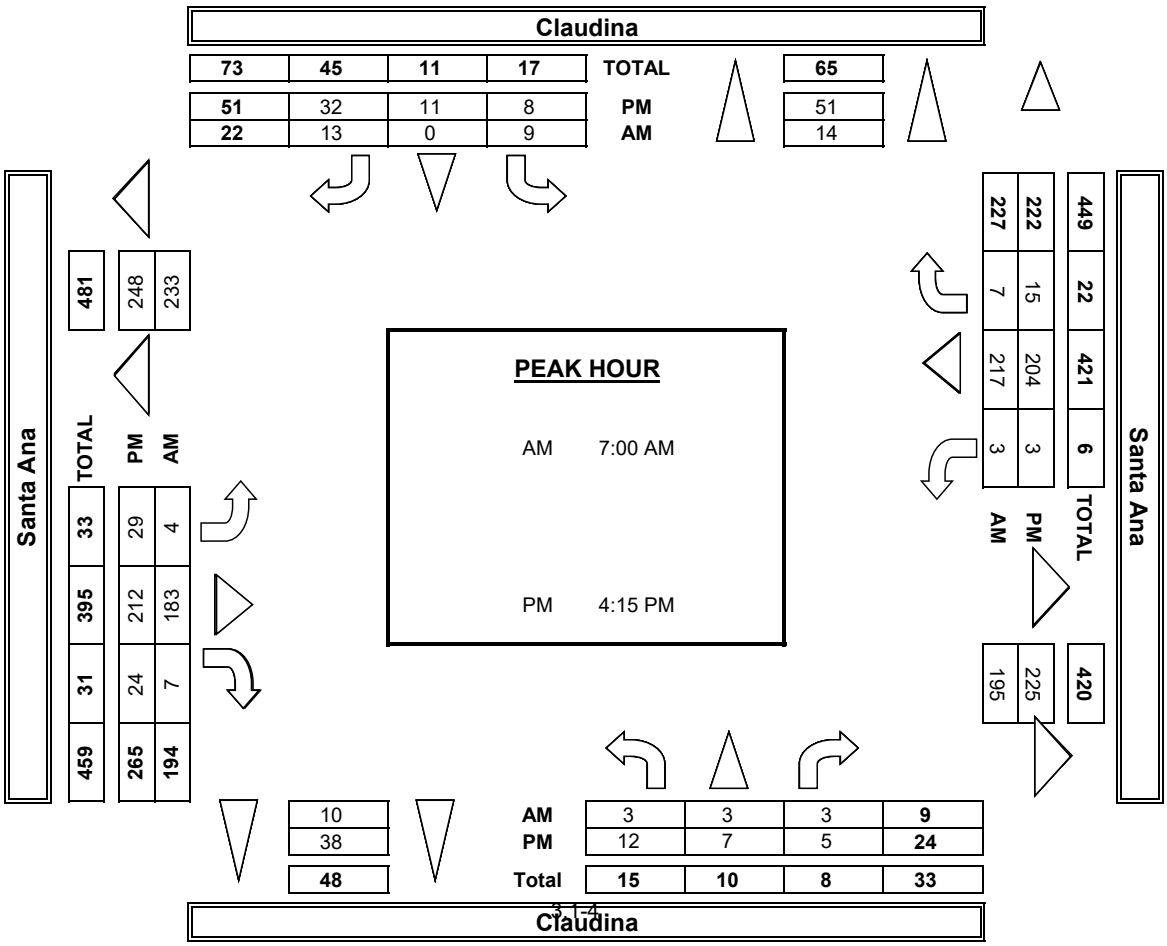


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	1	1	0	1	3	1	1	0	1	3	0	0	0	0	0
	7:15 AM	0	0	1	1	2	0	0	0	1	1	0	0	1	0	1
	7:30 AM	1	1	1	1	4	1	0	0	1	2	0	1	1	0	2
	7:45 AM	0	2	1	0	3	0	2	1	0	3	0	0	0	0	0
	8:00 AM	0	1	2	2	5	0	1	2	2	5	0	0	0	0	0
	8:15 AM	2	6	4	3	15	2	5	3	2	12	0	1	1	1	3
	8:30 AM	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0
	8:45 AM	0	3	0	3	6	0	3	0	2	5	0	0	0	1	1
	TOTAL	4	15	10	11	40	2	3	1	3	33	0	1	2	0	7
PM	4:00 PM	2	15	0	9	26	2	15	0	9	26	0	0	0	0	0
	4:15 PM	0	5	1	1	7	0	5	0	1	6	0	0	1	0	1
	4:30 PM	0	14	0	4	18	0	14	0	2	16	0	0	0	2	2
	4:45 PM	4	7	1	0	12	4	7	1	0	12	0	0	0	0	0
	5:00 PM	4	10	0	2	16	4	10	0	2	16	0	0	0	0	0
	5:15 PM	6	13	0	2	21	6	12	0	1	19	0	1	0	1	2
	5:30 PM	11	10	1	10	32	11	10	0	10	31	0	0	1	0	1
	5:45 PM	1	31	0	4	36	1	31	0	3	35	0	0	0	1	1
	TOTAL	28	105	3	32	168	8	36	1	5	161	0	0	1	2	7

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Anaheim	PROJECT #:	SC4018
Tue, May 9, 23	NORTH & SOUTH:	Philadelhia	LOCATION #:	3
	EAST & WEST:	Santa Ana	CONTROL:	STOP S

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND Philadelhia			SOUTHBOUND Philadelhia			EASTBOUND Santa Ana			WESTBOUND Santa Ana			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:00 AM	0	0	0	1	0	3	0	43	1	0	35	1	84
AM	7:15 AM	0	0	0	8	0	5	2	41	1	1	59	2	119
AM	7:30 AM	0	0	0	6	0	2	0	52	0	0	56	7	123
AM	7:45 AM	0	0	1	6	0	1	0	56	0	1	63	0	128
AM	8:00 AM	0	1	0	1	0	5	1	43	0	0	41	2	94
AM	8:15 AM	0	0	0	1	0	5	0	33	1	0	38	1	79
AM	8:30 AM	0	0	0	0	0	3	1	34	0	0	39	0	77
AM	8:45 AM	0	0	0	0	0	2	1	30	2	0	39	1	75
AM	VOLUMES	0	1	1	23	0	26	5	332	5	2	370	14	779
AM	APPROACH %	0%	50%	50%	47%	0%	53%	1%	97%	1%	1%	96%	4%	
AM	APP/DEPART	2	/	20	49	/	7	342	/	356	386	/	396	0
AM	BEGIN PEAK HR		7:15 AM											
AM	VOLUMES	0	1	1	21	0	13	3	192	1	2	219	11	464
AM	APPROACH %	0%	50%	50%	62%	0%	38%	2%	98%	1%	1%	94%	5%	
AM	PEAK HR FACTOR		0.500			0.654			0.875			0.906		0.906
AM	APP/DEPART	2	/	15	34	/	3	196	/	214	232	/	232	0
PM	4:00 PM	0	0	0	0	0	2	3	60	0	0	42	2	109
PM	4:15 PM	0	0	1	3	0	5	4	50	1	0	52	2	118
PM	4:30 PM	0	0	0	1	0	4	5	50	0	0	60	2	122
PM	4:45 PM	0	0	0	1	0	7	4	51	0	0	45	2	110
PM	5:00 PM	0	0	0	2	0	0	5	52	0	0	53	2	114
PM	5:15 PM	0	0	0	2	0	5	3	51	0	0	46	2	109
PM	5:30 PM	0	0	0	3	0	2	2	42	0	0	38	2	89
PM	5:45 PM	0	0	0	4	0	1	7	40	0	0	37	3	92
PM	VOLUMES	0	0	1	16	0	26	33	396	1	0	373	17	863
PM	APPROACH %	0%	0%	100%	38%	0%	62%	8%	92%	0%	0%	96%	4%	
PM	APP/DEPART	1	/	49	42	/	1	430	/	413	390	/	400	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	0	0	1	7	0	16	18	203	1	0	210	8	464
PM	APPROACH %	0%	0%	100%	30%	0%	70%	8%	91%	0%	0%	96%	4%	
PM	PEAK HR FACTOR		0.250			0.719			0.974			0.879		0.951
PM	APP/DEPART	1	/	26	23	/	1	222	/	211	218	/	226	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES	0	0	0	0		X	X	X	X
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	1	0	0	0	0
VOLUMES	0	0	1	0	1	0	0	0	0
PEAK HR VOLUMES						0	0	0	0

Philadelhia

NORTH SIDE

Santa Ana WEST SIDE EAST SIDE **Santa Ana**

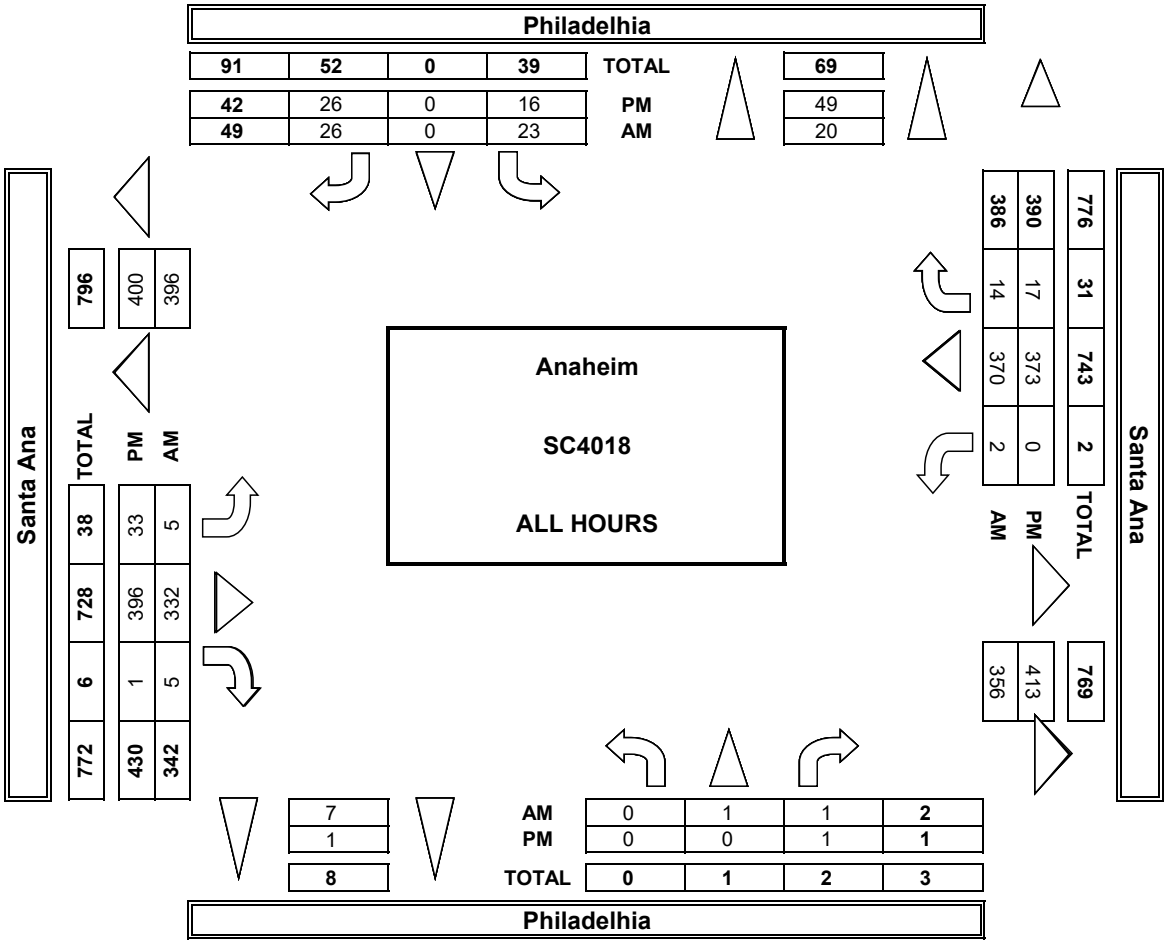
SOUTH SIDE

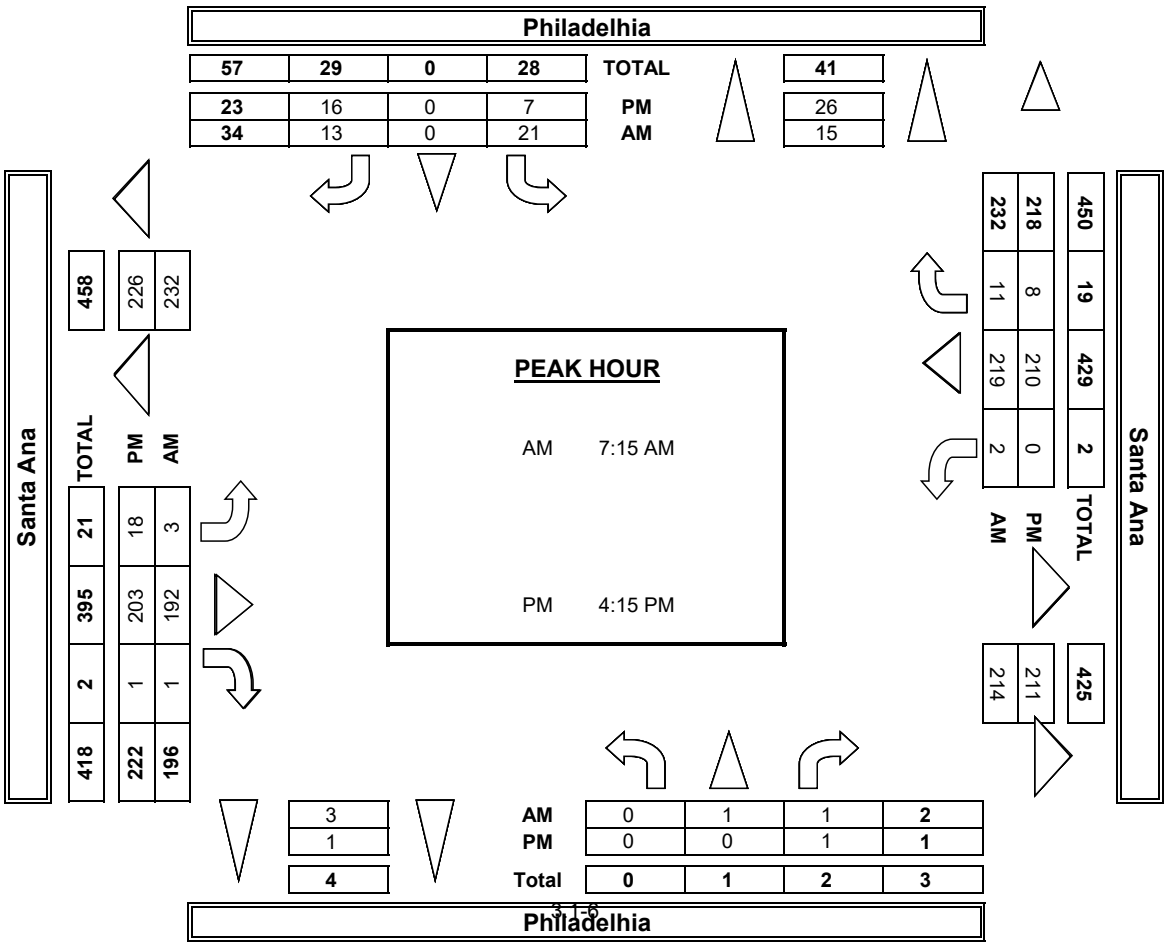
Philadelhia

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1
AM	7:15 AM	1	0	0	1	2	1	0	0	1	2	0	0	0	0	0
AM	7:30 AM	0	0	2	1	3	0	0	0	1	1	0	0	2	0	2
AM	7:45 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
AM	8:00 AM	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0
AM	8:15 AM	1	1	5	6	13	1	1	3	5	10	0	0	2	1	3
AM	8:30 AM	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0
AM	8:45 AM	0	0	0	4	4	0	0	0	3	3	0	0	0	1	1
	TOTAL	2	1	9	18	30	1	0	1	5	23	0	0	2	0	7
PM	4:00 PM	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0
PM	4:15 PM	0	0	3	0	3	0	0	2	0	2	0	0	1	0	1
PM	4:30 PM	0	0	2	2	4	0	0	1	1	2	0	0	1	1	2
PM	4:45 PM	0	2	0	3	5	0	2	0	3	5	0	0	0	0	0
PM	5:00 PM	0	1	1	3	5	0	1	1	3	5	0	0	0	0	0
PM	5:15 PM	0	0	1	5	6	0	0	1	5	6	0	0	0	0	0
PM	5:30 PM	0	0	3	4	7	0	0	3	4	7	0	0	0	0	0
PM	5:45 PM	0	3	0	3	6	0	3	0	2	5	0	0	0	1	1
	TOTAL	0	6	10	23	39	0	3	4	7	35	0	0	2	1	4

AimTD LLC

TURNING MOVEMENT COUNTS





T816

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Anaheim	PROJECT #:	SC4018
Tue, May 9, 23	NORTH & SOUTH:	Olive	LOCATION #:	4
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N — ◄ W — E ► — S ▼

Add U-Turns to Left Turns

		NORTHBOUND Olive			SOUTHBOUND Olive			EASTBOUND Broadway			WESTBOUND Broadway		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	1	2	0	1	2	0	
AM	7:00 AM	10	14	3	2	17	19	6	59	7	9	81	3	230
AM	7:15 AM	10	15	6	9	40	17	7	86	7	3	81	1	282
AM	7:30 AM	9	20	0	6	18	12	7	84	4	5	99	1	265
AM	7:45 AM	13	25	5	2	18	21	6	109	9	2	107	4	321
AM	8:00 AM	10	24	2	3	21	10	8	96	8	8	112	5	307
AM	8:15 AM	12	28	1	3	13	15	2	100	8	1	85	0	268
AM	8:30 AM	6	15	1	7	32	21	6	77	8	0	70	2	245
AM	8:45 AM	10	18	0	3	4	11	8	83	5	2	62	3	209
AM	VOLUMES	80	159	18	35	163	126	50	694	56	30	697	19	2,127
AM	APPROACH %	31%	62%	7%	11%	50%	39%	6%	87%	7%	4%	93%	3%	
AM	APP/DEPART	257	/	228	324	/	249	800	/	747	746	/	903	0
AM	BEGIN PEAK HR		7:15 AM											
AM	VOLUMES	42	84	13	20	97	60	28	375	28	18	399	11	1,175
AM	APPROACH %	30%	60%	9%	11%	55%	34%	6%	87%	6%	4%	93%	3%	
AM	PEAK HR FACTOR		0.808			0.670			0.869			0.856		0.915
AM	APP/DEPART	139	/	123	177	/	143	431	/	408	428	/	501	0
PM	4:00 PM	9	22	2	6	31	10	21	117	7	5	105	2	337
PM	4:15 PM	9	18	2	5	24	13	15	98	14	13	115	7	333
PM	4:30 PM	14	17	7	11	30	13	10	100	7	2	124	2	337
PM	4:45 PM	3	16	4	6	28	12	11	96	9	9	125	4	323
PM	5:00 PM	4	16	5	10	29	12	15	121	9	3	120	4	348
PM	5:15 PM	12	29	5	4	27	10	15	112	10	4	122	7	357
PM	5:30 PM	14	25	5	8	24	12	12	110	11	5	123	5	354
PM	5:45 PM	10	34	3	4	22	12	16	93	13	5	131	7	350
PM	VOLUMES	75	177	33	54	215	94	115	847	80	46	965	38	2,739
PM	APPROACH %	26%	62%	12%	15%	59%	26%	11%	81%	8%	4%	92%	4%	
PM	APP/DEPART	285	/	327	363	/	341	1,042	/	934	1,049	/	1,137	0
PM	BEGIN PEAK HR		5:00 PM											
PM	VOLUMES	40	104	18	26	102	46	58	436	43	17	496	23	1,409
PM	APPROACH %	25%	64%	11%	15%	59%	26%	11%	81%	8%	3%	93%	4%	
PM	PEAK HR FACTOR		0.862			0.853			0.926			0.937		0.987
PM	APP/DEPART	162	/	185	174	/	162	537	/	480	536	/	582	0

		U-TURNS					RTOR			
		NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
		0	0	0	0		0	0	0	0
AM	7:00 AM	0	0	0	0	0	1	11	2	1
AM	7:15 AM	0	0	0	0	0	2	7	1	0
AM	7:30 AM	0	0	0	0	0	0	3	0	0
AM	7:45 AM	0	0	0	0	0	0	6	0	0
AM	8:00 AM	0	0	0	0	0	1	3	3	0
AM	8:15 AM	0	0	0	0	0	0	6	1	0
AM	8:30 AM	0	0	0	0	0	0	7	2	1
AM	8:45 AM	0	0	0	0	0	0	1	2	0
AM	VOLUMES	0	0	0	0	0	4	44	11	2
AM	PEAK HR VOLUMES						3	19	4	0
PM	4:00 PM	0	0	0	0	0	1	0	2	0
PM	4:15 PM	0	0	3	0	3	1	3	1	0
PM	4:30 PM	0	0	0	0	0	4	4	3	0
PM	4:45 PM	0	0	0	0	0	1	4	1	0
PM	5:00 PM	0	0	0	0	0	2	3	1	0
PM	5:15 PM	0	0	0	0	0	1	7	2	0
PM	5:30 PM	0	0	0	0	0	2	3	2	0
PM	5:45 PM	0	0	0	0	0	1	5	1	1
PM	VOLUMES	0	0	3	0	3	13	29	13	1
PM	PEAK HR VOLUMES						6	18	6	1

Olive

NORTH SIDE

Broadway WEST SIDE EAST SIDE **Broadway**

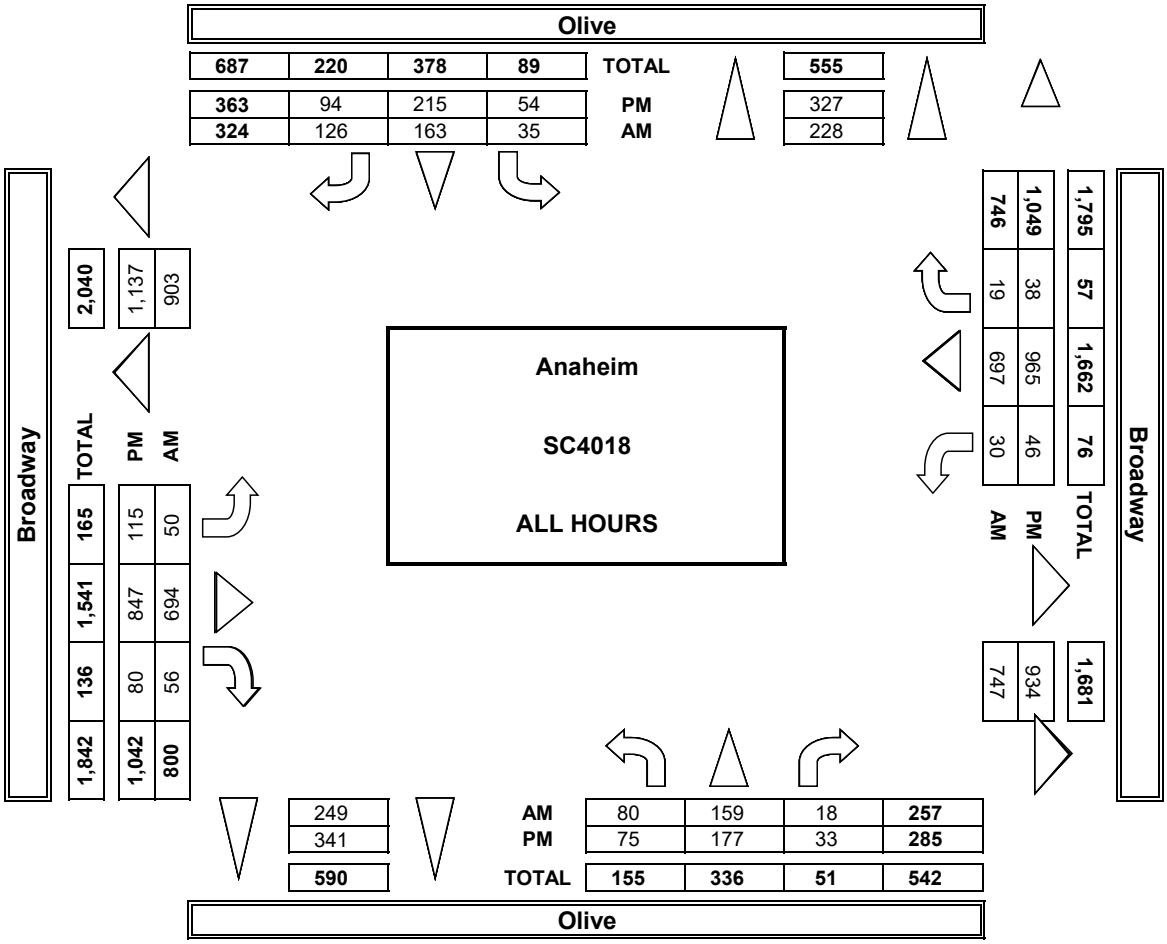
SOUTH SIDE

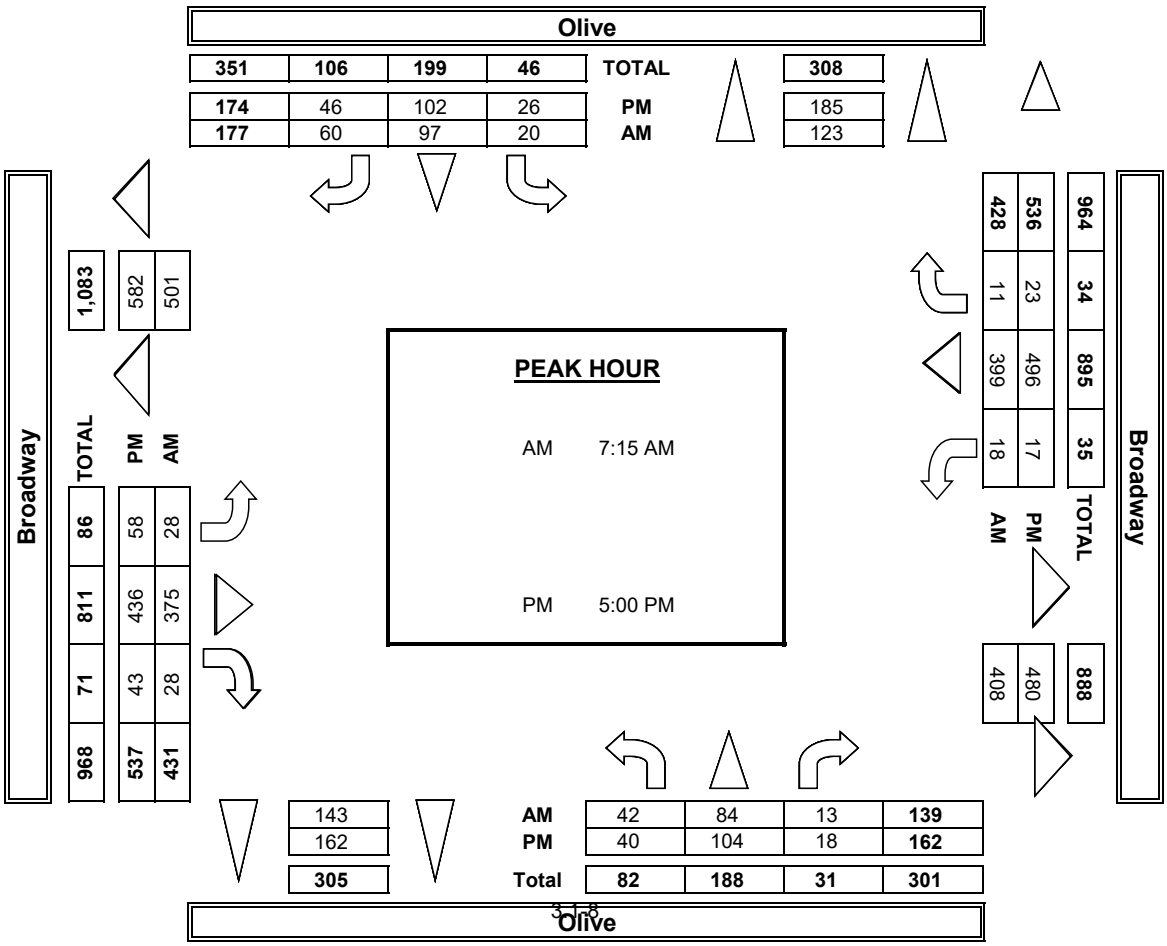
Olive

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	2	2	2	6	0	2	2	1	5	0	0	0	1	1
AM	7:15 AM	1	3	0	1	5	1	3	0	1	5	0	0	0	0	0
AM	7:30 AM	1	3	2	0	6	1	2	2	0	5	0	1	0	0	1
AM	7:45 AM	1	0	1	3	5	1	0	1	3	5	0	0	0	0	0
AM	8:00 AM	0	3	3	4	10	0	2	1	2	5	0	1	2	2	5
AM	8:15 AM	2	2	1	4	9	2	2	1	4	9	0	0	0	0	0
AM	8:30 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
AM	8:45 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
AM	TOTAL	5	13	9	17	44	3	7	4	6	37	0	2	2	2	7
PM	4:00 PM	1	4	5	3	13	0	4	4	1	9	1	0	1	2	4
PM	4:15 PM	0	7	3	0	10	0	5	3	0	8	0	2	0	0	2
PM	4:30 PM	1	4	4	20	29	1	3	3	20	27	0	1	1	0	2
PM	4:45 PM	0	3	3	1	7	0	2	2	0	4	0	1	1	1	3
PM	5:00 PM	5	5	2	5	17	4	4	2	4	14	1	1	0	1	3
PM	5:15 PM	1	3	5	1	10	1	2	4	1	8	0	1	1	0	2
PM	5:30 PM	2	1	5	3	11	1	0	5	3	9	1	1	0	0	2
PM	5:45 PM	1	3	4	4	12	1	2	3	4	10	0	1	1	0	2
	TOTAL	11	30	31	37	109	7	8	14	12	89	2	4	2	1	20

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Anaheim	PROJECT #:	SC4018
Tue, May 9, 23	NORTH & SOUTH:	Olive	LOCATION #:	5
	EAST & WEST:	Santa Ana	CONTROL:	STOP ALL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

	NORTHBOUND Olive			SOUTHBOUND Olive			EASTBOUND Santa Ana			WESTBOUND Santa Ana			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	0	1	2	0	
AM													
7:00 AM	2	16	6	0	29	2	5	35	4	8	33	5	145
7:15 AM	6	23	18	3	44	4	2	35	11	17	49	7	219
7:30 AM	8	17	11	6	22	4	5	47	5	8	50	8	191
7:45 AM	4	19	5	3	22	2	6	55	6	8	60	11	201
8:00 AM	2	22	7	6	20	1	4	30	3	7	40	14	156
8:15 AM	3	20	7	8	21	0	2	35	1	8	36	6	147
8:30 AM	2	16	6	6	10	2	1	30	3	5	34	12	127
8:45 AM	1	13	3	11	26	2	2	26	2	2	36	4	128
VOLUMES	28	146	63	43	194	17	27	293	35	63	338	67	1,314
APPROACH %	12%	62%	27%	17%	76%	7%	8%	83%	10%	13%	72%	14%	
APP/DEPART	237	/	240	254	/	292	355	/	399	468	/	383	0
BEGIN PEAK HR		7:15 AM											
VOLUMES	20	81	41	18	108	11	17	167	25	40	199	40	767
APPROACH %	14%	57%	29%	13%	79%	8%	8%	80%	12%	14%	71%	14%	
PEAK HR FACTOR		0.755			0.672			0.780			0.883		0.876
APP/DEPART	142	/	138	137	/	173	209	/	226	279	/	230	0
PM													
4:00 PM	4	19	12	9	34	0	2	51	9	13	42	12	207
4:15 PM	8	17	6	14	28	2	2	44	4	8	44	8	185
4:30 PM	9	26	5	15	23	3	4	41	5	7	52	8	198
4:45 PM	6	24	4	9	33	1	3	43	1	6	40	5	175
5:00 PM	3	10	7	9	18	3	5	42	7	3	54	7	168
5:15 PM	6	26	7	11	30	2	5	43	3	7	42	8	190
5:30 PM	5	24	11	16	21	3	2	41	5	7	32	11	178
5:45 PM	0	17	7	3	23	1	1	37	7	10	41	4	151
VOLUMES	41	163	59	86	210	15	24	342	41	61	347	63	1,452
APPROACH %	16%	62%	22%	28%	68%	5%	6%	84%	10%	13%	74%	13%	
APP/DEPART	263	/	250	311	/	312	407	/	487	471	/	403	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	27	86	27	47	118	6	11	179	19	34	178	33	765
APPROACH %	19%	61%	19%	27%	69%	4%	5%	86%	9%	14%	73%	13%	
PEAK HR FACTOR		0.875			0.972			0.843			0.914		0.924
APP/DEPART	140	/	130	171	/	171	209	/	253	245	/	211	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES:	0	0	0	0		X	X	X	X
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0

Olive

NORTH SIDE

Santa Ana WEST SIDE — EAST SIDE **Santa Ana**

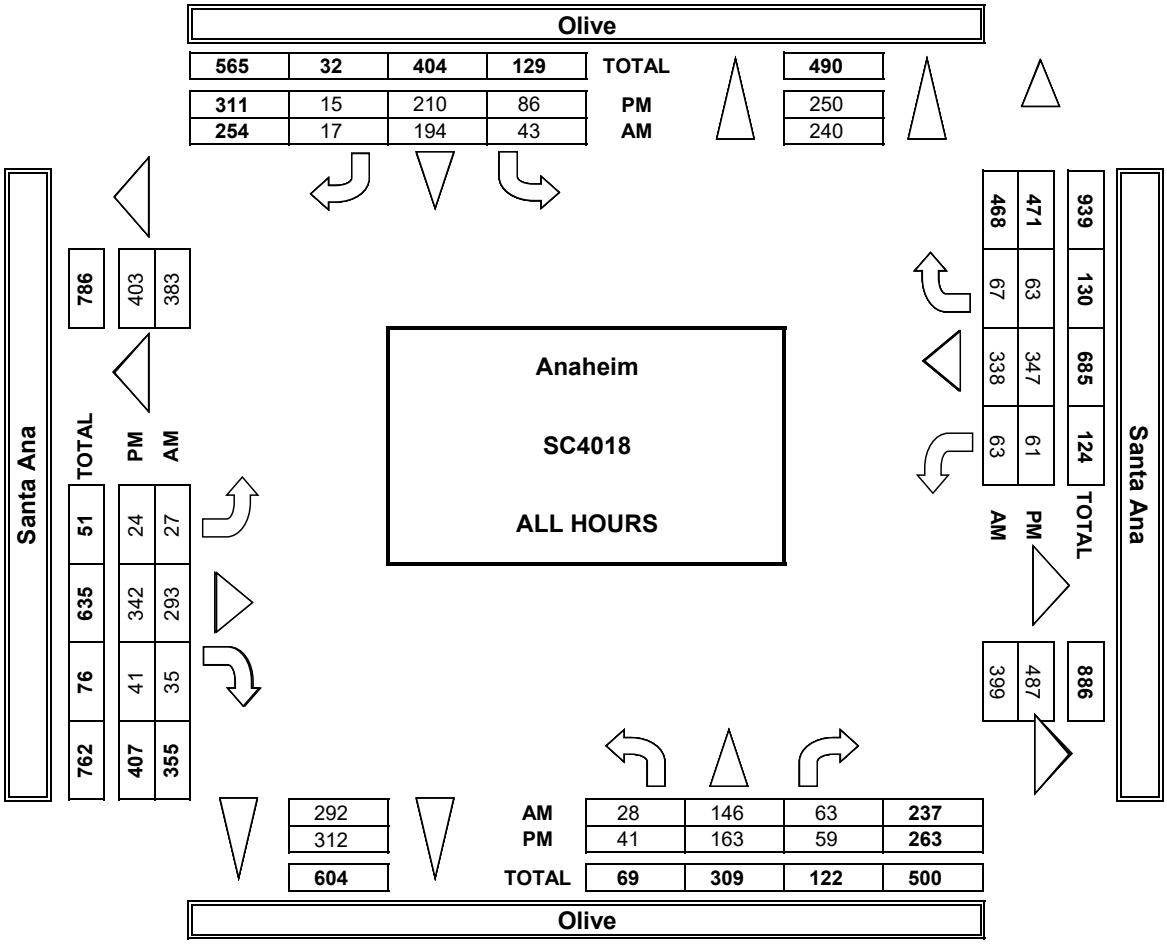
SOUTH SIDE

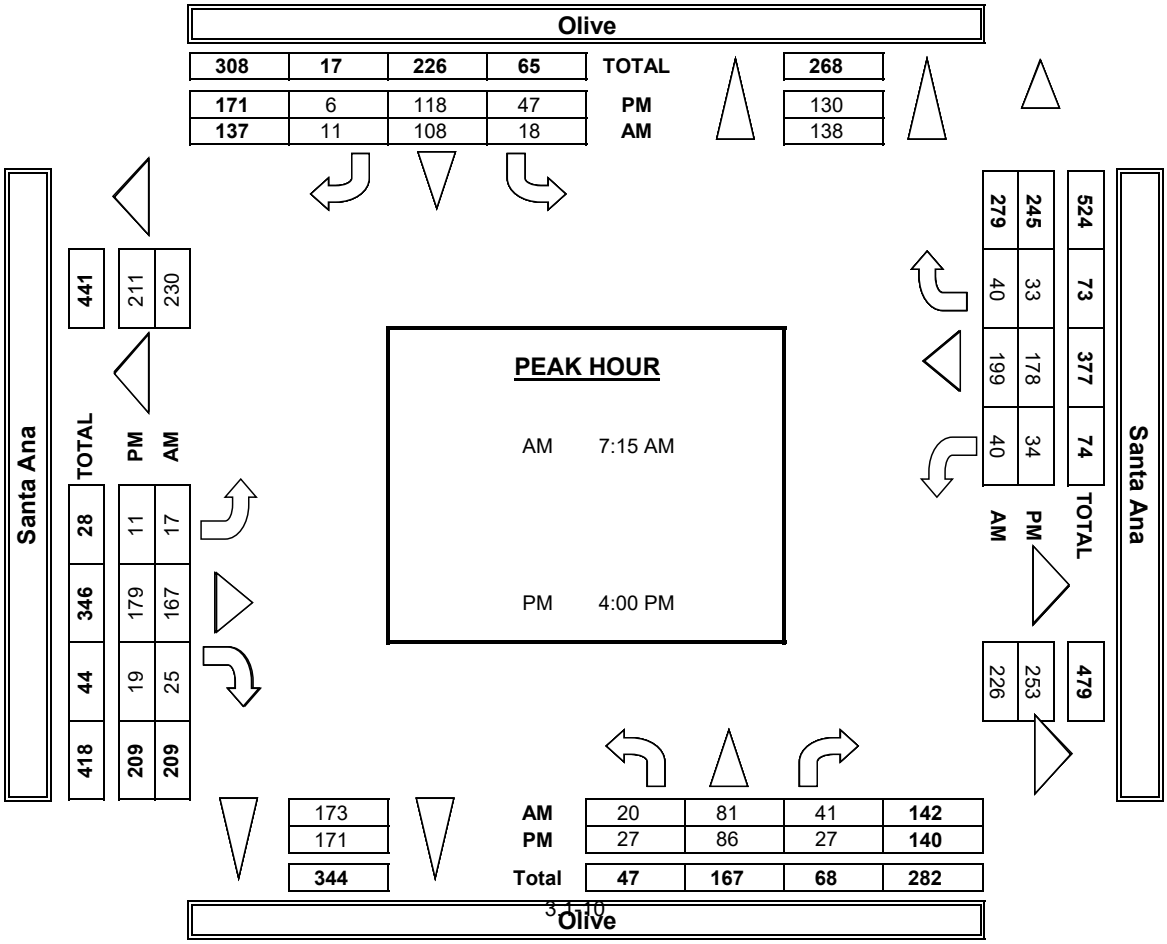
Olive

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM															
7:00 AM	7	0	0	8	15	7	0	0	7	14	0	0	0	1	1
7:15 AM	4	1	1	1	7	4	1	1	1	7	0	0	0	0	0
7:30 AM	4	2	4	4	14	4	1	1	4	10	0	1	3	0	4
7:45 AM	0	1	1	0	2	0	0	1	0	1	0	1	0	0	1
8:00 AM	0	2	0	3	5	0	2	0	3	5	0	0	0	0	0
8:15 AM	1	4	3	7	15	0	4	3	6	13	1	0	0	1	2
8:30 AM	1	2	0	0	3	0	1	0	0	1	1	1	0	0	2
8:45 AM	0	1	0	1	2	0	1	0	1	2	0	0	0	0	0
TOTAL	17	13	9	24	63	15	10	6	22	53	2	3	3	2	10
PM															
4:00 PM	3	1	0	6	10	3	0	0	6	9	0	1	0	0	1
4:15 PM	1	1	3	0	5	0	1	2	0	3	1	0	1	0	2
4:30 PM	4	1	3	1	9	4	0	2	1	7	0	1	1	0	2
4:45 PM	1	0	1	1	3	0	0	1	1	2	1	0	0	0	1
5:00 PM	1	5	4	0	10	0	4	3	0	7	1	1	1	0	3
5:15 PM	1	0	1	4	6	1	0	1	3	5	0	0	0	1	1
5:30 PM	0	7	4	0	11	0	7	3	0	10	0	0	1	0	1
5:45 PM	1	6	0	5	12	1	4	0	2	7	0	2	0	3	5
TOTAL	12	21	16	17	66	9	16	12	13	50	3	5	4	4	16

AimTD LLC

TURNING MOVEMENT COUNTS





Tuesday, May 09, 2023 CITY: Anaheim PROJECT: SC4018

ADT1 Santa Ana east of Philadelphia. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	7		6			12:00	36		27		
0:15	3		4			12:15	33		30		
0:30	7		3			12:30	25		44		
0:45	5	22	1	14	36	12:45	37	131	27	128	259
1:00	2		1			13:00	42		36		
1:15	1		3			13:15	37		33		
1:30	2		1			13:30	40		39		
1:45	4	9	1	6	15	13:45	35	154	44	152	306
2:00	0		0			14:00	56		52		
2:15	1		0			14:15	45		45		
2:30	2		3			14:30	46		54		
2:45	1	4	0	3	7	14:45	53	200	55	206	406
3:00	1		1			15:00	53		45		
3:15	2		1			15:15	33		34		
3:30	2		1			15:30	22		26		
3:45	2	7	2	5	12	15:45	50	158	43	148	306
4:00	2		3			16:00	62		46		
4:15	2		1			16:15	50		54		
4:30	2		6			16:30	50		64		
4:45	7	13	10	20	33	16:45	47	209	47	211	420
5:00	5		10			17:00	54		60		
5:15	7		10			17:15	51		50		
5:30	6		16			17:30	48		40		
5:45	14	32	12	48	80	17:45	45	198	42	192	390
6:00	14		18			18:00	29		43		
6:15	18		20			18:15	40		35		
6:30	14		30			18:30	49		38		
6:45	25	71	33	101	172	18:45	34	152	24	140	292
7:00	44		37			19:00	36		27		
7:15	48		59			19:15	38		41		
7:30	57		62			19:30	32		30		
7:45	67	216	66	224	440	19:45	29	135	26	124	259
8:00	37		43			20:00	34		24		
8:15	38		39			20:15	30		24		
8:30	34		38			20:30	33		18		
8:45	30	139	39	159	298	20:45	27	124	24	90	214
9:00	26		40			21:00	31		13		
9:15	26		41			21:15	31		19		
9:30	23		22			21:30	33		12		
9:45	23	98	31	134	232	21:45	23	118	18	62	180
10:00	29		27			22:00	12		10		
10:15	23		24			22:15	19		13		
10:30	26		29			22:30	8		9		
10:45	16	94	30	110	204	22:45	15	54	9	41	95
11:00	22		31			23:00	3		4		
11:15	16		27			23:15	7		7		
11:30	25		33			23:30	7		4		
11:45	30	93	40	131	224	23:45	10	27	4	19	46
Total Vol.		798		955	**1753**			1660		1513	**3173**

Daily Totals	EB	WB	**Combined**
	2458	2468	**4926**

	AM			**PM**		
Split %	45.5%	54.5%	**35.6%**	52.3%	47.7%	**64.4%**
Peak Hour	7:00	7:15	**7:00**	15:45	16:15	**16:15**
Volume	216	230	**440**	212	225	**426**
P.H.F.	0.81	0.87	**0.83**	0.85	0.88	**0.93**

Tuesday, May 09, 2023 | CITY: Anaheim | PROJECT: SC4018

ADT2 Olive north of Santa Ana.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	4		3			12:00	24		28		
0:15	3		1			12:15	20		21		
0:30	1		2			12:30	22		30		
0:45	1	9	2	8	17	12:45	22	88	20	99	187
1:00	0		2			13:00	24		24		
1:15	2		1			13:15	23		27		
1:30	0		0			13:30	14		37		
1:45	1	3	2	5	8	13:45	28	89	35	123	212
2:00	0		0			14:00	48		31		
2:15	0		2			14:15	28		37		
2:30	1		1			14:30	34		28		
2:45	0	1	0	3	4	14:45	39	149	36	132	281
3:00	0		1			15:00	40		30		
3:15	1		1			15:15	19		29		
3:30	1		1			15:30	11		22		
3:45	2	4	1	4	8	15:45	33	103	48	129	232
4:00	1		2			16:00	33		43		
4:15	1		2			16:15	27		44		
4:30	0		7			16:30	38		41		
4:45	0	2	7	18	20	16:45	32	130	43	171	301
5:00	5		11			17:00	22		30		
5:15	4		5			17:15	39		43		
5:30	9		8			17:30	37		40		
5:45	18	36	11	35	71	17:45	22	120	27	140	260
6:00	6		17			18:00	19		32		
6:15	20		11			18:15	23		46		
6:30	11		17			18:30	20		28		
6:45	22	59	33	78	137	18:45	29	91	32	138	229
7:00	26		31			19:00	22		24		
7:15	32		51			19:15	18		18		
7:30	30		32			19:30	20		16		
7:45	36	124	27	141	265	19:45	13	73	19	77	150
8:00	40		27			20:00	18		16		
8:15	28		29			20:15	12		23		
8:30	29		18			20:30	14		14		
8:45	19	116	39	113	229	20:45	14	58	11	64	122
9:00	22		19			21:00	10		13		
9:15	20		22			21:15	8		13		
9:30	20		11			21:30	15		11		
9:45	13	75	14	66	141	21:45	8	41	17	54	95
10:00	15		18			22:00	9		11		
10:15	15		14			22:15	14		9		
10:30	28		21			22:30	3		9		
10:45	17	75	16	69	144	22:45	7	33	8	37	70
11:00	22		20			23:00	2		6		
11:15	21		24			23:15	5		5		
11:30	13		12			23:30	2		5		
11:45	22	78	21	77	155	23:45	2	11	4	20	31
Total Vol.		582		617	**1199**			986		1184	**2170**

Daily Totals

NB	SB	Combined
1568	1801	**3369**

	AM			PM		
Split %	48.5%	51.5%	**35.6%**	45.4%	54.6%	**64.4%**
Peak Hour	7:15	6:45	**7:15**	14:00	15:45	**15:45**
Volume	138	147	**275**	149	176	**307**
P.H.F.	0.86	0.72	**0.83**	0.75	0.92	**0.95**

cs@aimtd.com Tell. 714 253 7888

APPENDIX 3.2: EXISTING (2023) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.452
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	31	414	24	17	592	15	30	157	52	55	144	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	414	24	17	592	15	30	157	52	55	144	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	414	24	17	592	15	30	157	52	55	144	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	414	24	17	592	15	30	157	52	55	144	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	414	24	17	592	15	30	157	52	55	144	34
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.95	0.05	1.00	0.75	0.25	1.00	0.81	0.19
Final Sat.:	1700	3214	186	1700	3316	84	1700	1277	423	1700	1375	325
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.01	0.18	0.18	0.02	0.12	0.12	0.03	0.10	0.10
Crit Moves:	****				****			****			****	

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	183	7	3	217	7	3	3	3	9	0	13
Future Vol, veh/h	4	183	7	3	217	7	3	3	3	9	0	13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	218	8	4	258	8	4	4	4	11	0	15
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.5	10	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	41%
Vol Thru, %	33%	0%	96%	0%	97%	0%
Vol Right, %	33%	0%	4%	0%	3%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	4	190	3	224	22
LT Vol	3	4	0	3	0	9
Through Vol	3	0	183	0	217	0
RT Vol	3	0	7	0	7	13
Lane Flow Rate	11	5	226	4	267	26
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.015	0.007	0.296	0.005	0.347	0.035
Departure Headway (Hd)	5.02	5.333	4.705	5.213	4.69	4.857
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	717	675	753	679	757	741
Service Time	3.023	3.033	2.505	3.005	2.482	2.858
HCM Lane V/C Ratio	0.015	0.007	0.3	0.006	0.353	0.035
HCM Control Delay	8.1	8.1	9.5	8	10	8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0	1.2	0	1.6	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	192	219	11	21	13
Future Vol, veh/h	3	192	219	11	21	13
Conflicting Peds, #/hr	0	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	211	241	12	23	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	258	0	-	0	469	252
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1307	-	-	-	553	787
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1302	-	-	-	547	784
Mov Cap-2 Maneuver	-	-	-	-	547	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	816	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1302	-	-	-	618
HCM Lane V/C Ratio	0.003	-	-	-	0.06
HCM Control Delay (s)	7.8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.366
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	42	84	13	20	97	60	28	375	28	18	399	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	84	13	20	97	60	28	375	28	18	399	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	84	13	20	97	60	28	375	28	18	399	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	84	13	20	97	60	28	375	28	18	399	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	84	13	20	97	60	28	375	28	18	399	11
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.30	0.61	0.09	0.11	0.55	0.34	1.00	1.86	0.14	1.00	1.95	0.05
Final Sat.:	514	1027	159	192	932	576	1700	3164	236	1700	3309	91
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.01	0.10	0.10	0.02	0.12	0.12	0.01	0.12	0.12
Crit Moves:	****				****		****				****	

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	167	25	40	199	40	20	81	41	18	108	11
Future Vol, veh/h	17	167	25	40	199	40	20	81	41	18	108	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	190	28	45	226	45	23	92	47	20	123	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.1	12.4	10.4	10.5
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	8%	14%	13%
Vol Thru, %	57%	80%	71%	79%
Vol Right, %	29%	12%	14%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	142	209	279	137
LT Vol	20	17	40	18
Through Vol	81	167	199	108
RT Vol	41	25	40	11
Lane Flow Rate	161	238	317	156
Geometry Grp	1	1	1	1
Degree of Util (X)	0.248	0.347	0.453	0.245
Departure Headway (Hd)	5.528	5.262	5.147	5.657
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	649	682	701	634
Service Time	3.573	3.304	3.184	3.702
HCM Lane V/C Ratio	0.248	0.349	0.452	0.246
HCM Control Delay	10.4	11.1	12.4	10.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1	1.6	2.4	1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.513
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	39	744	67	45	654	29	35	166	43	43	166	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	744	67	45	654	29	35	166	43	43	166	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	744	67	45	654	29	35	166	43	43	166	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	744	67	45	654	29	35	166	43	43	166	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	744	67	45	654	29	35	166	43	43	166	41
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.92	0.08	1.00	0.79	0.21	1.00	0.80	0.20
Final Sat.:	1700	3119	281	1700	3256	144	1700	1350	350	1700	1363	337
Capacity Analysis Module:												
Vol/Sat:	0.02	0.24	0.24	0.03	0.20	0.20	0.02	0.12	0.12	0.03	0.12	0.12
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	212	24	3	204	15	12	7	5	8	11	32
Future Vol, veh/h	29	212	24	3	204	15	12	7	5	8	11	32
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	221	25	3	213	16	13	7	5	8	11	33
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.8	9.8	8.4	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	16%
Vol Thru, %	29%	0%	90%	0%	93%	22%
Vol Right, %	21%	0%	10%	0%	7%	63%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	29	236	3	219	51
LT Vol	12	29	0	3	0	8
Through Vol	7	0	212	0	204	11
RT Vol	5	0	24	0	15	32
Lane Flow Rate	25	30	246	3	228	53
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.036	0.045	0.331	0.005	0.311	0.071
Departure Headway (Hd)	5.18	5.413	4.84	5.455	4.905	4.818
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	690	662	745	657	735	743
Service Time	3.22	3.138	2.565	3.181	2.631	2.853
HCM Lane V/C Ratio	0.036	0.045	0.33	0.005	0.31	0.071
HCM Control Delay	8.4	8.4	10	8.2	9.8	8.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	1.5	0	1.3	0.2

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	203	210	8	7	16
Future Vol, veh/h	18	203	210	8	7	16
Conflicting Peds, #/hr	0	0	0	7	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	214	221	8	7	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	236	0	-	0	484	235
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	252	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1331	-	-	-	542	804
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	790	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1323	-	-	-	527	797
Mov Cap-2 Maneuver	-	-	-	-	527	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	785	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1323	-	-	-	689
HCM Lane V/C Ratio	0.014	-	-	-	0.035
HCM Control Delay (s)	7.8	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.413
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	40	104	18	26	102	46	58	436	43	17	496	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	104	18	26	102	46	58	436	43	17	496	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	104	18	26	102	46	58	436	43	17	496	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	104	18	26	102	46	58	436	43	17	496	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	104	18	26	102	46	58	436	43	17	496	23
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.64	0.11	0.15	0.59	0.26	1.00	1.82	0.18	1.00	1.91	0.09
Final Sat.:	420	1091	189	254	997	449	1700	3095	305	1700	3249	151
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.02	0.10	0.10	0.03	0.14	0.14	0.01	0.15	0.15
Crit Moves:	****			****			****				****	

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	179	19	34	178	33	27	86	27	47	118	6
Future Vol, veh/h	11	179	19	34	178	33	27	86	27	47	118	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	195	21	37	193	36	29	93	29	51	128	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.9	11.4	10.2	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	5%	14%	27%
Vol Thru, %	61%	86%	73%	69%
Vol Right, %	19%	9%	13%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	209	245	171
LT Vol	27	11	34	47
Through Vol	86	179	178	118
RT Vol	27	19	33	6
Lane Flow Rate	152	227	266	186
Geometry Grp	1	1	1	1
Degree of Util (X)	0.232	0.332	0.384	0.286
Departure Headway (Hd)	5.492	5.254	5.188	5.539
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	653	684	692	649
Service Time	3.534	3.29	3.223	3.578
HCM Lane V/C Ratio	0.233	0.332	0.384	0.287
HCM Control Delay	10.2	10.9	11.4	10.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.9	1.5	1.8	1.2

APPENDIX 3.3: EXISTING (2023) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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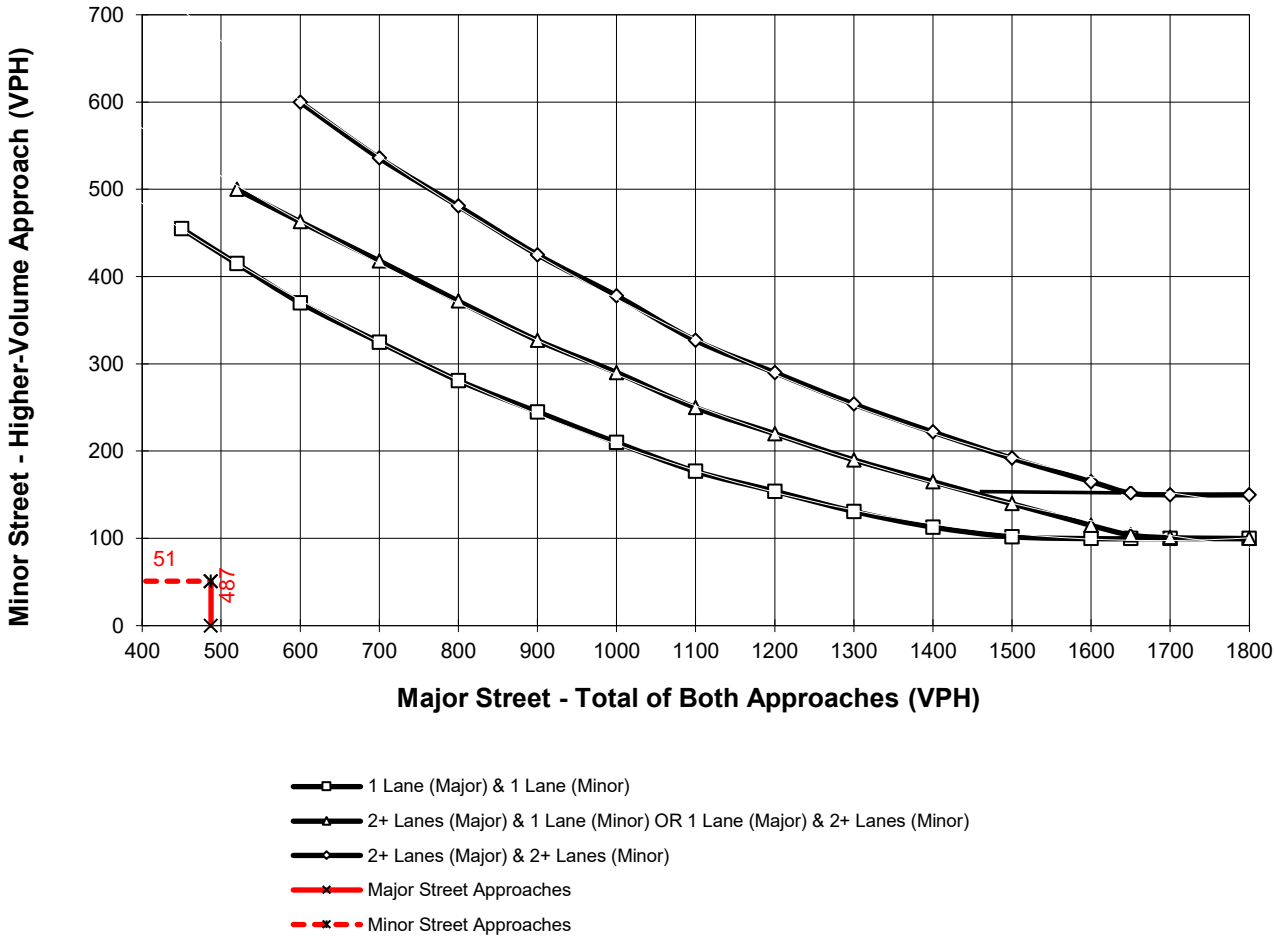
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2023) Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **487**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Claudina St.**
High Volume Approach (VPH) = **51**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

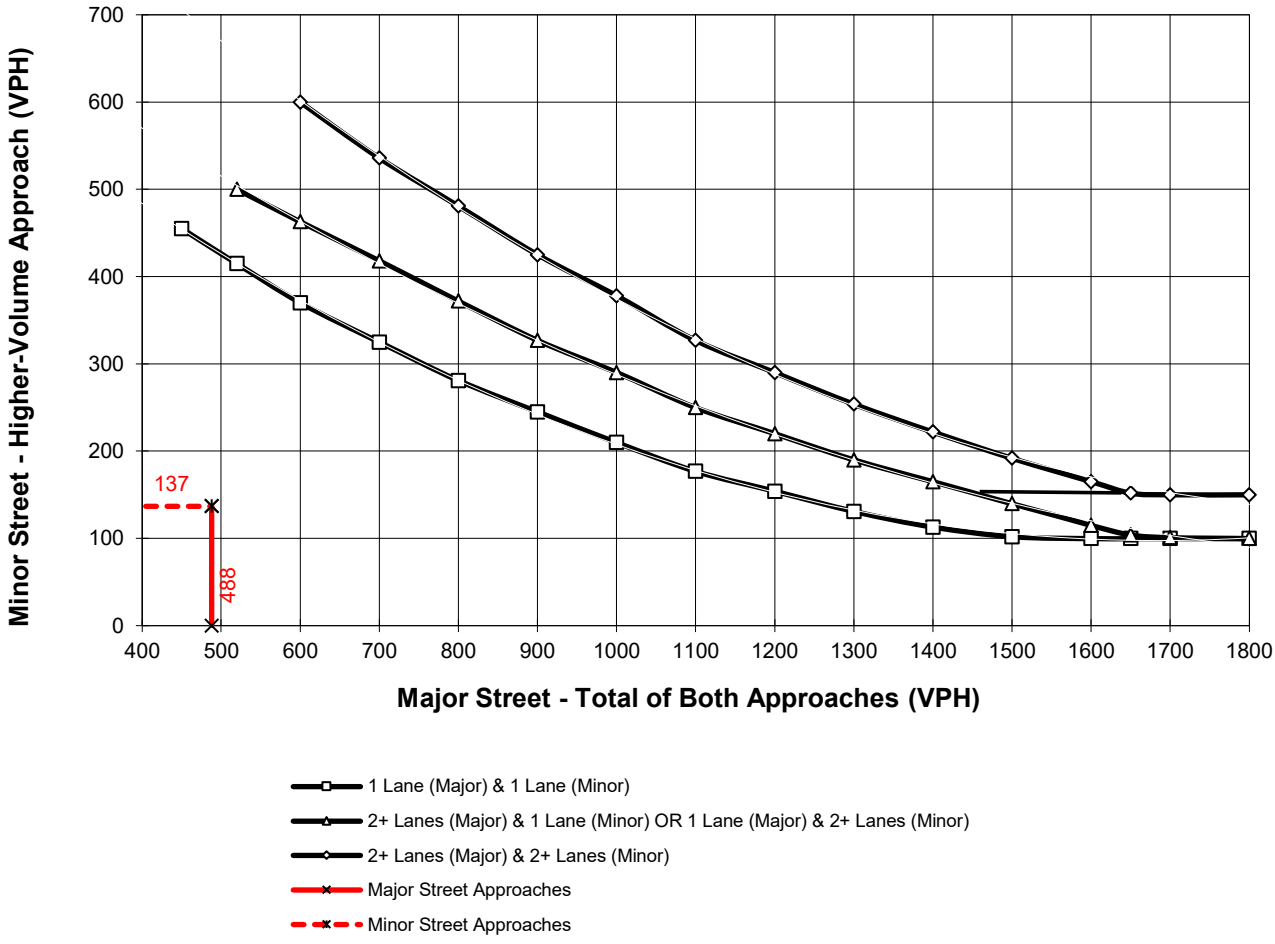
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2023) Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **488**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Olive St.**
High Volume Approach (VPH) = **137**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

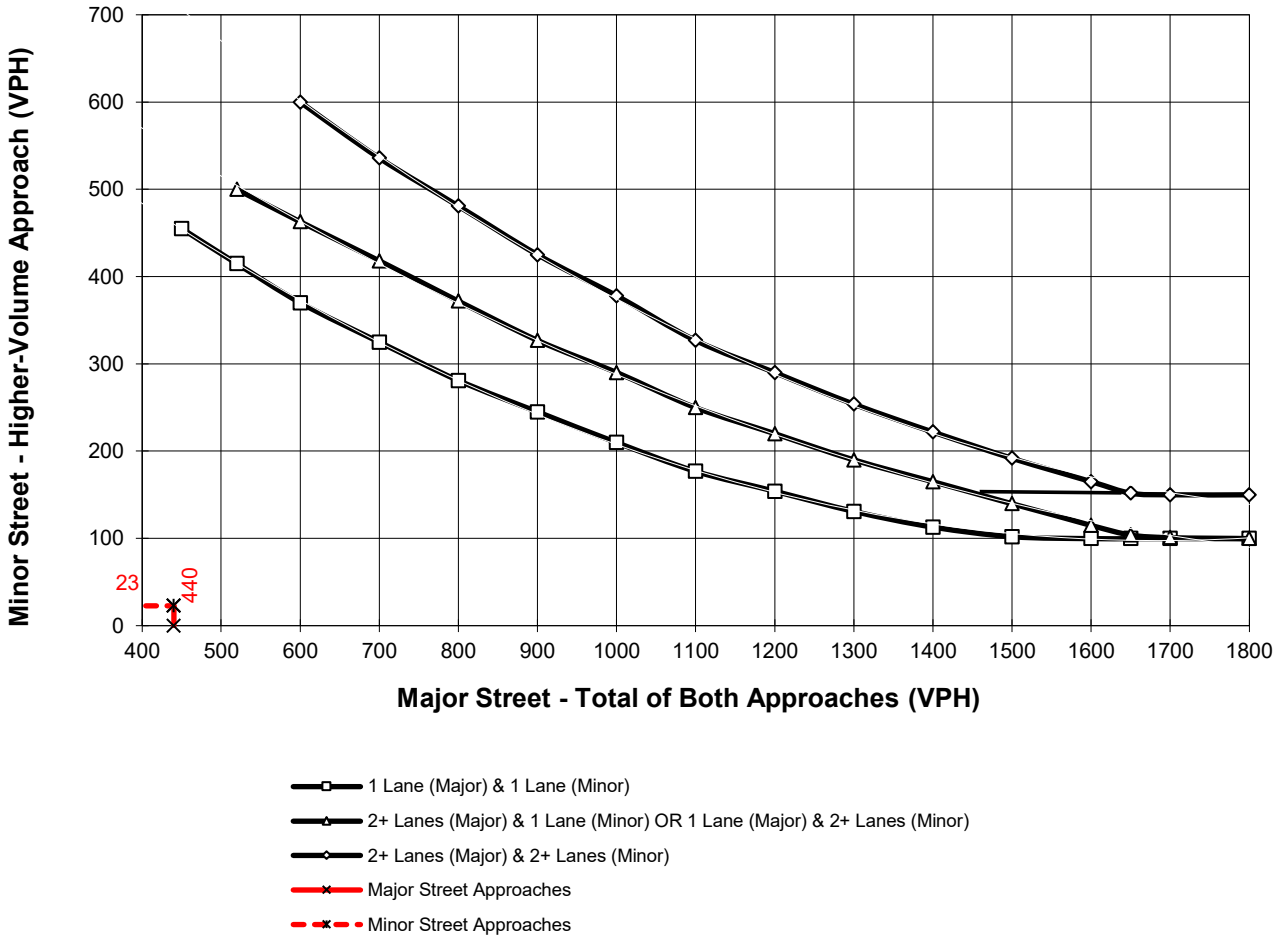
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2023) Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **440**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Philadelphia St.**
High Volume Approach (VPH) = **23**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 4.1: POST PROCESSING WORKSHEETS

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PROJECT: Anaheim
SCENARIO: Future General Plan Buildout
INTERSECTI 187 Anaheim Blvd / Santa Ana St

MOVEMENT	AM PEAK HOUR VOLUME	PM PEAK HOUR VOLUME
NBL	20	58
NBT	793	1,830
NBR	41	47
SBL	28	27
SBT	1,521	1,189
SBR	42	91
EBL	50	34
EBT	161	130
EBR	44	38
WBL	32	59
WBT	118	188
WBR	69	40

PROJECT: Anaheim
SCENARIO: Future General Plan Buildout
INTERSECTI 204 Olive St / Broadway

MOVEMENT	AM PEAK HOUR VOLUME	PM PEAK HOUR VOLUME
NBL	55	98
NBT	85	132
NBR	51	35
SBL	96	19
SBT	220	93
SBR	84	56
EBL	31	53
EBT	978	756
EBR	23	51
WBL	77	40
WBT	568	543
WBR	25	53

SCENARIO: Future General Plan Buildout
INTERSECTION: Claudina St / Santa Ana St

MOVEMENT	AM PEAK HOUR VOLUME	PM PEAK HOUR VOLUME
NBL	7	33
NBT	4	7
NBR	5	22
SBL	20	19
SBT	11	15
SBR	36	9
EBL	5	40
EBT	230	243
EBR	5	18
WBL	2	10
WBT	275	271
WBR	5	33

SCENARIO: Future General Plan Buildout
INTERSECTION: Philadelphia St / Santa Ana St

MOVEMENT	AM PEAK HOUR VOLUME	PM PEAK HOUR VOLUME
NBL	0	0
NBT	0	0
NBR	0	0
SBL	38	8
SBT	0	0
SBR	20	21
EBL	5	14
EBT	246	258
EBR	0	0
WBL	0	0
WBT	271	284
WBR	17	10

SCENARIO: Future General Plan Buildout
INTERSECTION: Olive St / Santa Ana St

MOVEMENT	AM PEAK HOUR VOLUME	PM PEAK HOUR VOLUME
NBL	25	38
NBT	119	141
NBR	52	97
SBL	59	45
SBT	249	99
SBR	20	18
EBL	19	19
EBT	221	232
EBR	26	0
WBL	48	52
WBT	256	253
WBR	52	47

APPENDIX 5.1: EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.466
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0 1	1	0	1 0 1	1	0	1 0 0	1	0	1 0 0	1	0
Volume Module:												
Base Vol:	32	431	25	18	616	16	31	163	54	57	150	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	431	25	18	616	16	31	163	54	57	150	35
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	431	25	18	616	16	31	163	54	57	150	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	431	25	18	616	16	31	163	54	57	150	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	431	25	18	616	16	31	163	54	57	150	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	431	25	18	616	16	31	163	54	57	150	35
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.95	0.05	1.00	0.75	0.25	1.00	0.81	0.19
Final Sat.:	1700	3214	186	1700	3314	86	1700	1277	423	1700	1378	322
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.01	0.19	0.19	0.02	0.13	0.13	0.03	0.11	0.11
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	190	7	3	226	7	3	3	3	9	0	14
Future Vol, veh/h	4	190	7	3	226	7	3	3	3	9	0	14
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	226	8	4	269	8	4	4	4	11	0	17
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.7	10.2	8.2	8.1
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	39%
Vol Thru, %	33%	0%	96%	0%	97%	0%
Vol Right, %	33%	0%	4%	0%	3%	61%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	4	197	3	233	23
LT Vol	3	4	0	3	0	9
Through Vol	3	0	190	0	226	0
RT Vol	3	0	7	0	7	14
Lane Flow Rate	11	5	235	4	277	27
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.015	0.007	0.314	0.005	0.362	0.037
Departure Headway (Hd)	5.067	5.346	4.819	5.32	4.697	4.887
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	709	673	750	677	754	735
Service Time	3.082	3.046	2.519	3.02	2.497	2.9
HCM Lane V/C Ratio	0.016	0.007	0.313	0.006	0.367	0.037
HCM Control Delay	8.2	8.1	9.7	8	10.2	8.1
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0	0	1.3	0	1.7	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	200	228	11	22	14
Future Vol, veh/h	3	200	228	11	22	14
Conflicting Peds, #/hr	0	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	220	251	12	24	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	268	0	-	0	488	262
Stage 1	-	-	-	-	262	-
Stage 2	-	-	-	-	226	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1296	-	-	-	539	777
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	812	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1291	-	-	-	533	774
Mov Cap-2 Maneuver	-	-	-	-	533	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	809	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1291	-	-	-	606
HCM Lane V/C Ratio	0.003	-	-	-	0.065
HCM Control Delay (s)	7.8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.376
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	44	87	14	21	101	62	29	390	29	19	415	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	87	14	21	101	62	29	390	29	19	415	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	87	14	21	101	62	29	390	29	19	415	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	87	14	21	101	62	29	390	29	19	415	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	87	14	21	101	62	29	390	29	19	415	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	87	14	21	101	62	29	390	29	19	415	11
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.30	0.60	0.10	0.11	0.55	0.34	1.00	1.86	0.14	1.00	1.95	0.05
Final Sat.:	516	1020	164	194	933	573	1700	3165	235	1700	3312	88
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.01	0.11	0.11	0.02	0.12	0.12	0.01	0.13	0.13
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	174	26	42	207	42	21	84	43	19	112	11
Future Vol, veh/h	18	174	26	42	207	42	21	84	43	19	112	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	198	30	48	235	48	24	95	49	22	127	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.5	13	10.7	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	8%	14%	13%
Vol Thru, %	57%	80%	71%	79%
Vol Right, %	29%	12%	14%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	148	218	291	142
LT Vol	21	18	42	19
Through Vol	84	174	207	112
RT Vol	43	26	42	11
Lane Flow Rate	168	248	331	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.263	0.368	0.48	0.258
Departure Headway (Hd)	5.627	5.347	5.223	5.761
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	636	671	688	621
Service Time	3.68	3.393	3.264	3.816
HCM Lane V/C Ratio	0.264	0.37	0.481	0.259
HCM Control Delay	10.7	11.5	13	10.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	1.7	2.6	1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.531
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0 1	1	0	1 0 1	1	0	1 0 0	1	0	1 0 0	1	0
Volume Module:												
Base Vol:	41	774	70	47	681	30	36	173	45	45	173	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	774	70	47	681	30	36	173	45	45	173	43
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	774	70	47	681	30	36	173	45	45	173	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	774	70	47	681	30	36	173	45	45	173	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	774	70	47	681	30	36	173	45	45	173	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	774	70	47	681	30	36	173	45	45	173	43
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.92	0.08	1.00	0.79	0.21	1.00	0.80	0.20
Final Sat.:	1700	3118	282	1700	3257	143	1700	1349	351	1700	1362	338
Capacity Analysis Module:												
Vol/Sat:	0.02	0.25	0.25	0.03	0.21	0.21	0.02	0.13	0.13	0.03	0.13	0.13
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	221	25	3	212	16	12	7	5	8	11	33
Future Vol, veh/h	30	221	25	3	212	16	12	7	5	8	11	33
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	230	26	3	221	17	13	7	5	8	11	34
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.9	10	8.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	15%
Vol Thru, %	29%	0%	90%	0%	93%	21%
Vol Right, %	21%	0%	10%	0%	7%	63%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	30	246	3	228	52
LT Vol	12	30	0	3	0	8
Through Vol	7	0	221	0	212	11
RT Vol	5	0	25	0	16	33
Lane Flow Rate	25	31	256	3	238	54
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.036	0.047	0.345	0.005	0.324	0.073
Departure Headway (Hd)	5.231	5.425	4.852	5.47	4.918	4.861
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	683	661	743	655	732	736
Service Time	3.271	3.151	2.577	3.196	2.645	2.896
HCM Lane V/C Ratio	0.037	0.047	0.345	0.005	0.325	0.073
HCM Control Delay	8.5	8.4	10.1	8.2	10	8.3
HCM Lane LOS	A	A	B	A	A	A
HCM 95th-tile Q	0.1	0.1	1.5	0	1.4	0.2

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	211	219	8	7	17
Future Vol, veh/h	19	211	219	8	7	17
Conflicting Peds, #/hr	0	0	0	7	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	222	231	8	7	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	246	0	-	0	504	245
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	262	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1320	-	-	-	528	794
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1312	-	-	-	513	787
Mov Cap-2 Maneuver	-	-	-	-	513	-
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	777	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1312	-	-	-	681
HCM Lane V/C Ratio	0.015	-	-	-	0.037
HCM Control Delay (s)	7.8	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.425
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	42	108	19	27	106	48	60	454	45	18	516	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	108	19	27	106	48	60	454	45	18	516	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	108	19	27	106	48	60	454	45	18	516	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	108	19	27	106	48	60	454	45	18	516	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	108	19	27	106	48	60	454	45	18	516	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	108	19	27	106	48	60	454	45	18	516	24
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.64	0.11	0.15	0.59	0.26	1.00	1.82	0.18	1.00	1.91	0.09
Final Sat.:	422	1086	191	254	996	451	1700	3093	307	1700	3249	151
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.02	0.11	0.11	0.04	0.15	0.15	0.01	0.16	0.16
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	186	20	35	185	34	28	89	28	49	123	6
Future Vol, veh/h	11	186	20	35	185	34	28	89	28	49	123	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	202	22	38	201	37	30	97	30	53	134	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.2	11.8	10.4	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	5%	14%	28%
Vol Thru, %	61%	86%	73%	69%
Vol Right, %	19%	9%	13%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	217	254	178
LT Vol	28	11	35	49
Through Vol	89	186	185	123
RT Vol	28	20	34	6
Lane Flow Rate	158	236	276	193
Geometry Grp	1	1	1	1
Degree of Util (X)	0.244	0.349	0.403	0.302
Departure Headway (Hd)	5.577	5.326	5.258	5.618
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	643	675	685	638
Service Time	3.624	3.368	3.299	3.663
HCM Lane V/C Ratio	0.246	0.35	0.403	0.303
HCM Control Delay	10.4	11.2	11.8	11.1
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1	1.6	2	1.3

APPENDIX 5.2: EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) PLUS PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.468
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	32	431	25	18	616	16	31	163	54	57	150	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	431	25	18	616	16	31	163	54	57	150	35
Added Vol:	0	0	1	0	0	0	0	0	0	3	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	431	26	18	616	16	31	163	54	60	151	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	431	26	18	616	16	31	163	54	60	151	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	431	26	18	616	16	31	163	54	60	151	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	431	26	18	616	16	31	163	54	60	151	35
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.95	0.05	1.00	0.75	0.25	1.00	0.81	0.19
Final Sat.:	1700	3207	193	1700	3314	86	1700	1277	423	1700	1380	320
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.01	0.19	0.19	0.02	0.13	0.13	0.04	0.11	0.11
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	191	7	3	228	7	3	3	3	10	0	17
Future Vol, veh/h	5	191	7	3	228	7	3	3	3	10	0	17
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	227	8	4	271	8	4	4	4	12	0	20
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.8	10.4	8.2	8.1
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	37%
Vol Thru, %	33%	0%	96%	0%	97%	0%
Vol Right, %	33%	0%	4%	0%	3%	63%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	5	198	3	235	27
LT Vol	3	5	0	3	0	10
Through Vol	3	0	191	0	228	0
RT Vol	3	0	7	0	7	17
Lane Flow Rate	11	6	236	4	280	32
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.015	0.009	0.317	0.005	0.374	0.044
Departure Headway (Hd)	5.087	5.353	4.837	5.334	4.812	4.882
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	703	671	747	674	753	733
Service Time	3.119	3.069	2.542	3.039	2.516	2.911
HCM Lane V/C Ratio	0.016	0.009	0.316	0.006	0.372	0.044
HCM Control Delay	8.2	8.1	9.8	8.1	10.4	8.1
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0	0	1.4	0	1.7	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	201	228	12	24	16
Future Vol, veh/h	4	201	228	12	24	16
Conflicting Peds, #/hr	0	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	221	251	13	26	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	269	0	-	0	492	263
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	229	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1295	-	-	-	536	776
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	809	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1290	-	-	-	530	773
Mov Cap-2 Maneuver	-	-	-	-	530	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	806	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1290	-	-	-	606
HCM Lane V/C Ratio	0.003	-	-	-	0.073
HCM Control Delay (s)	7.8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.379
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	44	87	14	21	101	62	29	390	29	19	415	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	87	14	21	101	62	29	390	29	19	415	11
Added Vol:	0	2	1	0	1	1	2	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	89	15	21	102	63	31	391	29	19	415	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	89	15	21	102	63	31	391	29	19	415	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	89	15	21	102	63	31	391	29	19	415	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	89	15	21	102	63	31	391	29	19	415	11
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.30	0.60	0.10	0.11	0.55	0.34	1.00	1.86	0.14	1.00	1.95	0.05
Final Sat.:	505	1022	172	192	932	576	1700	3165	235	1700	3312	88
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.01	0.11	0.11	0.02	0.12	0.12	0.01	0.13	0.13
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	175	28	42	207	42	22	84	43	19	113	11
Future Vol, veh/h	18	175	28	42	207	42	22	84	43	19	113	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	199	32	48	235	48	25	95	49	22	128	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.6	13.1	10.7	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	8%	14%	13%
Vol Thru, %	56%	79%	71%	79%
Vol Right, %	29%	13%	14%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	221	291	143
LT Vol	22	18	42	19
Through Vol	84	175	207	113
RT Vol	43	28	42	11
Lane Flow Rate	169	251	331	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.265	0.373	0.481	0.261
Departure Headway (Hd)	5.644	5.352	5.236	5.775
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	635	671	688	619
Service Time	3.698	3.4	3.28	3.83
HCM Lane V/C Ratio	0.266	0.374	0.481	0.262
HCM Control Delay	10.7	11.6	13.1	10.9
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	1.7	2.6	1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.534
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0 1	1	0	1 0 1	1	0	1 0 0	1	0	1 0 0	1	0
Volume Module:												
Base Vol:	41	774	70	47	681	30	36	173	45	45	173	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	774	70	47	681	30	36	173	45	45	173	43
Added Vol:	0	0	4	0	0	0	0	1	0	2	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	774	74	47	681	30	36	174	45	47	174	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	774	74	47	681	30	36	174	45	47	174	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	774	74	47	681	30	36	174	45	47	174	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	774	74	47	681	30	36	174	45	47	174	43
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.92	0.08	1.00	0.79	0.21	1.00	0.80	0.20
Final Sat.:	1700	3103	297	1700	3257	143	1700	1351	349	1700	1363	337
Capacity Analysis Module:												
Vol/Sat:	0.02	0.25	0.25	0.03	0.21	0.21	0.02	0.13	0.13	0.03	0.13	0.13
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	223	25	3	213	17	12	7	5	9	11	35
Future Vol, veh/h	33	223	25	3	213	17	12	7	5	9	11	35
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	232	26	3	222	18	13	7	5	9	11	36
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10	10.1	8.5	8.3
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	16%
Vol Thru, %	29%	0%	90%	0%	93%	20%
Vol Right, %	21%	0%	10%	0%	7%	64%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	33	248	3	230	55
LT Vol	12	33	0	3	0	9
Through Vol	7	0	223	0	213	11
RT Vol	5	0	25	0	17	35
Lane Flow Rate	25	34	258	3	240	57
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.036	0.052	0.349	0.005	0.328	0.078
Departure Headway (Hd)	5.254	5.438	4.865	5.487	4.933	4.88
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	680	659	739	653	731	733
Service Time	3.296	3.164	2.591	3.214	2.659	2.916
HCM Lane V/C Ratio	0.037	0.052	0.349	0.005	0.328	0.078
HCM Control Delay	8.5	8.5	10.2	8.2	10.1	8.3
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.1	0.2	1.6	0	1.4	0.3

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	212	220	10	8	18
Future Vol, veh/h	21	212	220	10	8	18
Conflicting Peds, #/hr	0	0	0	7	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	223	232	11	8	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	250	0	-	0	512	248
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	267	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1316	-	-	-	522	791
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1308	-	-	-	506	784
Mov Cap-2 Maneuver	-	-	-	-	506	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	773	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1308	-	-	-	671
HCM Lane V/C Ratio	0.017	-	-	-	0.041
HCM Control Delay (s)	7.8	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.429
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	42	108	19	27	106	48	60	454	45	18	516	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	108	19	27	106	48	60	454	45	18	516	24
Added Vol:	0	1	1	0	2	2	1	1	0	1	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	109	20	27	108	50	61	455	45	19	517	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	109	20	27	108	50	61	455	45	19	517	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	109	20	27	108	50	61	455	45	19	517	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	109	20	27	108	50	61	455	45	19	517	24
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.24	0.64	0.12	0.15	0.58	0.27	1.00	1.82	0.18	1.00	1.91	0.09
Final Sat.:	418	1084	199	248	992	459	1700	3094	306	1700	3249	151
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.02	0.11	0.11	0.04	0.15	0.15	0.01	0.16	0.16
Crit Moves:	****			****			****				****	

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	186	21	35	186	34	30	90	28	49	124	6
Future Vol, veh/h	11	186	21	35	186	34	30	90	28	49	124	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	202	23	38	202	37	33	98	30	53	135	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.3	11.9	10.5	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	5%	14%	27%
Vol Thru, %	61%	85%	73%	69%
Vol Right, %	19%	10%	13%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	148	218	255	179
LT Vol	30	11	35	49
Through Vol	90	186	186	124
RT Vol	28	21	34	6
Lane Flow Rate	161	237	277	195
Geometry Grp	1	1	1	1
Degree of Util (X)	0.25	0.352	0.406	0.305
Departure Headway (Hd)	5.594	5.343	5.277	5.635
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	640	673	682	636
Service Time	3.644	3.387	3.32	3.682
HCM Lane V/C Ratio	0.252	0.352	0.406	0.307
HCM Control Delay	10.5	11.3	11.9	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1	1.6	2	1.3

APPENDIX 5.3: EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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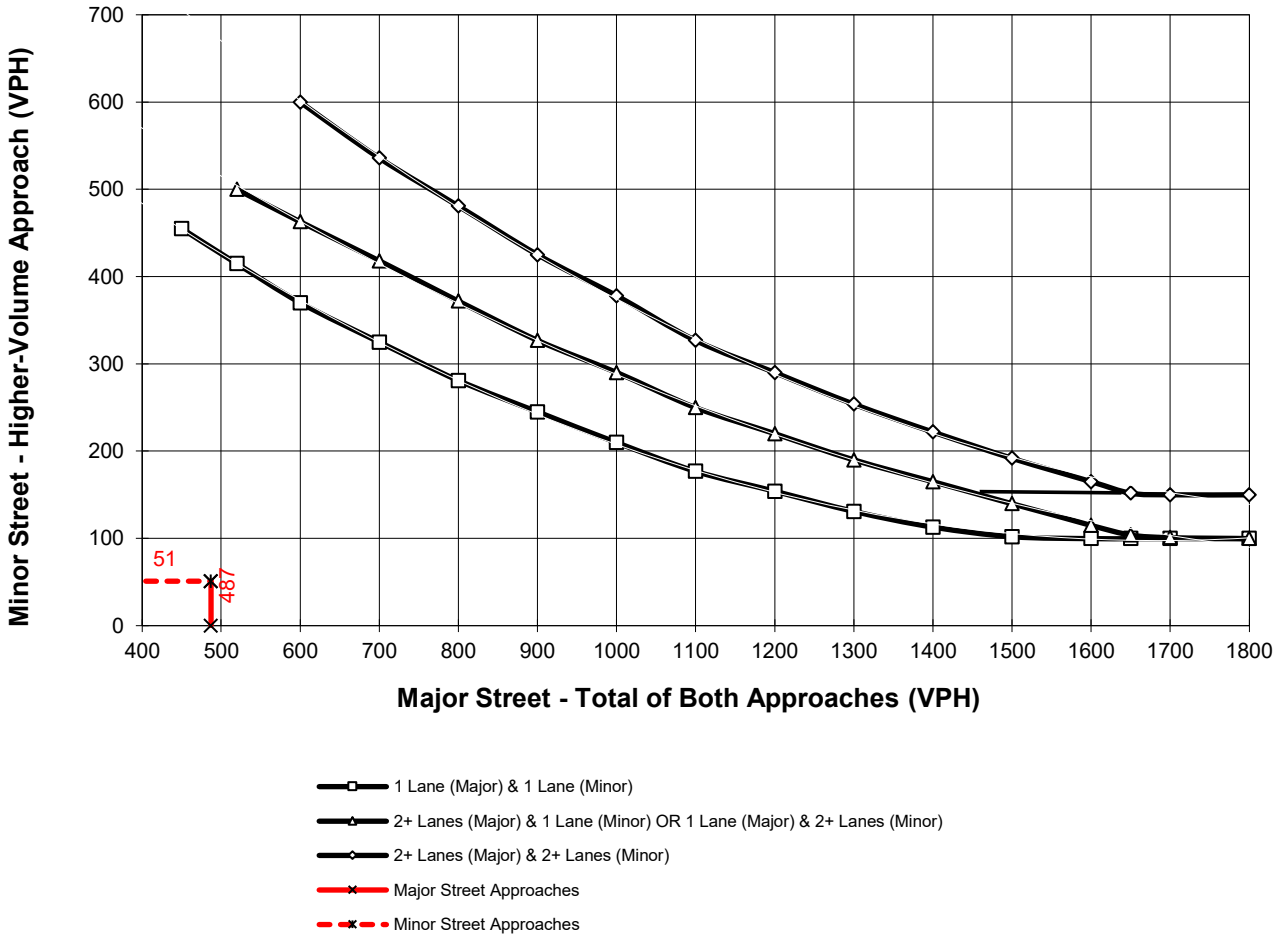
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAA Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **487**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Claudina St.**
High Volume Approach (VPH) = **51**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

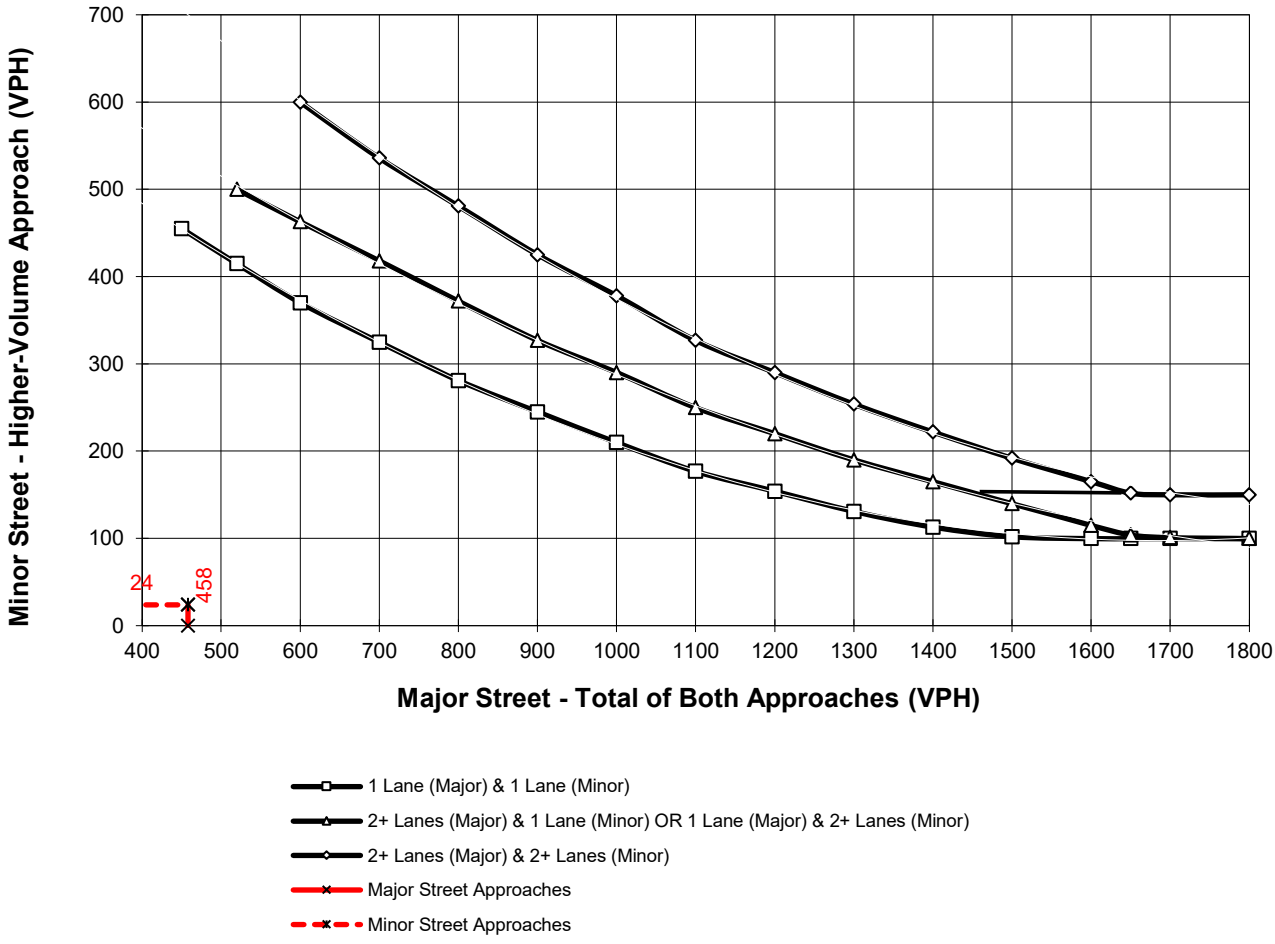
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAA Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **458**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Philadelphia St.**
High Volume Approach (VPH) = **24**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

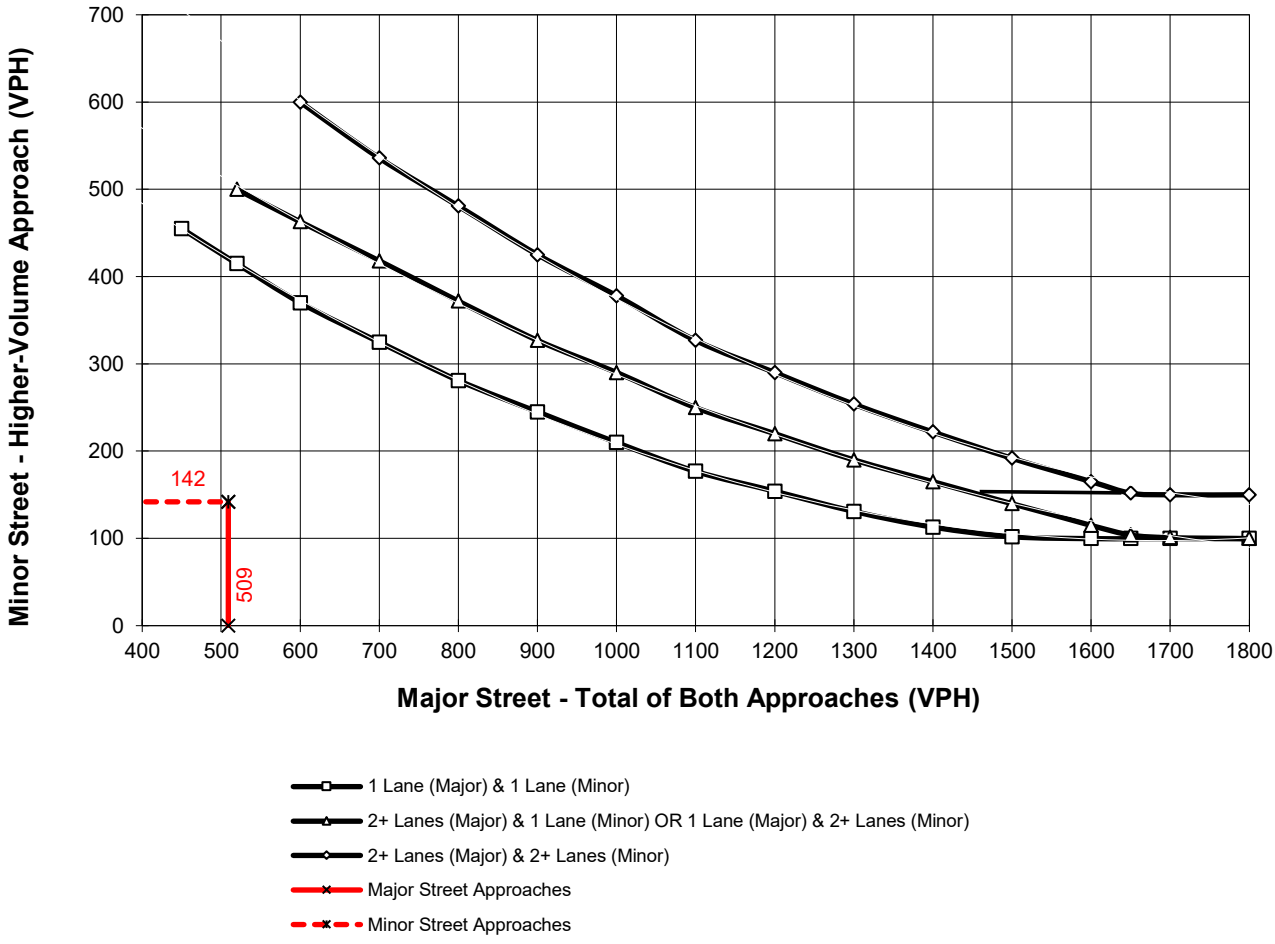
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAA Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **509**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Olive St.**
High Volume Approach (VPH) = **142**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 5.4: EXISTING PLUS APPROVED PLUS AMBIENT GROWTH (2027) PLUS PROJECT TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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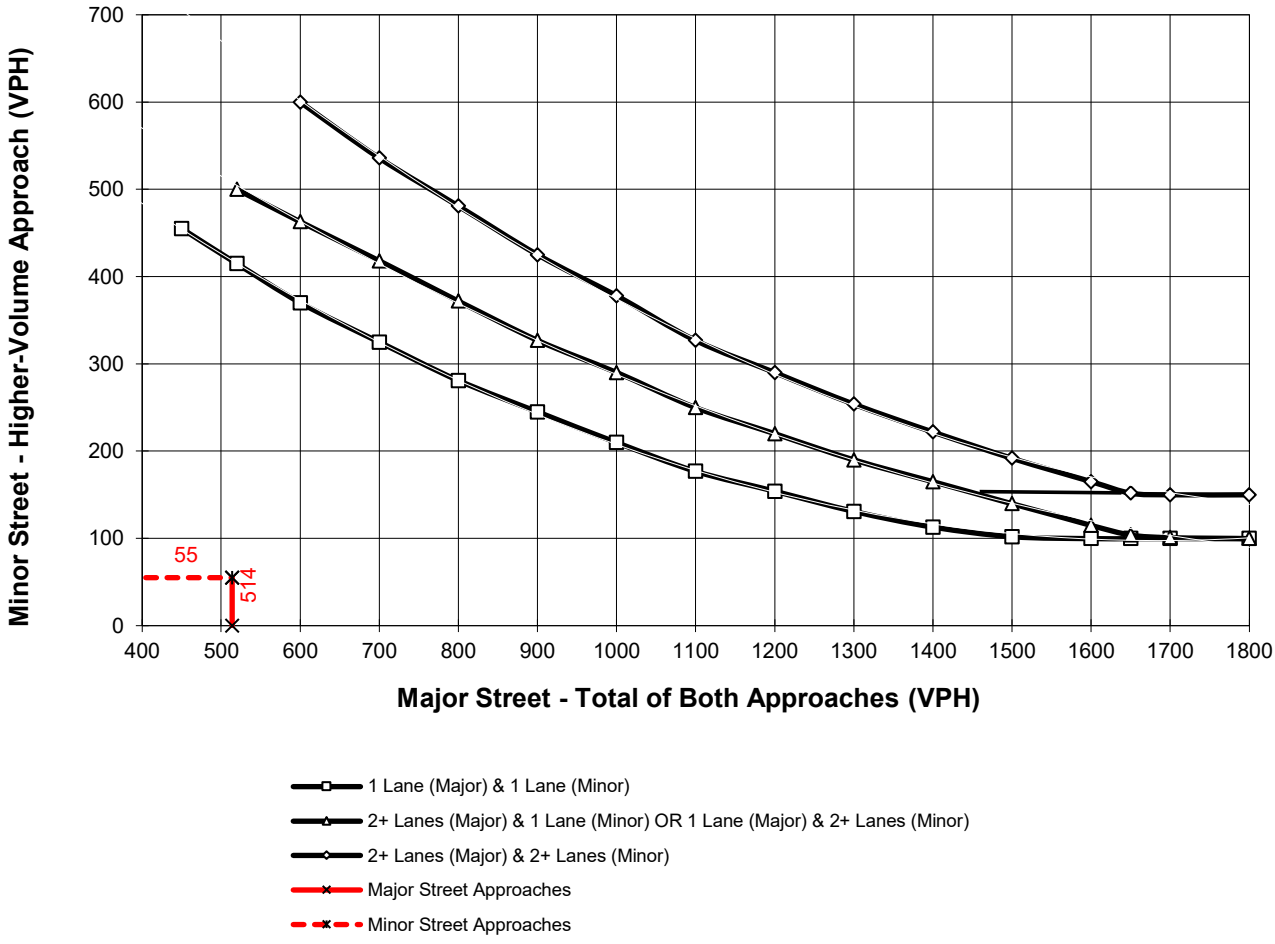
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAAP Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **514**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Claudina St.**
High Volume Approach (VPH) = **55**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

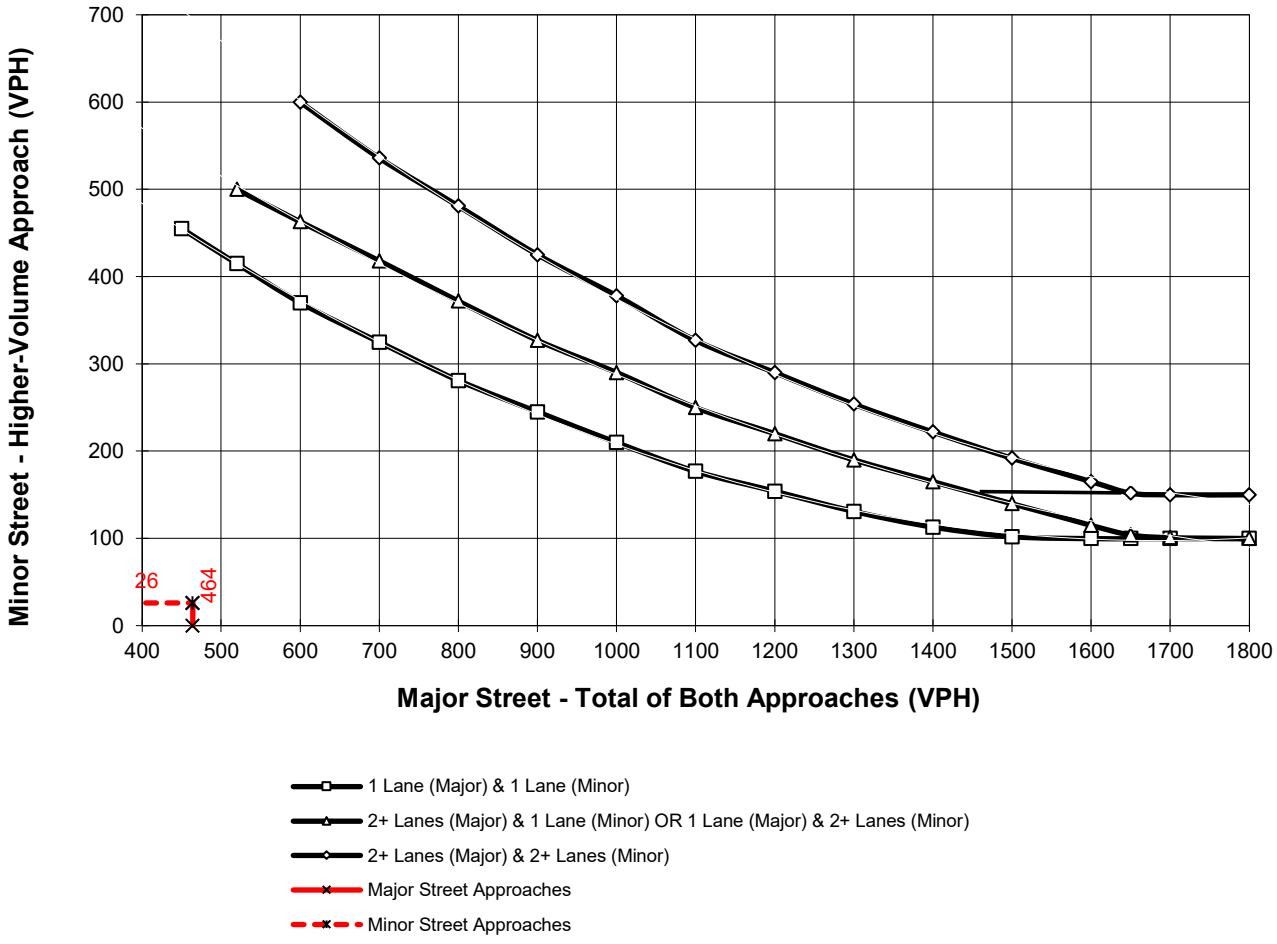
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAAP Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **464**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Philadelphia St.**
High Volume Approach (VPH) = **26**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

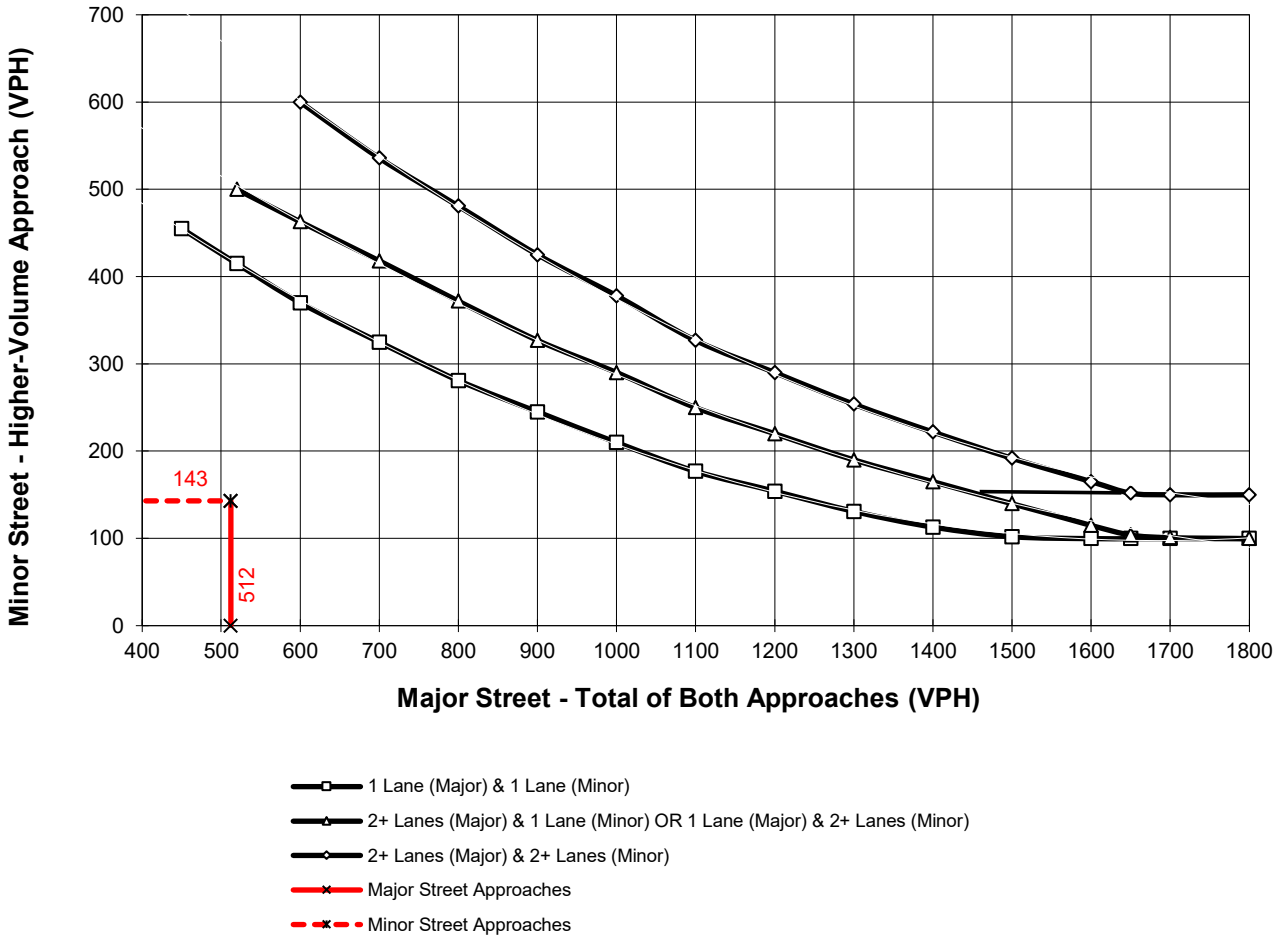
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAAP Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **512**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Olive St.**
High Volume Approach (VPH) = **143**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 6.1: FUTURE CONDITIONS (2027) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.479
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	32	438	25	18	636	42	40	163	54	57	150	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	438	25	18	636	42	40	163	54	57	150	35
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	438	25	18	636	42	40	163	54	57	150	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	438	25	18	636	42	40	163	54	57	150	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	438	25	18	636	42	40	163	54	57	150	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	438	25	18	636	42	40	163	54	57	150	35
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.88	0.12	1.00	0.75	0.25	1.00	0.81	0.19
Final Sat.:	1700	3216	184	1700	3189	211	1700	1277	423	1700	1378	322
Capacity Analysis Module:												
Vol/Sat:	0.02	0.14	0.14	0.01	0.20	0.20	0.02	0.13	0.13	0.03	0.11	0.11
Crit Moves:	****				****			****			****	

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	206	7	8	272	7	3	3	5	9	0	14
Future Vol, veh/h	4	206	7	8	272	7	3	3	5	9	0	14
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	245	8	10	324	8	4	4	6	11	0	17
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.1	11.3	8.3	8.3
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	27%	100%	0%	100%	0%	39%
Vol Thru, %	27%	0%	97%	0%	97%	0%
Vol Right, %	45%	0%	3%	0%	3%	61%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	4	213	8	279	23
LT Vol	3	4	0	8	0	9
Through Vol	3	0	206	0	272	0
RT Vol	5	0	7	0	7	14
Lane Flow Rate	13	5	254	10	332	27
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.019	0.007	0.343	0.014	0.446	0.039
Departure Headway (Hd)	5.164	5.395	4.87	5.35	4.831	5.071
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	692	665	740	673	751	706
Service Time	3.202	3.115	2.59	3.05	2.531	3.105
HCM Lane V/C Ratio	0.019	0.008	0.343	0.015	0.442	0.038
HCM Control Delay	8.3	8.2	10.1	8.1	11.4	8.3
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.1	0	1.5	0	2.3	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	233	242	11	22	14
Future Vol, veh/h	3	233	242	11	22	14
Conflicting Peds, #/hr	0	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	256	266	12	24	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	283	0	-	0	539	277
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	262	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1279	-	-	-	503	762
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1274	-	-	-	497	759
Mov Cap-2 Maneuver	-	-	-	-	497	-
Stage 1	-	-	-	-	765	-
Stage 2	-	-	-	-	779	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1274	-	-	-	574
HCM Lane V/C Ratio	0.003	-	-	-	0.069
HCM Control Delay (s)	7.8	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.383
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	44	105	14	21	112	62	29	390	29	19	415	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	105	14	21	112	62	29	390	29	19	415	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	105	14	21	112	62	29	390	29	19	415	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	105	14	21	112	62	29	390	29	19	415	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	105	14	21	112	62	29	390	29	19	415	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	105	14	21	112	62	29	390	29	19	415	11
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.27	0.64	0.09	0.11	0.57	0.32	1.00	1.86	0.14	1.00	1.95	0.05
Final Sat.:	459	1095	146	183	976	541	1700	3165	235	1700	3312	88
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.01	0.11	0.11	0.02	0.12	0.12	0.01	0.13	0.13
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	182	34	42	210	42	24	84	43	20	113	19
Future Vol, veh/h	35	182	34	42	210	42	24	84	43	20	113	19
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	207	39	48	239	48	27	95	49	23	128	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.6	13.6	11.1	11.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	14%	14%	13%
Vol Thru, %	56%	73%	71%	74%
Vol Right, %	28%	14%	14%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	251	294	152
LT Vol	24	35	42	20
Through Vol	84	182	210	113
RT Vol	43	34	42	19
Lane Flow Rate	172	285	334	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.277	0.431	0.497	0.282
Departure Headway (Hd)	5.803	5.437	5.359	5.887
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	659	668	606
Service Time	3.871	3.494	3.415	3.956
HCM Lane V/C Ratio	0.279	0.432	0.5	0.285
HCM Control Delay	11.1	12.6	13.6	11.3
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	2.2	2.8	1.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.549
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	41	797	70	47	694	48	66	173	45	45	173	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	797	70	47	694	48	66	173	45	45	173	43
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	797	70	47	694	48	66	173	45	45	173	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	797	70	47	694	48	66	173	45	45	173	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	797	70	47	694	48	66	173	45	45	173	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	797	70	47	694	48	66	173	45	45	173	43
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.84	0.16	1.00	1.87	0.13	1.00	0.79	0.21	1.00	0.80	0.20
Final Sat.:	1700	3125	275	1700	3180	220	1700	1349	351	1700	1362	338
Capacity Analysis Module:												
Vol/Sat:	0.02	0.25	0.26	0.03	0.22	0.22	0.04	0.13	0.13	0.03	0.13	0.13
Crit Moves:		****	****				****				****	

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	273	25	6	243	16	12	7	10	8	11	33
Future Vol, veh/h	30	273	25	6	243	16	12	7	10	8	11	33
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	284	26	6	253	17	13	7	10	8	11	34
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	11	10.6	8.7	8.5
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	41%	100%	0%	100%	0%	15%
Vol Thru, %	24%	0%	92%	0%	94%	21%
Vol Right, %	34%	0%	8%	0%	6%	63%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	30	298	6	259	52
LT Vol	12	30	0	6	0	8
Through Vol	7	0	273	0	243	11
RT Vol	10	0	25	0	16	33
Lane Flow Rate	30	31	310	6	270	54
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.045	0.048	0.424	0.01	0.374	0.076
Departure Headway (Hd)	5.342	5.479	4.917	5.539	4.993	5.076
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	667	653	733	646	720	703
Service Time	3.399	3.212	2.651	3.274	2.728	3.128
HCM Lane V/C Ratio	0.045	0.047	0.423	0.009	0.375	0.077
HCM Control Delay	8.7	8.5	11.2	8.3	10.7	8.5
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.1	0.2	2.1	0	1.7	0.2

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	236	257	8	7	17
Future Vol, veh/h	19	236	257	8	7	17
Conflicting Peds, #/hr	0	0	0	7	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	248	271	8	7	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	286	0	-	0	570	285
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	288	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1276	-	-	-	483	754
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	761	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1269	-	-	-	469	748
Mov Cap-2 Maneuver	-	-	-	-	469	-
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	756	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1269	-	-	-	637
HCM Lane V/C Ratio	0.016	-	-	-	0.04
HCM Control Delay (s)	7.9	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.438
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	42	125	19	27	128	48	60	454	45	18	516	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	125	19	27	128	48	60	454	45	18	516	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	125	19	27	128	48	60	454	45	18	516	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	125	19	27	128	48	60	454	45	18	516	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	125	19	27	128	48	60	454	45	18	516	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	125	19	27	128	48	60	454	45	18	516	24
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.67	0.10	0.13	0.63	0.24	1.00	1.82	0.18	1.00	1.91	0.09
Final Sat.:	384	1142	174	226	1072	402	1700	3093	307	1700	3249	151
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.11	0.02	0.12	0.12	0.04	0.15	0.15	0.01	0.16	0.16
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	191	25	35	194	35	37	90	28	50	124	26
Future Vol, veh/h	25	191	25	35	194	35	37	90	28	50	124	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	208	27	38	211	38	40	98	30	54	135	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.2	12.7	11	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	10%	13%	25%
Vol Thru, %	58%	79%	73%	62%
Vol Right, %	18%	10%	13%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	241	264	200
LT Vol	37	25	35	50
Through Vol	90	191	194	124
RT Vol	28	25	35	26
Lane Flow Rate	168	262	287	217
Geometry Grp	1	1	1	1
Degree of Util (X)	0.271	0.4	0.434	0.346
Departure Headway (Hd)	5.793	5.498	5.446	5.729
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	617	652	660	626
Service Time	3.859	3.554	3.502	3.79
HCM Lane V/C Ratio	0.272	0.402	0.435	0.347
HCM Control Delay	11	12.2	12.7	11.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	1.9	2.2	1.5

APPENDIX 6.2: FUTURE CONDITIONS (2027) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.481
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0 1	1	0	1 0 1	1	0	1 0 0	1	0	1 0 0	1	0
Volume Module:												
Base Vol:	32	438	25	18	636	42	40	163	54	57	150	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	438	25	18	636	42	40	163	54	57	150	35
Added Vol:	0	0	1	0	0	0	0	0	0	3	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	438	26	18	636	42	40	163	54	60	151	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	438	26	18	636	42	40	163	54	60	151	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	438	26	18	636	42	40	163	54	60	151	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	438	26	18	636	42	40	163	54	60	151	35
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.88	0.12	1.00	0.75	0.25	1.00	0.81	0.19
Final Sat.:	1700	3209	191	1700	3189	211	1700	1277	423	1700	1380	320
Capacity Analysis Module:												
Vol/Sat:	0.02	0.14	0.14	0.01	0.20	0.20	0.02	0.13	0.13	0.04	0.11	0.11
Crit Moves:	****				****			****			****	

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Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	207	7	8	274	7	3	3	5	10	0	17
Future Vol, veh/h	5	207	7	8	274	7	3	3	5	10	0	17
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	246	8	10	326	8	4	4	6	12	0	20
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.2	11.3	8.3	8.3
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	27%	100%	0%	100%	0%	37%
Vol Thru, %	27%	0%	97%	0%	98%	0%
Vol Right, %	45%	0%	3%	0%	2%	63%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	5	214	8	281	27
LT Vol	3	5	0	8	0	10
Through Vol	3	0	207	0	274	0
RT Vol	5	0	7	0	7	17
Lane Flow Rate	13	6	255	10	335	32
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.019	0.009	0.346	0.014	0.449	0.045
Departure Headway (Hd)	5.185	5.411	4.886	5.348	4.829	5.066
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	690	663	739	671	749	706
Service Time	3.222	3.131	2.605	3.067	2.547	3.1
HCM Lane V/C Ratio	0.019	0.009	0.345	0.015	0.447	0.045
HCM Control Delay	8.3	8.2	10.2	8.1	11.4	8.3
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.1	0	1.5	0	2.3	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	234	242	12	24	16
Future Vol, veh/h	4	234	242	12	24	16
Conflicting Peds, #/hr	0	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	257	266	13	26	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	284	0	-	0	543	278
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1278	-	-	-	501	761
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1273	-	-	-	495	758
Mov Cap-2 Maneuver	-	-	-	-	495	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	776	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1273	-	-	-	575
HCM Lane V/C Ratio	0.003	-	-	-	0.076
HCM Control Delay (s)	7.8	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.385	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	30	Level Of Service:	A	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	44	105	14	21	112	62	29	390	29	19	415	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	105	14	21	112	62	29	390	29	19	415	11
Added Vol:	0	2	1	0	1	1	2	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	107	15	21	113	63	31	391	29	19	415	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	107	15	21	113	63	31	391	29	19	415	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	107	15	21	113	63	31	391	29	19	415	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	107	15	21	113	63	31	391	29	19	415	11
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.27	0.64	0.09	0.11	0.57	0.32	1.00	1.86	0.14	1.00	1.95	0.05
Final Sat.:	451	1096	154	181	975	544	1700	3165	235	1700	3312	88
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.01	0.12	0.12	0.02	0.12	0.12	0.01	0.13	0.13
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	183	36	42	210	42	25	84	43	20	114	19
Future Vol, veh/h	35	183	36	42	210	42	25	84	43	20	114	19
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	208	41	48	239	48	28	95	49	23	130	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.7	13.7	11.2	11.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	14%	14%	13%
Vol Thru, %	55%	72%	71%	75%
Vol Right, %	28%	14%	14%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	254	294	153
LT Vol	25	35	42	20
Through Vol	84	183	210	114
RT Vol	43	36	42	19
Lane Flow Rate	173	289	334	174
Geometry Grp	1	1	1	1
Degree of Util (X)	0.279	0.437	0.499	0.285
Departure Headway (Hd)	5.821	5.445	5.376	5.905
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	613	658	668	605
Service Time	3.892	3.503	3.432	3.974
HCM Lane V/C Ratio	0.282	0.439	0.5	0.288
HCM Control Delay	11.2	12.7	13.7	11.3
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	2.2	2.8	1.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.550
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	41	797	70	47	694	48	66	173	45	45	173	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	797	70	47	694	48	66	173	45	45	173	43
Added Vol:	0	0	4	0	0	0	0	1	0	2	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	797	74	47	694	48	66	174	45	47	174	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	797	74	47	694	48	66	174	45	47	174	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	797	74	47	694	48	66	174	45	47	174	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	797	74	47	694	48	66	174	45	47	174	43
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.87	0.13	1.00	0.79	0.21	1.00	0.80	0.20
Final Sat.:	1700	3111	289	1700	3180	220	1700	1351	349	1700	1363	337
Capacity Analysis Module:												
Vol/Sat:	0.02	0.26	0.26	0.03	0.22	0.22	0.04	0.13	0.13	0.03	0.13	0.13
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	275	25	6	244	17	12	7	10	9	11	35
Future Vol, veh/h	33	275	25	6	244	17	12	7	10	9	11	35
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	286	26	6	254	18	13	7	10	9	11	36
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	11	10.7	8.7	8.6
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	41%	100%	0%	100%	0%	16%
Vol Thru, %	24%	0%	92%	0%	93%	20%
Vol Right, %	34%	0%	8%	0%	7%	64%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	33	300	6	261	55
LT Vol	12	33	0	6	0	9
Through Vol	7	0	275	0	244	11
RT Vol	10	0	25	0	17	35
Lane Flow Rate	30	34	313	6	272	57
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.045	0.052	0.428	0.01	0.378	0.081
Departure Headway (Hd)	5.365	5.49	4.929	5.554	5.006	5.094
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	664	652	731	644	718	701
Service Time	3.423	3.226	2.665	3.292	2.743	3.146
HCM Lane V/C Ratio	0.045	0.052	0.428	0.009	0.379	0.081
HCM Control Delay	8.7	8.5	11.3	8.3	10.8	8.6
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.1	0.2	2.2	0	1.8	0.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	237	258	10	8	18
Future Vol, veh/h	21	237	258	10	8	18
Conflicting Peds, #/hr	0	0	0	7	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	249	272	11	8	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	290	0	-	0	578	288
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	293	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1272	-	-	-	478	751
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1265	-	-	-	463	745
Mov Cap-2 Maneuver	-	-	-	-	463	-
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	752	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1265	-	-	-	627
HCM Lane V/C Ratio	0.017	-	-	-	0.044
HCM Control Delay (s)	7.9	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.441
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	42	125	19	27	128	48	60	454	45	18	516	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	125	19	27	128	48	60	454	45	18	516	24
Added Vol:	0	1	1	0	2	2	1	1	0	1	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	126	20	27	130	50	61	455	45	19	517	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	126	20	27	130	50	61	455	45	19	517	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	126	20	27	130	50	61	455	45	19	517	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	126	20	27	130	50	61	455	45	19	517	24
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.67	0.11	0.13	0.63	0.24	1.00	1.82	0.18	1.00	1.91	0.09
Final Sat.:	380	1139	181	222	1068	411	1700	3094	306	1700	3249	151
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.11	0.02	0.12	0.12	0.04	0.15	0.15	0.01	0.16	0.16
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	191	26	35	195	35	39	91	28	50	125	26
Future Vol, veh/h	25	191	26	35	195	35	39	91	28	50	125	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	208	28	38	212	38	42	99	30	54	136	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.3	12.7	11.1	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	10%	13%	25%
Vol Thru, %	58%	79%	74%	62%
Vol Right, %	18%	11%	13%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	158	242	265	201
LT Vol	39	25	35	50
Through Vol	91	191	195	125
RT Vol	28	26	35	26
Lane Flow Rate	172	263	288	218
Geometry Grp	1	1	1	1
Degree of Util (X)	0.277	0.403	0.437	0.349
Departure Headway (Hd)	5.812	5.515	5.466	5.748
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	615	650	657	623
Service Time	3.879	3.574	3.524	3.81
HCM Lane V/C Ratio	0.28	0.405	0.438	0.35
HCM Control Delay	11.1	12.3	12.7	11.9
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	1.9	2.2	1.6

APPENDIX 6.3: FUTURE CONDITIONS (2027) WITHOUT PROJECT TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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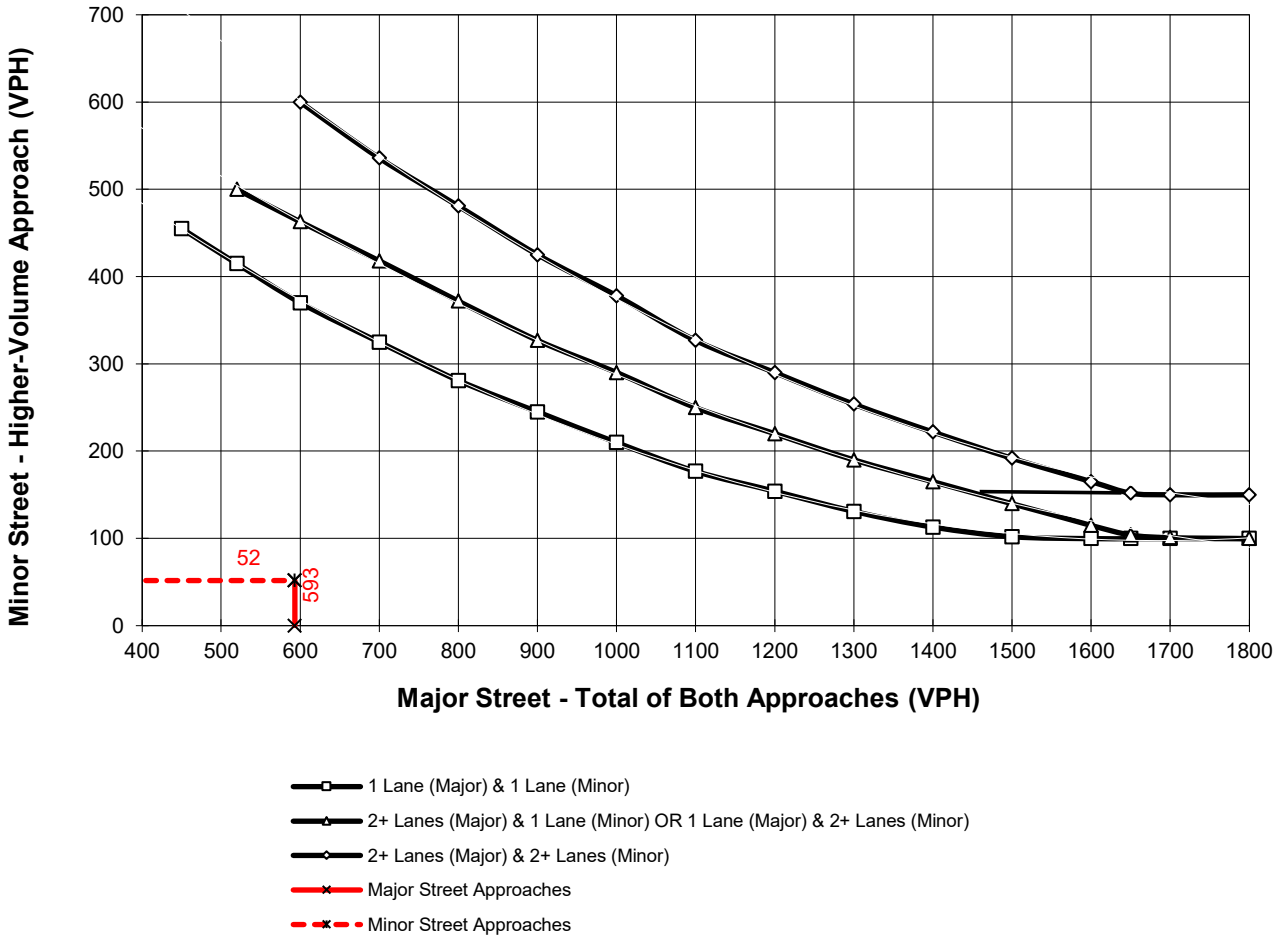
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **593**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Claudina St.**
High Volume Approach (VPH) = **52**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

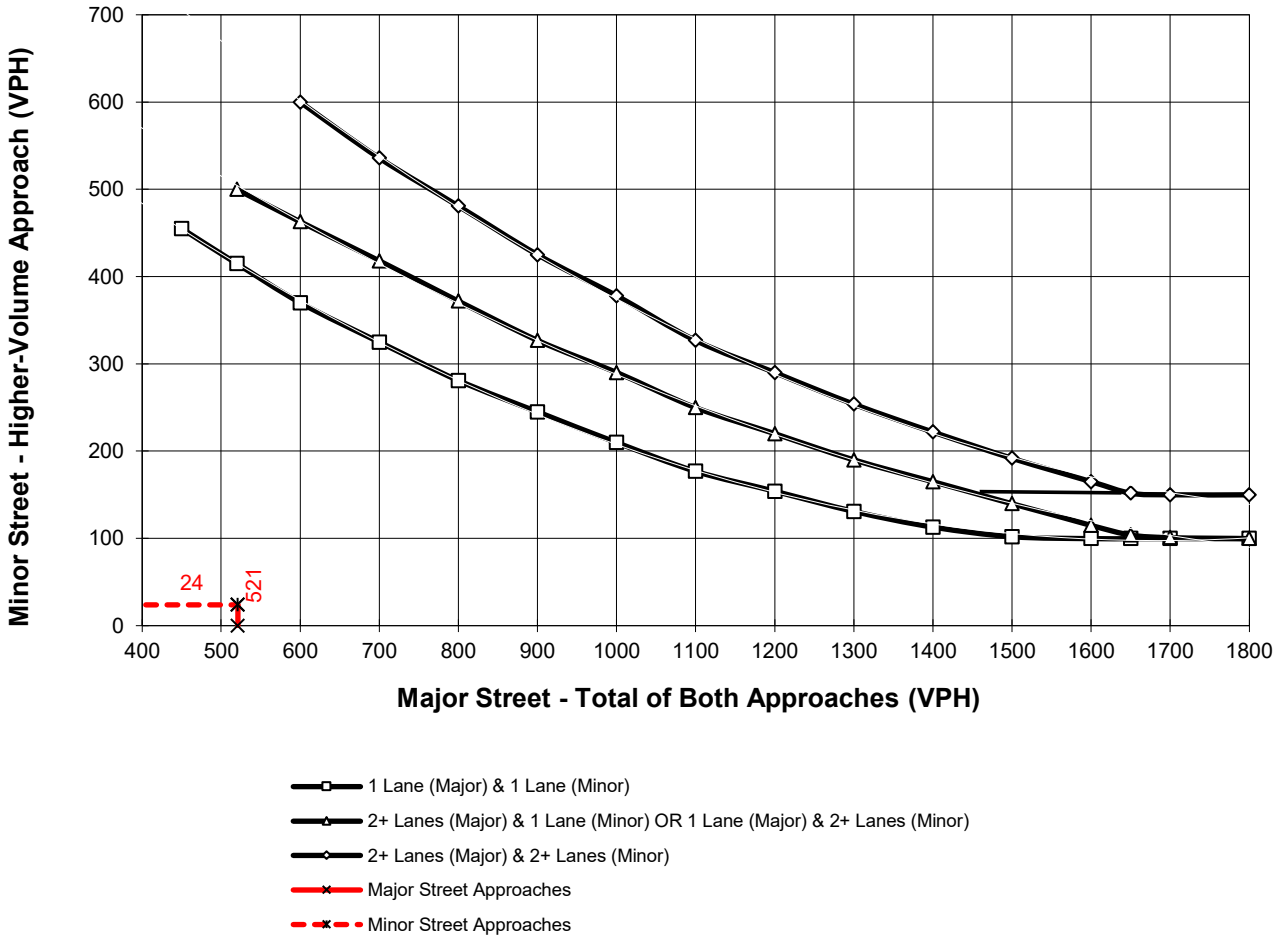
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **521**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Philadelphia St.**
High Volume Approach (VPH) = **24**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

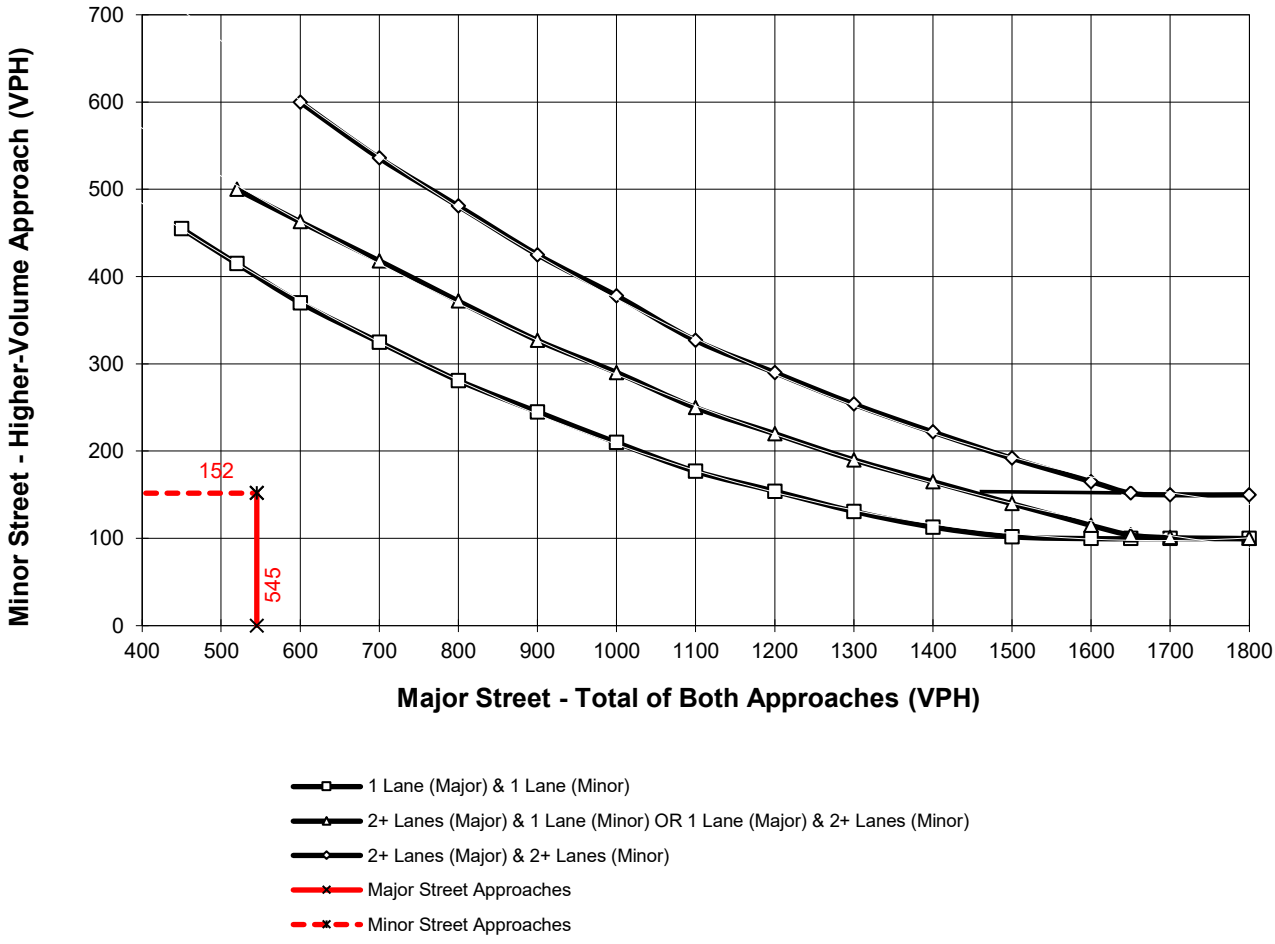
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **545**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Olive St.**
High Volume Approach (VPH) = **152**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 6.4: FUTURE CONDITIONS (2027) WITH PROJECT TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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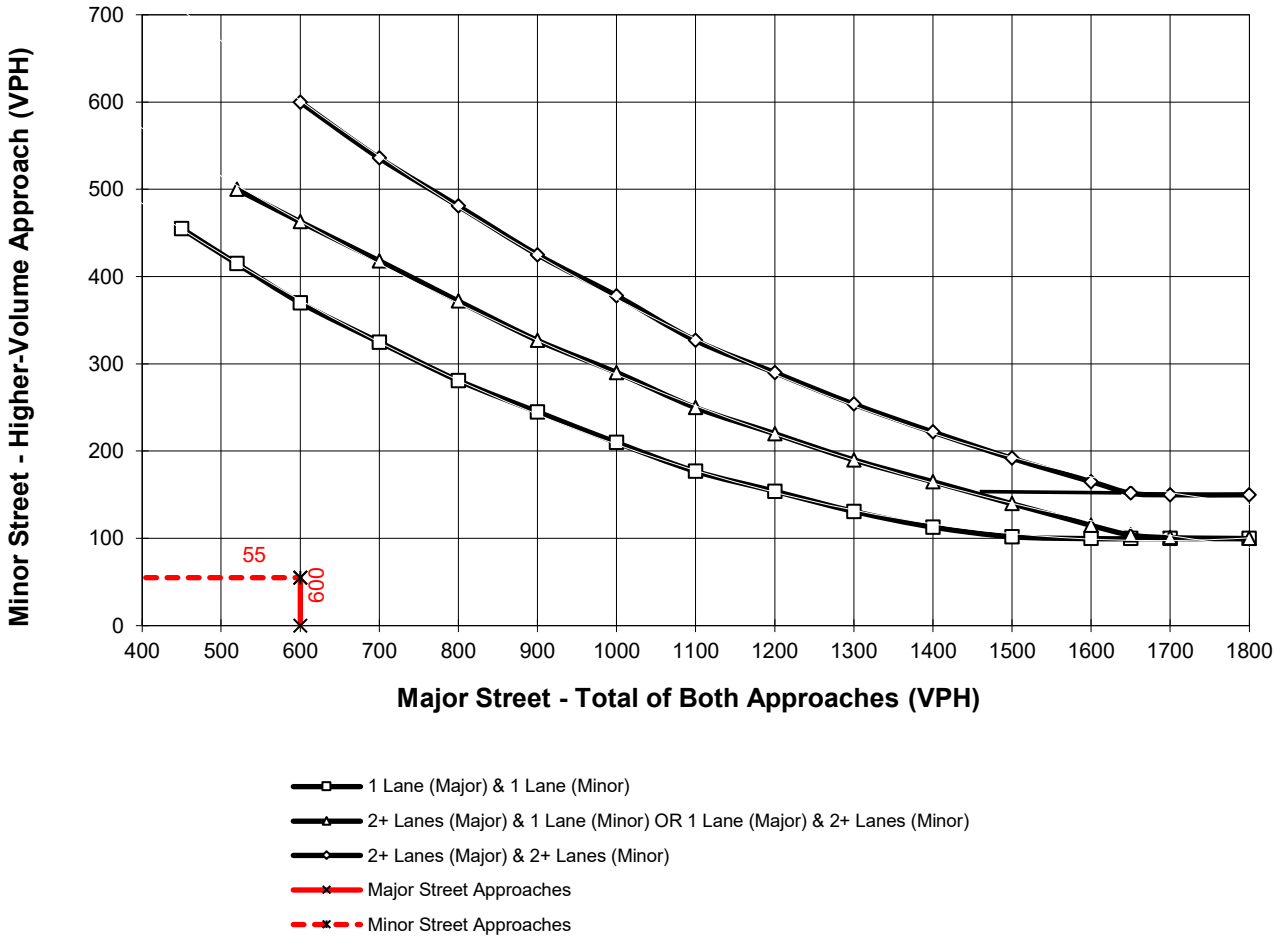
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **600**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Claudina St.**
High Volume Approach (VPH) = **55**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

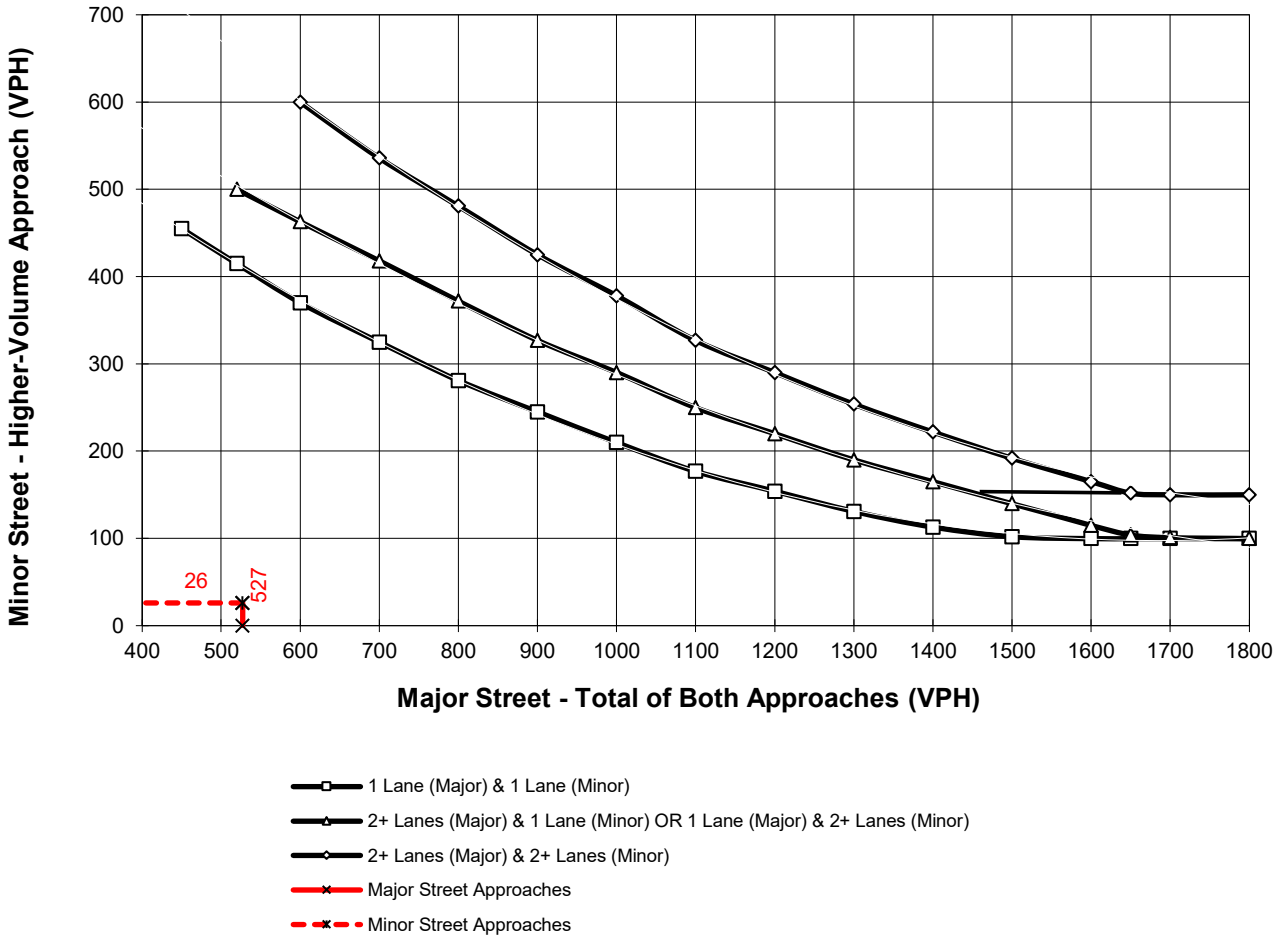
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **527**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Philadelphia St.**
High Volume Approach (VPH) = **26**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

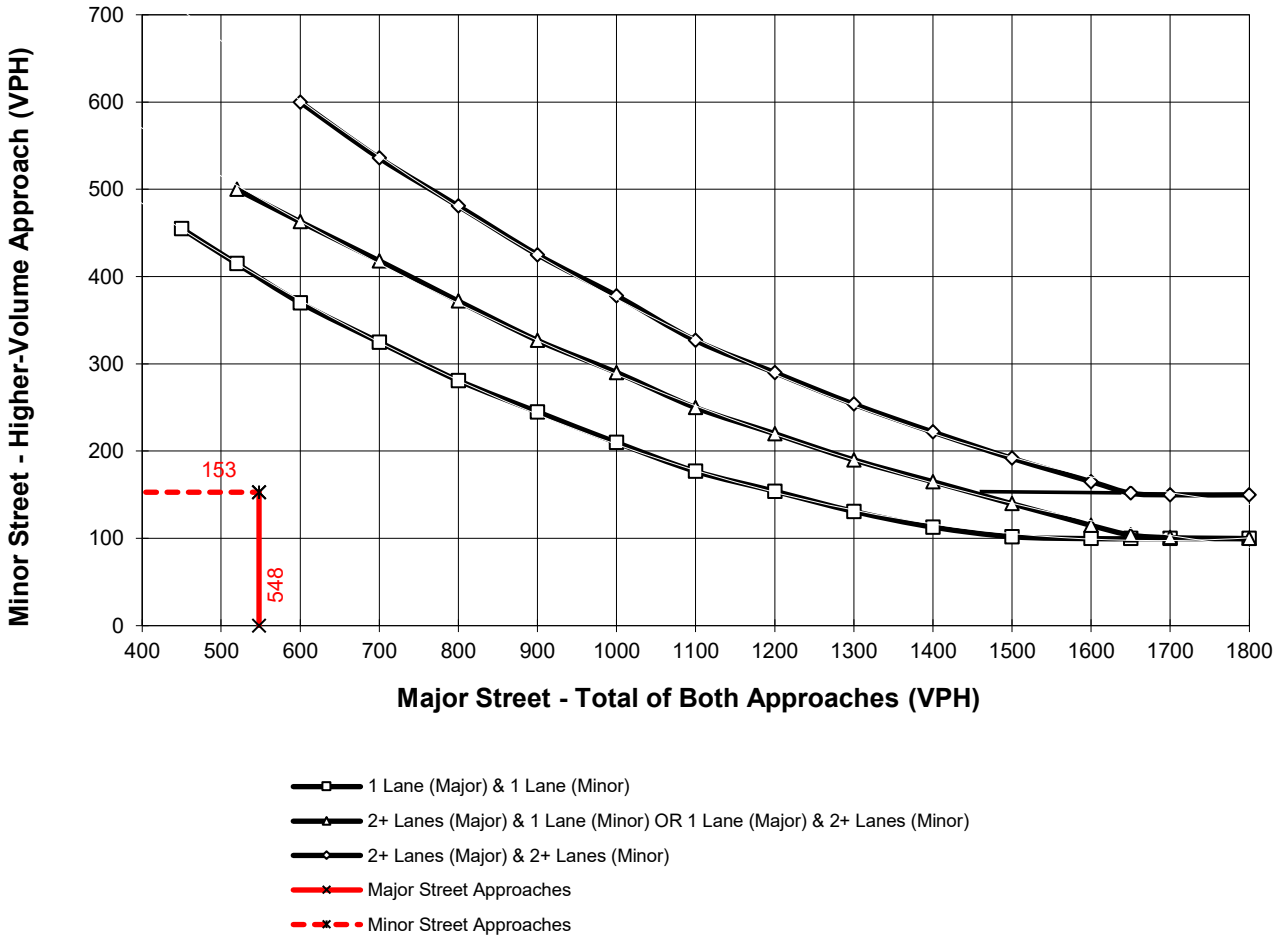
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **548**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Olive St.**
High Volume Approach (VPH) = **153**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 7.1: GENERAL PLAN BUILDOUT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	35	793	41	28	1521	46	50	180	60	63	165	69
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	793	41	28	1521	46	50	180	60	63	165	69
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	793	41	28	1521	46	50	180	60	63	165	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	793	41	28	1521	46	50	180	60	63	165	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	793	41	28	1521	46	50	180	60	63	165	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	793	41	28	1521	46	50	180	60	63	165	69
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.94	0.06	1.00	0.75	0.25	1.00	0.71	0.29
Final Sat.:	1700	3233	167	1700	3300	100	1700	1275	425	1700	1199	501
Capacity Analysis Module:												
Vol/Sat:	0.02	0.25	0.25	0.02	0.46	0.46	0.03	0.14	0.14	0.04	0.14	0.14
Crit Moves:	****				****			****			****	

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	230	8	9	299	8	7	4	6	20	11	36
Future Vol, veh/h	5	230	8	9	299	8	7	4	6	20	11	36
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	274	10	11	356	10	8	5	7	24	13	43
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	11.1	12.8	8.8	9.1
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	41%	100%	0%	100%	0%	30%
Vol Thru, %	24%	0%	97%	0%	97%	16%
Vol Right, %	35%	0%	3%	0%	3%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	5	238	9	307	67
LT Vol	7	5	0	9	0	20
Through Vol	4	0	230	0	299	11
RT Vol	6	0	8	0	8	36
Lane Flow Rate	20	6	283	11	365	80
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.031	0.009	0.401	0.017	0.51	0.117
Departure Headway (Hd)	5.538	5.622	5.095	5.548	5.027	5.291
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	642	635	706	644	716	674
Service Time	3.613	3.367	2.84	3.29	2.769	3.352
HCM Lane V/C Ratio	0.031	0.009	0.401	0.017	0.51	0.119
HCM Control Delay	8.8	8.4	11.2	8.4	12.9	9.1
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.1	0	1.9	0.1	2.9	0.4

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	256	271	17	38	20
Future Vol, veh/h	5	256	271	17	38	20
Conflicting Peds, #/hr	0	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	281	298	19	42	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	322	0	-	0	604	313
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	291	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1238	-	-	-	461	727
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1233	-	-	-	455	724
Mov Cap-2 Maneuver	-	-	-	-	455	-
Stage 1	-	-	-	-	734	-
Stage 2	-	-	-	-	756	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1233	-	-	-	522
HCM Lane V/C Ratio	0.004	-	-	-	0.122
HCM Control Delay (s)	7.9	0	-	-	12.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.710
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	55	116	51	96	220	84	32	978	32	77	568	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	116	51	96	220	84	32	978	32	77	568	25
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	116	51	96	220	84	32	978	32	77	568	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	55	116	51	96	220	84	32	978	32	77	568	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	116	51	96	220	84	32	978	32	77	568	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	116	51	96	220	84	32	978	32	77	568	25
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.52	0.23	0.24	0.55	0.21	1.00	1.94	0.06	1.00	1.92	0.08
Final Sat.:	421	888	391	408	935	357	1700	3292	108	1700	3257	143
Capacity Analysis Module:												
Vol/Sat:	0.03	0.13	0.13	0.06	0.24	0.24	0.02	0.30	0.30	0.05	0.17	0.17
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	29.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	221	37	48	256	52	26	119	52	59	249	21
Future Vol, veh/h	38	221	37	48	256	52	26	119	52	59	249	21
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	251	42	55	291	59	30	135	59	67	283	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	26.2	35.6	18.4	32.1
HCM LOS	D	E	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	13%	13%	18%
Vol Thru, %	60%	75%	72%	76%
Vol Right, %	26%	12%	15%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	296	356	329
LT Vol	26	38	48	59
Through Vol	119	221	256	249
RT Vol	52	37	52	21
Lane Flow Rate	224	336	405	374
Geometry Grp	1	1	1	1
Degree of Util (X)	0.49	0.698	0.819	0.777
Departure Headway (Hd)	7.881	7.466	7.285	7.484
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	454	481	498	486
Service Time	5.964	5.538	5.315	5.512
HCM Lane V/C Ratio	0.493	0.699	0.813	0.77
HCM Control Delay	18.4	26.2	35.6	32.1
HCM Lane LOS	C	D	E	D
HCM 95th-tile Q	2.6	5.3	7.9	6.9

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.874
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	88	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0 1	1	0	1 0 1	1	0	1 0 0	1	0	1 0 0	1	0
Volume Module:												
Base Vol:	58	1830	77	52	1189	91	73	190	49	59	190	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	1830	77	52	1189	91	73	190	49	59	190	47
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	1830	77	52	1189	91	73	190	49	59	190	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	1830	77	52	1189	91	73	190	49	59	190	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	1830	77	52	1189	91	73	190	49	59	190	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	1830	77	52	1189	91	73	190	49	59	190	47
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.92	0.08	1.00	1.86	0.14	1.00	0.79	0.21	1.00	0.80	0.20
Final Sat.:	1700	3263	137	1700	3158	242	1700	1351	349	1700	1363	337
Capacity Analysis Module:												
Vol/Sat:	0.03	0.56	0.56	0.03	0.38	0.38	0.04	0.14	0.14	0.03	0.14	0.14
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	300	27	10	271	33	33	8	22	19	15	37
Future Vol, veh/h	40	300	27	10	271	33	33	8	22	19	15	37
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	313	28	10	282	34	34	8	23	20	16	39
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	12.4	12.2	9.4	9.3
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	52%	100%	0%	100%	0%	27%
Vol Thru, %	13%	0%	92%	0%	89%	21%
Vol Right, %	35%	0%	8%	0%	11%	52%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	40	327	10	304	71
LT Vol	33	40	0	10	0	19
Through Vol	8	0	300	0	271	15
RT Vol	22	0	27	0	33	37
Lane Flow Rate	66	42	341	10	317	74
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.105	0.066	0.488	0.017	0.457	0.114
Departure Headway (Hd)	5.738	5.715	5.153	5.776	5.195	5.571
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	628	622	695	615	687	647
Service Time	3.741	3.494	2.932	3.557	2.976	3.571
HCM Lane V/C Ratio	0.105	0.068	0.491	0.016	0.461	0.114
HCM Control Delay	9.4	8.9	12.8	8.7	12.3	9.3
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.4	0.2	2.7	0.1	2.4	0.4

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	260	284	10	8	21
Future Vol, veh/h	21	260	284	10	8	21
Conflicting Peds, #/hr	0	0	0	7	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	274	299	11	8	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	317	0	-	0	630	315
Stage 1	-	-	-	-	312	-
Stage 2	-	-	-	-	318	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1243	-	-	-	446	725
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	738	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1236	-	-	-	431	719
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1236	-	-	-	607
HCM Lane V/C Ratio	0.018	-	-	-	0.05
HCM Control Delay (s)	8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.538
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	98	138	35	30	141	56	66	756	51	40	568	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	138	35	30	141	56	66	756	51	40	568	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	138	35	30	141	56	66	756	51	40	568	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	138	35	30	141	56	66	756	51	40	568	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	138	35	30	141	56	66	756	51	40	568	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	138	35	30	141	56	66	756	51	40	568	53
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.36	0.51	0.13	0.13	0.62	0.25	1.00	1.87	0.13	1.00	1.83	0.17
Final Sat.:	615	866	220	225	1056	419	1700	3185	215	1700	3110	290
Capacity Analysis Module:												
Vol/Sat:	0.06	0.16	0.16	0.02	0.13	0.13	0.04	0.24	0.24	0.02	0.18	0.18
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	20
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	232	27	52	253	47	41	141	97	55	136	29
Future Vol, veh/h	28	232	27	52	253	47	41	141	97	55	136	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	252	29	57	275	51	45	153	105	60	148	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.2	24.1	18.6	16.5
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	10%	15%	25%
Vol Thru, %	51%	81%	72%	62%
Vol Right, %	35%	9%	13%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	279	287	352	220
LT Vol	41	28	52	55
Through Vol	141	232	253	136
RT Vol	97	27	47	29
Lane Flow Rate	303	312	383	239
Geometry Grp	1	1	1	1
Degree of Util (X)	0.572	0.588	0.707	0.473
Departure Headway (Hd)	6.791	6.791	6.655	7.119
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	531	530	547	505
Service Time	4.851	4.853	4.655	5.184
HCM Lane V/C Ratio	0.571	0.589	0.7	0.473
HCM Control Delay	18.6	19.2	24.1	16.5
HCM Lane LOS	C	C	C	C
HCM 95th-tile Q	3.6	3.8	5.6	2.5

APPENDIX 7.2: GENERAL PLAN BUILDOUT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.761
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	35	793	41	28	1521	46	50	180	60	63	165	69
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	793	41	28	1521	46	50	180	60	63	165	69
Added Vol:	0	0	1	0	0	0	0	0	0	3	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	793	42	28	1521	46	50	180	60	66	166	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	793	42	28	1521	46	50	180	60	66	166	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	793	42	28	1521	46	50	180	60	66	166	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	793	42	28	1521	46	50	180	60	66	166	69
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.94	0.06	1.00	0.75	0.25	1.00	0.71	0.29
Final Sat.:	1700	3229	171	1700	3300	100	1700	1275	425	1700	1201	499
Capacity Analysis Module:												
Vol/Sat:	0.02	0.25	0.25	0.02	0.46	0.46	0.03	0.14	0.14	0.04	0.14	0.14
Crit Moves:	****				****			****			****	

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	231	8	9	301	8	7	4	6	21	11	39
Future Vol, veh/h	6	231	8	9	301	8	7	4	6	21	11	39
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	275	10	11	358	10	8	5	7	25	13	46
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	11.2	13	8.8	9.1
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	41%	100%	0%	100%	0%	30%
Vol Thru, %	24%	0%	97%	0%	97%	15%
Vol Right, %	35%	0%	3%	0%	3%	55%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	6	239	9	309	71
LT Vol	7	6	0	9	0	21
Through Vol	4	0	231	0	301	11
RT Vol	6	0	8	0	8	39
Lane Flow Rate	20	7	285	11	368	85
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.031	0.011	0.404	0.017	0.515	0.124
Departure Headway (Hd)	5.559	5.639	5.112	5.565	5.044	5.296
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	639	633	703	642	714	673
Service Time	3.639	3.387	2.86	3.31	2.789	3.36
HCM Lane V/C Ratio	0.031	0.011	0.405	0.017	0.515	0.126
HCM Control Delay	8.8	8.5	11.3	8.4	13.1	9.1
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.1	0	2	0.1	3	0.4

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	257	271	18	40	22
Future Vol, veh/h	6	257	271	18	40	22
Conflicting Peds, #/hr	0	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	282	298	20	44	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	323	0	-	0	609	313
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	296	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1237	-	-	-	458	727
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1232	-	-	-	451	724
Mov Cap-2 Maneuver	-	-	-	-	451	-
Stage 1	-	-	-	-	733	-
Stage 2	-	-	-	-	752	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1232	-	-	-	521
HCM Lane V/C Ratio	0.005	-	-	-	0.131
HCM Control Delay (s)	7.9	0	-	-	12.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.711
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	55	116	51	96	220	84	32	978	32	77	568	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	116	51	96	220	84	32	978	32	77	568	25
Added Vol:	0	2	1	0	1	1	2	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	118	52	96	221	85	34	979	32	77	568	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	55	118	52	96	221	85	34	979	32	77	568	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	118	52	96	221	85	34	979	32	77	568	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	118	52	96	221	85	34	979	32	77	568	25
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.24	0.53	0.23	0.24	0.55	0.21	1.00	1.94	0.06	1.00	1.92	0.08
Final Sat.:	416	892	393	406	935	359	1700	3292	108	1700	3257	143
Capacity Analysis Module:												
Vol/Sat:	0.03	0.13	0.13	0.06	0.24	0.24	0.02	0.30	0.30	0.05	0.17	0.17
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	29.9
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	222	39	48	256	52	27	119	52	59	250	21
Future Vol, veh/h	38	222	39	48	256	52	27	119	52	59	250	21
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	252	44	55	291	59	31	135	59	67	284	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	26.8	36.2	18.6	32.7
HCM LOS	D	E	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	13%	13%	18%
Vol Thru, %	60%	74%	72%	76%
Vol Right, %	26%	13%	15%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	299	356	330
LT Vol	27	38	48	59
Through Vol	119	222	256	250
RT Vol	52	39	52	21
Lane Flow Rate	225	340	405	375
Geometry Grp	1	1	1	1
Degree of Util (X)	0.495	0.707	0.823	0.783
Departure Headway (Hd)	7.925	7.496	7.326	7.52
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	452	482	494	484
Service Time	6.008	5.568	5.355	5.548
HCM Lane V/C Ratio	0.498	0.705	0.82	0.775
HCM Control Delay	18.6	26.8	36.2	32.7
HCM Lane LOS	C	D	E	D
HCM 95th-tile Q	2.7	5.5	8	7

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Anaheim Bl. & E. Santa Ana St.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.875
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	89	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	58	1830	77	52	1189	91	73	190	49	59	190	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	1830	77	52	1189	91	73	190	49	59	190	47
Added Vol:	0	0	1	0	0	0	0	0	0	3	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	1830	78	52	1189	91	73	190	49	62	191	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	1830	78	52	1189	91	73	190	49	62	191	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	1830	78	52	1189	91	73	190	49	62	191	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	1830	78	52	1189	91	73	190	49	62	191	47
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.92	0.08	1.00	1.86	0.14	1.00	0.79	0.21	1.00	0.80	0.20
Final Sat.:	1700	3261	139	1700	3158	242	1700	1351	349	1700	1364	336
Capacity Analysis Module:												
Vol/Sat:	0.03	0.56	0.56	0.03	0.38	0.38	0.04	0.14	0.14	0.04	0.14	0.14
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	302	27	10	272	34	33	8	22	20	15	39
Future Vol, veh/h	43	302	27	10	272	34	33	8	22	20	15	39
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	315	28	10	283	35	34	8	23	21	16	41
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	12.4	12.3	9.4	9.3
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	52%	100%	0%	100%	0%	27%
Vol Thru, %	13%	0%	92%	0%	89%	20%
Vol Right, %	35%	0%	8%	0%	11%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	43	329	10	306	74
LT Vol	33	43	0	10	0	20
Through Vol	8	0	302	0	272	15
RT Vol	22	0	27	0	34	39
Lane Flow Rate	66	45	343	10	319	77
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.105	0.071	0.492	0.017	0.461	0.12
Departure Headway (Hd)	5.763	5.727	5.165	5.791	5.209	5.582
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	625	620	692	613	685	646
Service Time	3.768	3.511	2.949	3.578	2.995	3.585
HCM Lane V/C Ratio	0.106	0.073	0.496	0.016	0.466	0.119
HCM Control Delay	9.4	9	12.9	8.7	12.4	9.3
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.4	0.2	2.7	0.1	2.4	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	261	285	12	9	22
Future Vol, veh/h	23	261	285	12	9	22
Conflicting Peds, #/hr	0	0	0	7	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	275	300	13	9	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	320	0	-	0	637	317
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1240	-	-	-	441	724
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1233	-	-	-	426	718
Mov Cap-2 Maneuver	-	-	-	-	426	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	730	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1233	-	-	-	599
HCM Lane V/C Ratio	0.02	-	-	-	0.054
HCM Control Delay (s)	8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Olive St. & E. Broadway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.540
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Y+R:	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	98	138	35	30	141	56	66	756	51	40	568	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	138	35	30	141	56	66	756	51	40	568	53
Added Vol:	0	2	1	0	1	1	2	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	140	36	30	142	57	68	757	51	40	568	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	140	36	30	142	57	68	757	51	40	568	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	140	36	30	142	57	68	757	51	40	568	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	140	36	30	142	57	68	757	51	40	568	53
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.36	0.51	0.13	0.13	0.62	0.25	1.00	1.87	0.13	1.00	1.83	0.17
Final Sat.:	608	869	223	223	1054	423	1700	3185	215	1700	3110	290
Capacity Analysis Module:												
Vol/Sat:	0.06	0.16	0.16	0.02	0.13	0.13	0.04	0.24	0.24	0.02	0.18	0.18
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	20.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	232	28	52	254	47	43	142	97	55	137	29
Future Vol, veh/h	28	232	28	52	254	47	43	142	97	55	137	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	252	30	57	276	51	47	154	105	60	149	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.4	24.3	19	16.6
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	10%	15%	25%
Vol Thru, %	50%	81%	72%	62%
Vol Right, %	34%	10%	13%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	282	288	353	221
LT Vol	43	28	52	55
Through Vol	142	232	254	137
RT Vol	97	28	47	29
Lane Flow Rate	307	313	384	240
Geometry Grp	1	1	1	1
Degree of Util (X)	0.581	0.594	0.708	0.477
Departure Headway (Hd)	6.821	6.829	6.642	7.154
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	527	529	545	502
Service Time	4.876	4.882	4.692	5.215
HCM Lane V/C Ratio	0.583	0.592	0.705	0.478
HCM Control Delay	19	19.4	24.3	16.6
HCM Lane LOS	C	C	C	C
HCM 95th-tile Q	3.7	3.8	5.6	2.5

APPENDIX 7.3: GENERAL PLAN BUILDOUT WITHOUT PROJECT TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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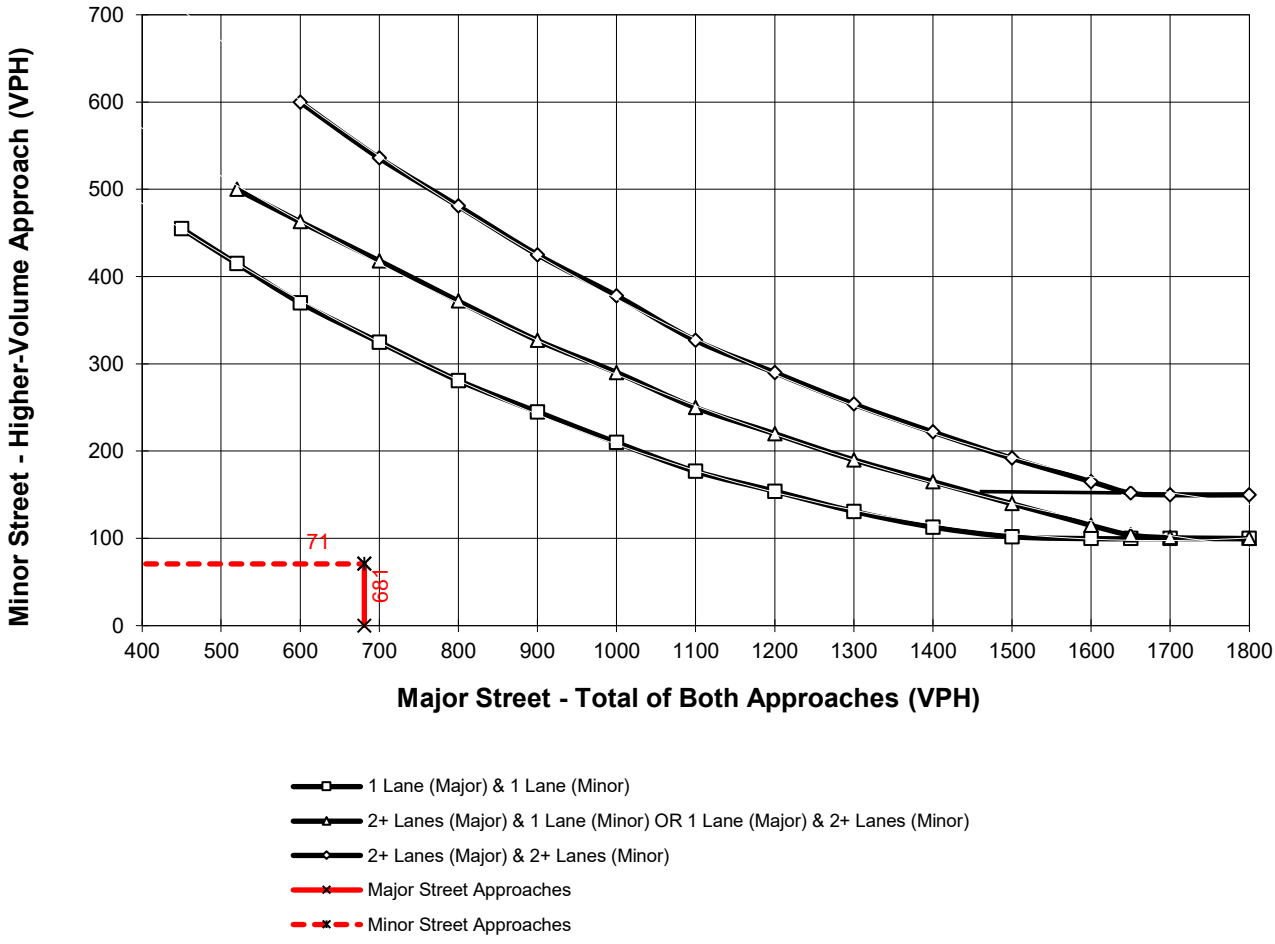
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **GPBO Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **681**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Claudina St.**
High Volume Approach (VPH) = **71**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

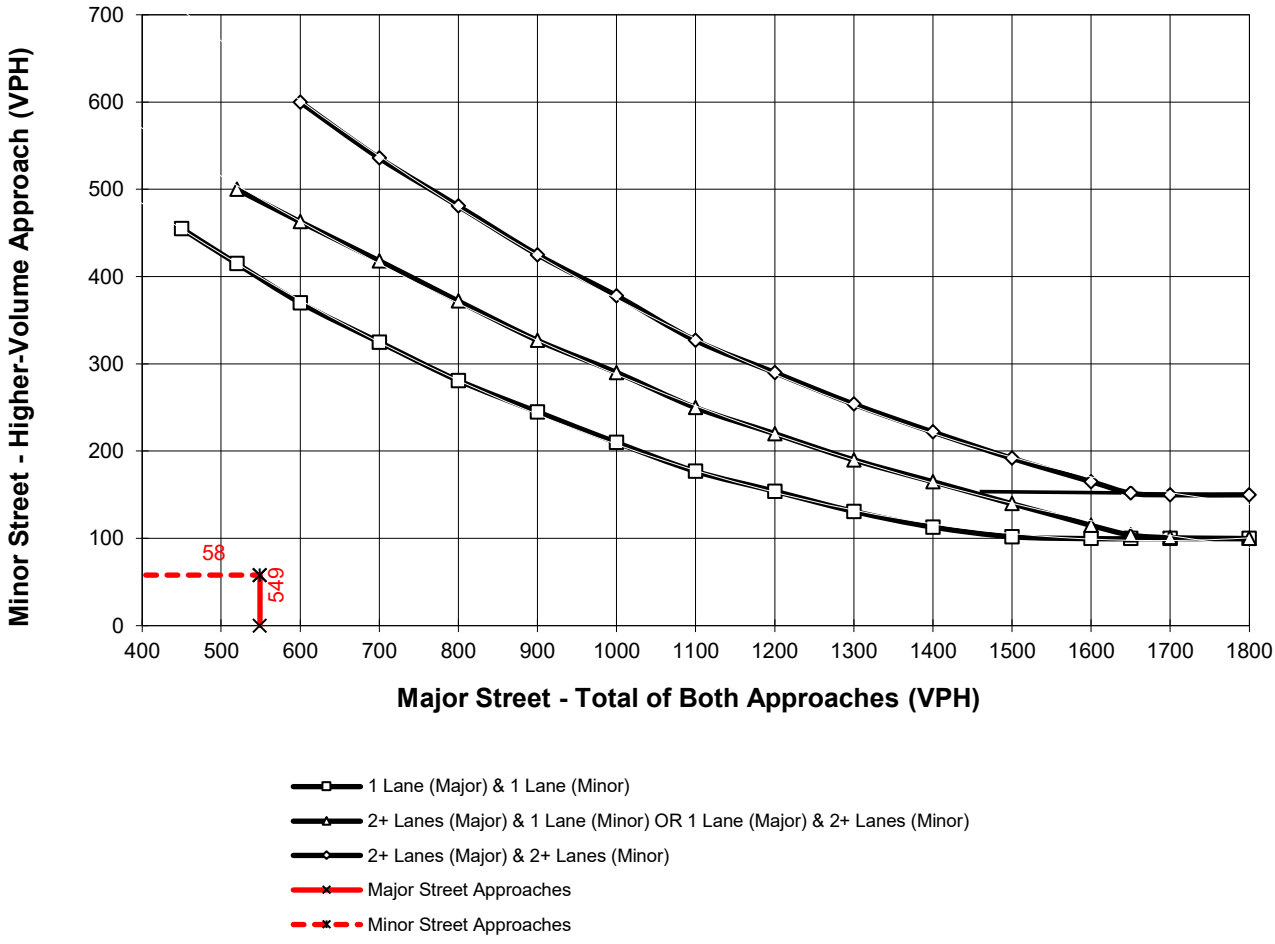
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **GPBO Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **549**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Philadelphia St.**
High Volume Approach (VPH) = **58**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

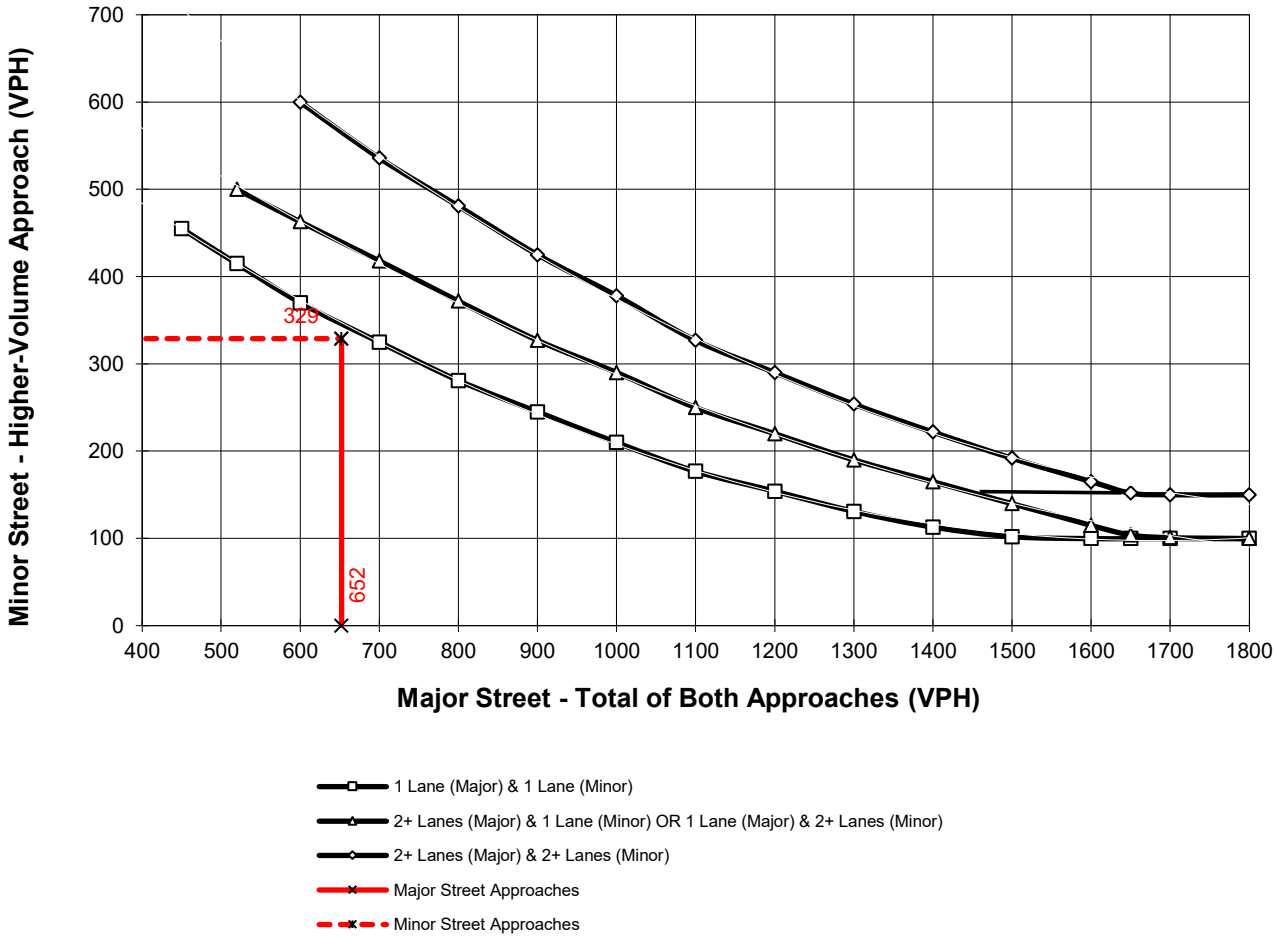
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **GPBO Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **652**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Olive St.**
High Volume Approach (VPH) = **329**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 7.4: GENERAL PLAN BUILDOUT WITH PROJECT TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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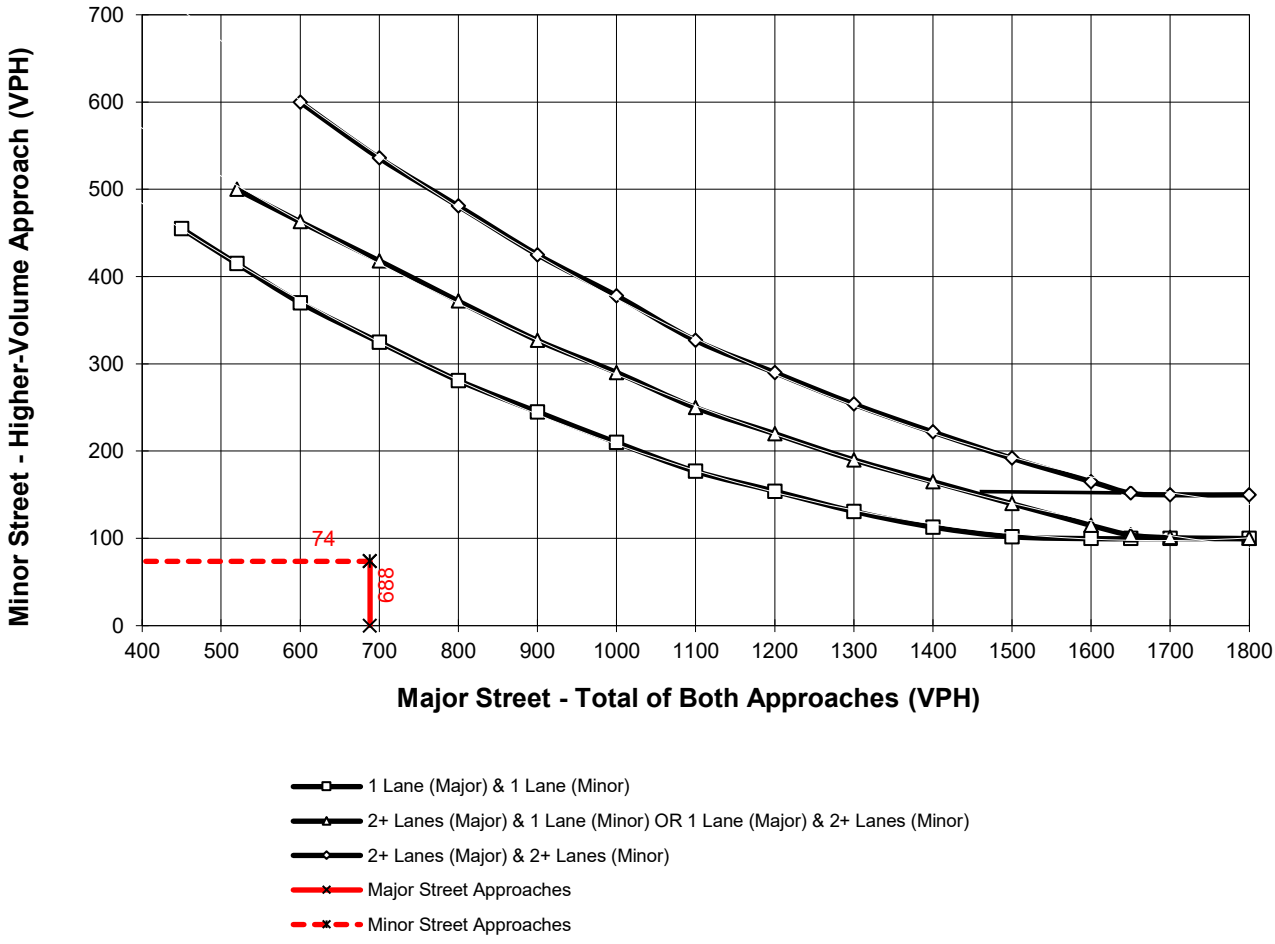
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **GPBO With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **688**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Claudina St.**
High Volume Approach (VPH) = **74**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

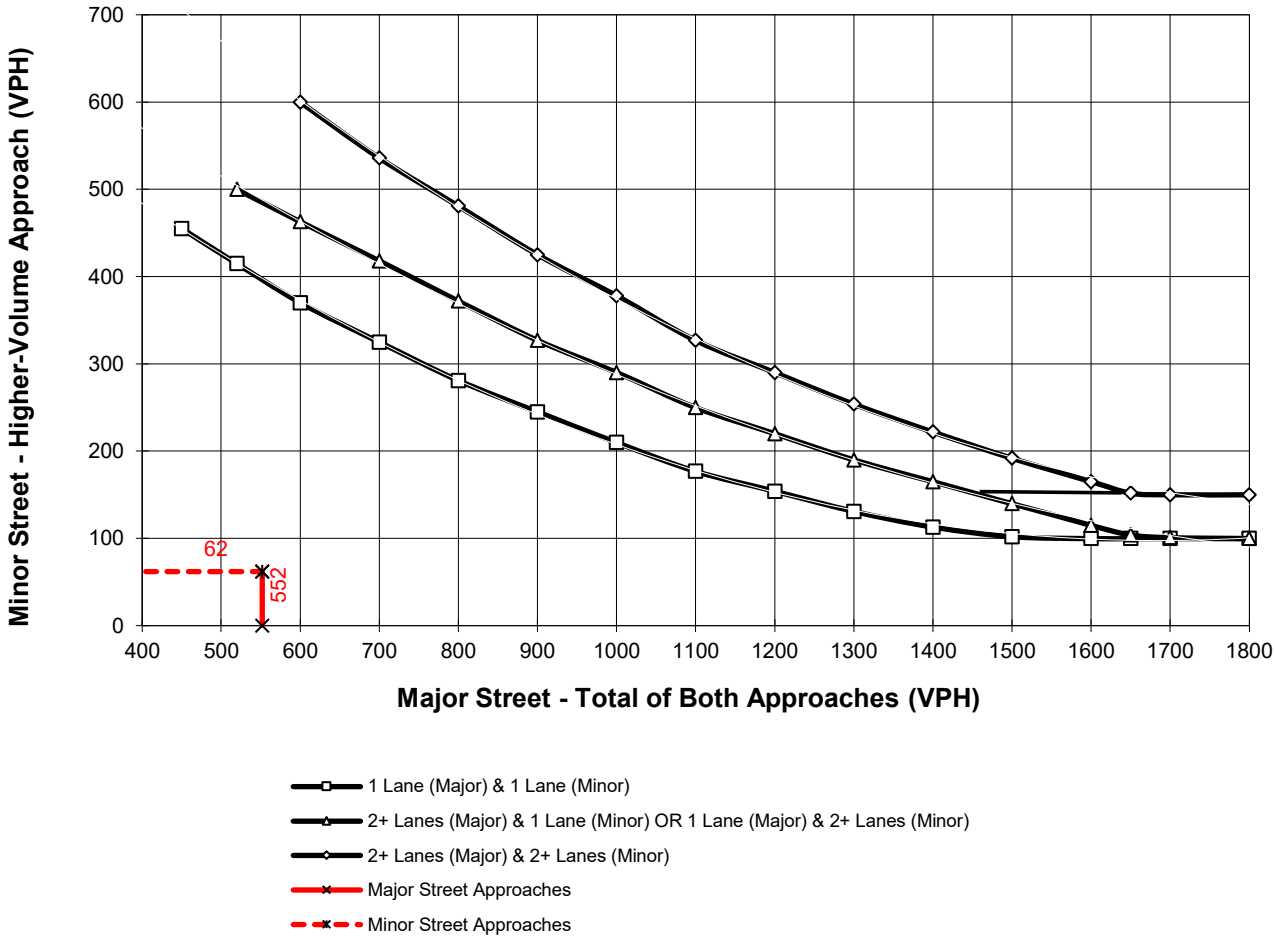
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **GPBO With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **552**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Philadelphia St.**
High Volume Approach (VPH) = **62**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

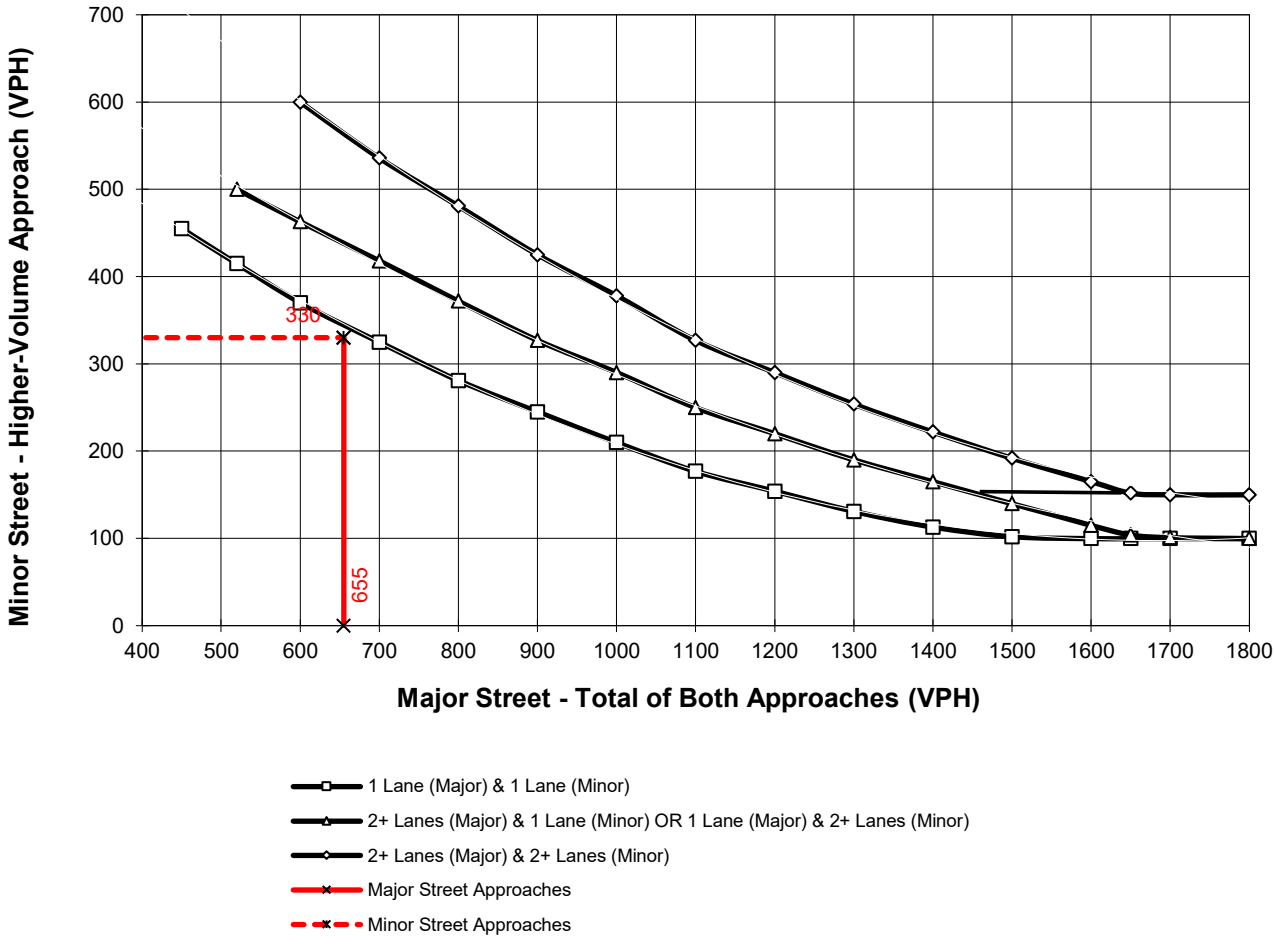
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **GPBO With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **E. Santa Ana St.**
Total of Both Approaches (VPH) = **655**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Olive St.**
High Volume Approach (VPH) = **330**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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I.2 - Vehicle Miles Traveled Screening Evaluation

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MEMORANDUM

URBAN | CROSSROADS

DATE: November 22, 2023
TO: Johanna Crooker, MLC Holdings, Inc.
FROM: Alex So, Urban Crossroads, Inc.
JOB NO: 15477-01 VMT

THE MILL VEHICLE MILES TRAVELED (VMT) SCREENING EVALUATION

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Screening Evaluation for The Mill (**Project**), which is located at 275 E. Santa Ana Street in the City of Anaheim.

PROJECT OVERVIEW

The site is currently vacant (no tenant) but is occupied by 40,644 square feet of warehousing/light industrial building space. The proposed Project is proposed to redevelop the site and replace the existing structures with 56 multifamily (low-rise) residential dwelling units. Ten percent (10%) of the units will be affordable. A preliminary site plan for the proposed Project is found in Attachment A.

BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the City of Anaheim. developed and adopted their own City of Anaheim Traffic Impact Analysis Guidelines for California Environmental Quality Act Analysis, (**City Guidelines**) (1). This VMT screening evaluation has been developed based on the adopted City Guidelines.

VMT SCREENING

The City Guidelines identify three types of project screening that can be applied to effectively screen projects from a project level VMT analysis. A project only needs to fulfill one of the screening types to qualify for screening. The City of Anaheim. VMT screening types, as described within the City Guidelines, are listed below:

- Type 1: Transit Priority Area (TPA) Screening
- Type 2: Low VMT Area Screening
- Type 3: Project Type Screening

TYPE 1: TRANSIT PRIORITY AREA (TPA) SCREENING

The City Guidelines state those projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"[1] or an existing stop along a "high-quality transit corridor"[2]) may be presumed to have a less than significant impact absent substantial evidence to the contrary.

However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

According to the TPA Map provided in the City Guidelines, the proposed Project is located within a ½ mile of an existing "major transit stop" or an existing stop along a "high quality transit corridor." Upon further investigation of OCTA Bus Routes 43 and 47 (see Attachment B) that serve the Project area, the frequency of service is greater than the 15-minute interval threshold and can no longer be considered a TPA.

TPA screening criteria is not met.

TYPE 2: LOW VMT AREA SCREENING

The City Guidelines state that, "residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. The City Guidelines identify a low VMT generating zone as one that produces VMT per service population at least 15% below the County average. The City Guidelines provide a map that shows daily VMT per service population in Anaheim TAZs as compared to the Orange County average. The Project site was located on the map and was found to be in a low VMT generating zone (See Attachment C). Although the Project is proposing a change of zone to increase residential density with what is already assumed in the City's General Plan, the Project's proposed residential land use remains to be consistent with the General Plan's residential land use assumptions (i.e., not changing the type of use). Therefore, the Project's travel patterns, and trip lengths will remain consistent with the low VMT generating Project zone.

Low VMT area screening criteria is met.

[1] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").
[2] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

TYPE 3: PROJECT TYPE SCREENING

The City Guidelines identify local serving retail under 50,000 square feet, local serving essential services, (e.g., day care centers, public schools, religious assembly uses, etc.) and projects generating less than 110 daily vehicle trips as presumed to have less than significant VMT impact absent substantial evidence to the contrary. The Project does not intend to develop any local serving uses and is anticipated to generate 368 two-way trips per day, which is above the 110 daily trip threshold (see Attachment D).

Project type screening criteria is not met.

CONCLUSION

The Project is found to meet the Low VMT Area screening criteria and presumed to have a **less than significant VMT impact**, no further VMT analysis is required.

If you have any questions, please contact me at aso@urbanxroads.com

REFERENCES

1. **City of Anaheim.** *City of Anaheim Traffic Impact Analysis Guidelines for California Environmental Quality Act Analysis.* City of Anaheim : s.n., June 2020.

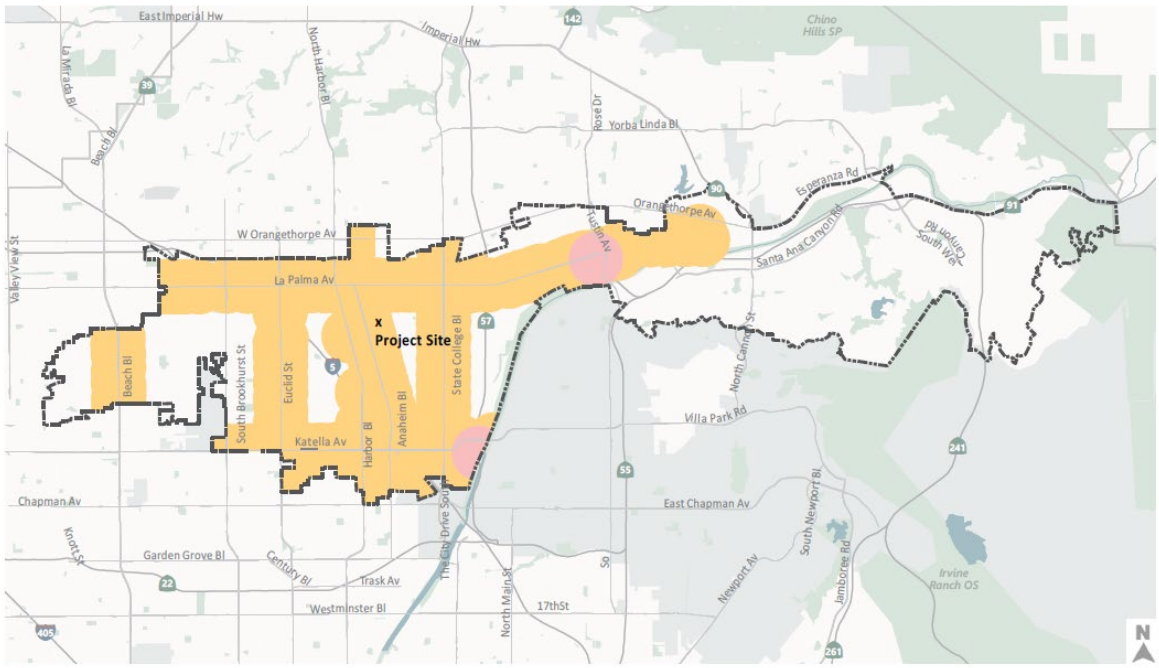
2. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.

ATTACHMENT A
PRELIMINARY SITE PLAN

EXHIBIT A-1: PRELIMINARY SITE PLAN

ATTACHMENT B
TRANSIT PRIORITY AREA (TPA) SCRENING

EXHIBIT B-1: TPA MAP



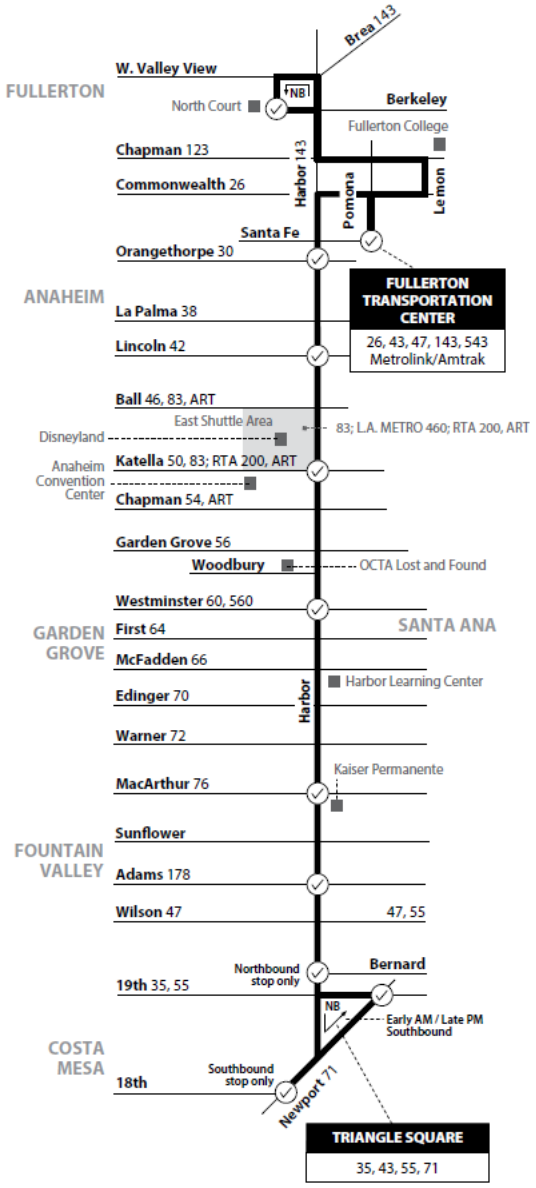
ANAHEIM

Attachment A

Transit Priority Areas (TPAs) in Anaheim

EXHIBIT B-2: ROUTE 43 BUS SCHEDULE

43 Fullerton to Costa Mesa
via Harbor Blvd



Monday-Friday
NORTHBOUND To: Fullerton

	19th & Newport	Harbor & Bernard	Harbor & Adams	Harbor & MacArthur	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Harbor & Orangethorpe	Fullerton Transportation Center	Berkely & West Valley View
	4:02	4:03	4:12	4:17	4:29	4:42	4:50	4:57	5:00	5:07
	4:26	4:27	4:36	4:41	4:53	5:06	5:14	5:21	5:24	5:31
		4:47	4:56	5:01	5:13	5:26	5:34	5:41	5:44	5:51
		5:11	5:20	5:25	5:37	5:50	5:58	6:05	6:08	6:15
		5:34	5:44	5:49	6:03	6:19	6:27	6:35	6:39	6:48
		6:00	6:10	6:15	6:29	6:45	6:53	7:01	7:05	7:14
		6:21	6:31	6:37	6:53	7:12	7:24	7:33	7:37	7:47
		6:45	6:55	7:01	7:17	7:36	7:48	7:57	8:01	8:11
		7:09	7:19	7:25	7:41	8:00	8:12	8:21	8:25	8:35
		7:29	7:41	7:49	8:05	8:26	8:38	8:47	8:51	9:01
		7:53	8:05	8:13	8:29	8:50	9:02	9:11	9:15	9:25
		8:17	8:29	8:37	8:53	9:14	9:26	9:35	9:39	9:49
		8:41	8:53	9:01	9:17	9:38	9:50	9:59	10:03	10:13
		9:05	9:17	9:25	9:41	10:02	10:14	10:23	10:27	10:37
		9:29	9:41	9:49	10:05	10:26	10:38	10:47	10:51	11:01
		9:45	9:59	10:09	10:29	10:51	11:03	11:13	11:17	11:27
		10:12	10:23	10:33	10:53	11:15	11:27	11:37	11:41	11:51
		10:36	10:47	10:57	11:17	11:39	11:51	**12:01**	**12:05**	**12:15**
		11:00	11:11	11:21	11:41	**12:03**	**12:15**	**12:25**	**12:29**	**12:39**
		11:24	11:35	11:45	**12:05**	**12:27**	**12:39**	**12:49**	**12:53**	**1:03**
		11:48	11:59	**12:09**	**12:29**	**12:51**	**1:03**	**1:13**	**1:17**	**1:27**
		12:12	**12:23**	**12:33**	**12:53**	**1:15**	**1:27**	**1:37**	**1:41**	**1:51**
		12:35	**12:47**	**12:57**	**1:17**	**1:39**	**1:51**	**2:01**	**2:05**	**2:15**
		12:59	**1:11**	**1:21**	**1:41**	**2:03**	**2:15**	**2:25**	**2:29**	**2:39**
		1:23	**1:35**	**1:45**	**2:05**	**2:27**	**2:39**	**2:49**	**2:53**	**3:03**
		1:47	**2:00**	**2:09**	**2:29**	**2:54**	**3:06**	**3:17**	**3:21**	**3:32**
		2:11	**2:24**	**2:33**	**2:53**	**3:18**	**3:30**	**3:41**	**3:45**	**3:56**
		2:35	**2:48**	**2:57**	**3:17**	**3:42**	**3:54**	**4:05**	**4:09**	**4:20**
S				**3:19**	**3:39**	**4:04**	**4:16**	**4:27**	**4:31**	
		2:59	**3:12**	**3:21**	**3:41**	**4:06**	**4:18**	**4:29**	**4:33**	**4:44**
		3:17	**3:29**	**3:43**	**4:05**	**4:28**	**4:40**	**4:50**	**4:54**	**5:06**
		3:41	**3:53**	**4:07**	**4:29**	**4:52**	**5:04**	**5:14**	**5:18**	**5:30**
		4:05	**4:17**	**4:31**	**4:53**	**5:16**	**5:28**	**5:38**	**5:42**	**5:54**
		4:29	**4:41**	**4:55**	**5:17**	**5:40**	**5:52**	**6:02**	**6:06**	**6:18**
		4:53	**5:05**	**5:19**	**5:41**	**6:04**	**6:16**	**6:26**	**6:30**	**6:42**
		5:23	**5:36**	**5:45**	**6:05**	**6:30**	**6:42**	**6:53**	**6:57**	**7:08**
		5:47	**6:00**	**6:09**	**6:29**	**6:54**	**7:06**	**7:17**	**7:21**	**7:32**
		6:11	**6:24**	**6:33**	**6:53**	**7:18**	**7:30**	**7:41**	**7:45**	**7:56**
		6:39	**6:52**	**7:00**	**7:17**	**7:38**	**7:49**	**7:58**	**8:02**	**8:11**
		7:02	**7:15**	**7:23**	**7:40**	**8:01**	**8:12**	**8:21**	**8:25**	**8:34**
		7:26	**7:39**	**7:47**	**8:04**	**8:25**	**8:36**	**8:45**	**8:49**	**8:58**
		7:51	**8:04**	**8:12**	**8:29**	**8:50**	**9:01**	**9:10**	**9:14**	**9:23**
		8:15	**8:28**	**8:36**	**8:53**	**9:14**	**9:25**	**9:34**	**9:38**	**9:47**
		8:39	**8:52**	**9:00**	**9:17**	**9:38**	**9:49**	**9:58**	**10:02**	**10:11**
		9:03	**9:16**	**9:24**	**9:41**	**10:02**	**10:13**	**10:22**	**10:26**	**10:35**
		9:27	**9:40**	**9:48**	**10:05**	**10:26**	**10:37**	**10:46**	**10:50**	**10:59**
		9:57	**10:09**	**10:16**	**10:30**	**10:48**	**10:59**	**11:07**	**11:11**	**11:19**
	10:26	**10:27**	**10:39**	**10:46**	**11:00**	**11:18**	**11:27**	**11:34**	**11:38**	**11:45**
	11:26	**11:27**	**11:39**	**11:46**	12:00	12:18	12:27	12:34	12:38	12:45
	12:26	12:27	12:39	12:46	1:00	1:18	1:27	1:34	1:38	1:45

S = Operates on days Los Amigos High School is in session/
Opera los días que Los Amigos High School está en sesión.

Effective February 12, 2023 | www.octa.net

EXHIBIT B-2: CONT'D

Fullerton to Costa Mesa
via Harbor Blvd

43

Monday-Friday
SOUTHBOUND To: Costa Mesa

Berkely & West Valley View	Fullerton Transportation Center	Harbor & Orangethorpe	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & MacArthur	Harbor & Adams	Newport & 18th	19th & Newport
3:47	3:53	3:57	4:04	4:13	4:25	4:38	4:44	4:53	
4:10	4:16	4:20	4:27	4:36	4:48	5:01	5:07	5:16	
4:36	4:42	4:46	4:53	5:02	5:14	5:27	5:33	5:42	
5:03	5:09	5:13	5:20	5:29	5:41	5:54	6:00	6:09	
5:27	5:33	5:37	5:44	5:53	6:05	6:18	6:24	6:33	
5:51	5:57	6:01	6:08	6:17	6:29	6:42	6:48	6:57	
6:06	6:12	6:17	6:24	6:36	6:53	7:09	7:17	7:27	
6:30	6:36	6:41	6:48	7:00	7:17	7:33	7:41	7:51	
6:53	6:59	7:04	7:11	7:24	7:41	7:59	8:10	8:21	
7:17	7:23	7:28	7:35	7:48	8:05	8:23	8:34	8:45	
7:41	7:47	7:52	7:59	8:12	8:29	8:47	8:58	9:09	
7:56	8:02	8:08	8:16	8:30	8:49	9:05	9:14	9:27	
8:20	8:26	8:32	8:40	8:54	9:13	9:29	9:38	9:51	
8:46	8:52	8:58	9:06	9:20	9:41	9:59	10:09	10:22	
9:10	9:16	9:22	9:30	9:44	10:05	10:23	10:33	10:46	
9:34	9:40	9:46	9:54	10:08	10:29	10:47	10:57	11:10	
9:58	10:04	10:10	10:18	10:32	10:53	11:11	11:21	11:34	
10:22	10:28	10:34	10:42	10:56	11:17	11:35	11:45	11:58	
10:46	10:52	10:58	11:06	11:20	11:41	11:59	**12:09**	**12:22**	
11:03	11:11	11:18	11:27	11:42	**12:05**	**12:25**	**12:35**	**12:49**	
11:27	11:35	11:42	11:51	**12:06**	**12:29**	**12:49**	**12:59**	**1:13**	
11:51	11:59	**12:06**	**12:15**	**12:30**	**12:53**	**1:13**	**1:23**	**1:37**	
12:15	**12:23**	**12:30**	**12:39**	**12:54**	**1:17**	**1:37**	**1:47**	**2:01**	
12:39	**12:47**	**12:54**	**1:03**	**1:18**	**1:41**	**2:01**	**2:11**	**2:25**	
1:03	**1:11**	**1:18**	**1:27**	**1:42**	**2:05**	**2:25**	**2:35**	**2:49**	
1:27	**1:35**	**1:42**	**1:51**	**2:06**	**2:29**	**2:49**	**2:59**	**3:13**	
1:51	**1:59**	**2:06**	**2:15**	**2:30**	**2:53**	**3:13**	**3:23**	**3:37**	
2:15	**2:23**	**2:30**	**2:39**	**2:54**	**3:17**	**3:37**	**3:47**	**4:01**	
2:39	**2:47**	**2:54**	**3:03**	**3:18**	**3:41**	**4:01**	**4:11**	**4:25**	
3:03	**3:11**	**3:18**	**3:27**	**3:42**	**4:05**	**4:25**	**4:35**	**4:49**	
3:27	**3:35**	**3:42**	**3:51**	**4:06**	**4:29**	**4:49**	**4:59**	**5:13**	
3:51	**3:59**	**4:06**	**4:15**	**4:30**	**4:53**	**5:13**	**5:23**	**5:37**	
4:18	**4:26**	**4:33**	**4:42**	**4:56**	**5:16**	**5:33**	**5:41**	**5:53**	
4:43	**4:51**	**4:58**	**5:07**	**5:21**	**5:41**	**5:58**	**6:06**	**6:18**	
5:07	**5:15**	**5:22**	**5:31**	**5:45**	**6:05**	**6:22**	**6:30**	**6:42**	
5:35	**5:42**	**5:48**	**5:56**	**6:10**	**6:29**	**6:44**	**6:53**	**7:05**	
5:59	**6:06**	**6:12**	**6:20**	**6:34**	**6:53**	**7:08**	**7:17**	**7:29**	
6:23	**6:30**	**6:36**	**6:44**	**6:58**	**7:17**	**7:32**	**7:41**	**7:53**	
6:47	**6:54**	**7:00**	**7:08**	**7:22**	**7:41**	**7:56**	**8:05**	**8:17**	
7:11	**7:18**	**7:24**	**7:32**	**7:46**	**8:05**	**8:20**	**8:29**	**8:41**	
7:35	**7:42**	**7:48**	**7:56**	**8:10**	**8:29**	**8:44**	**8:53**	**9:05**	
8:01	**8:08**	**8:14**	**8:22**	**8:36**	**8:53**	**9:07**	**9:15**	**9:26**	
8:25	**8:32**	**8:38**	**8:46**	**9:00**	**9:17**	**9:31**	**9:39**	·····	**9:47**
8:49	**8:56**	**9:02**	**9:10**	**9:24**	**9:41**	**9:55**	**10:03**	·····	**10:11**
9:13	**9:20**	**9:26**	**9:34**	**9:48**	**10:05**	**10:19**	**10:27**	·····	**10:35**
9:38	**9:45**	**9:51**	**9:59**	**10:13**	**10:30**	**10:44**	**10:52**	·····	**11:00**
10:08	**10:15**	**10:21**	**10:29**	**10:43**	**11:00**	**11:14**	**11:22**	·····	**11:30**
11:15	**11:21**	**11:27**	**11:34**	**11:47**	12:00	12:13	12:21	·····	12:29
12:15	12:21	12:27	12:34	12:47	1:00	1:13	1:21	·····	1:29

Saturday, Sunday & Holiday
NORTHBOUND To: Fullerton

19th & Newport	Harbor & Bernard	Harbor & Adams	Harbor & MacArthur	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Harbor & Orangethorpe	Fullerton Transportation Center	Berkely & West Valley View
4:30	4:31	4:40	4:45	4:57	5:10	5:18	5:25	5:28	5:35
	5:01	5:10	5:15	5:27	5:40	5:48	5:55	5:58	6:05
			5:43	5:57	6:13	6:21	6:29	6:33	6:42
	5:58	6:08	6:13	6:27	6:43	6:51	6:59	7:03	7:12
			6:26	6:42	6:59	7:09	7:18	7:22	7:31
	6:25	6:35	6:41	6:57	7:14	7:24	7:33	7:37	7:46
			6:56	7:12	7:29	7:39	7:48	7:52	8:01
	6:55	7:05	7:11	7:27	7:44	7:54	8:03	8:07	8:16
			7:28	7:44	8:01	8:11	8:20	8:24	8:33
	7:27	7:37	7:43	7:59	8:16	8:26	8:35	8:39	8:48
			7:58	8:14	8:35	8:47	8:56	9:00	9:10
	7:53	8:05	8:13	8:29	8:50	9:02	9:11	9:15	9:25
			8:28	8:44	9:05	9:17	9:26	9:30	9:40
	8:23	8:35	8:43	8:59	9:20	9:32	9:41	9:45	9:55
			8:58	9:14	9:35	9:47	9:56	10:00	10:10
	8:53	9:05	9:13	9:29	9:50	10:02	10:11	10:15	10:25
			9:28	9:44	10:05	10:17	10:26	10:30	10:40
	9:23	9:35	9:43	9:59	10:20	10:32	10:41	10:45	10:55
			9:58	10:14	10:35	10:47	10:56	11:00	11:10
	9:45	9:59	10:09	10:29	10:51	11:03	11:13	11:17	11:27
			10:24	10:44	11:06	11:18	11:28	11:32	11:42
	10:15	10:29	10:39	10:59	11:21	11:33	11:43	11:47	11:57
			10:54	11:14	11:36	11:48	11:58	**12:02**	**12:12**
	10:45	10:59	11:09	11:29	11:51	**12:03**	**12:13**	**12:17**	**12:27**
			11:24	11:44	**12:06**	**12:18**	**12:28**	**12:32**	**12:42**
	11:15	11:29	11:39	11:59	**12:21**	**12:33**	**12:43**	**12:47**	**12:57**
			11:54	**12:14**	**12:36**	**12:48**	**12:58**	**1:02**	**1:12**
	11:45	11:59	**12:09**	**12:29**	**12:51**	**1:03**	**1:13**	**1:17**	**1:27**
			12:24	**12:44**	**1:06**	**1:18**	**1:28**	**1:32**	**1:42**
	12:15	**12:29**	**12:39**	**12:59**	**1:21**	**1:33**	**1:43**	**1:47**	**1:57**
			12:54	**1:14**	**1:36**	**1:48**	**1:58**	**2:02**	**2:12**
	12:45	**12:59**	**1:09**	**1:29**	**1:51**	**2:03**	**2:13**	**2:17**	**2:27**
			1:24	**1:44**	**2:06**	**2:18**	**2:28**	**2:32**	**2:42**

EXHIBIT B-3: ROUTE 47 BUS SCHEDULE

Fullerton to Balboa
via Anaheim Blvd / Fairview St

47

Monday-Friday
NORTHBOUND To: Fullerton

	Balboa & 23rd	Wilson & Harbor	Fairview & Arlington	Fairview & Segerstrom	Fairview & Westminster	The Outlets At Orange	Anaheim & Katella	Anaheim & Lincoln	Lemon & Orangethorpe	Fullerton Transportation Center
	3:57	4:12	4:16	4:25	4:37	4:45	4:54	5:03	5:10	5:17
	4:21	4:36	4:40	4:49	5:01	5:09	5:18	5:27	5:34	5:41
	4:46	5:01	5:05	5:14	5:26	5:34	5:43	5:52	5:59	6:06
	5:08	5:24	5:28	5:37	5:51	5:59	6:09	6:19	6:26	6:33
	5:22	5:40	5:44	5:55	6:10	6:21	6:32	6:42	6:50	6:57
	5:45	6:03	6:07	6:18	6:33	6:44	6:55	7:05	7:13	7:20
	6:04	6:22	6:26	6:37	6:52	7:04	7:16	7:27	7:35	7:42
	6:24	6:42	6:46	6:57	7:12	7:24	7:36	7:47	7:55	8:02
	6:34	6:55	7:01	7:13	7:31	7:44	7:57	8:08	8:16	8:23
	6:54	7:15	7:21	7:33	7:51	8:04	8:17	8:28	8:36	8:43
	7:16	7:37	7:43	7:55	8:12	8:24	8:35	8:46	8:53	9:00
	7:36	7:57	8:03	8:15	8:32	8:44	8:55	9:06	9:13	9:20
	8:00	8:21	8:27	8:38	8:54	9:04	9:16	9:28	9:35	9:42
	8:20	8:41	8:47	8:58	9:14	9:24	9:36	9:48	9:55	10:02
	8:40	9:01	9:07	9:18	9:34	9:44	9:56	10:08	10:15	10:22
	9:00	9:21	9:27	9:38	9:54	10:04	10:16	10:28	10:35	10:42
	9:20	9:40	9:46	9:57	10:13	10:23	10:35	10:47	10:54	11:01
	9:38	9:58	10:04	10:15	10:32	10:42	10:54	11:06	11:15	11:22
	9:57	10:17	10:23	10:34	10:51	11:01	11:13	11:25	11:34	11:41
	10:16	10:37	10:43	10:55	11:11	11:21	11:34	11:47	11:56	**12:03**
	10:35	10:56	11:02	11:14	11:30	11:40	11:53	**12:06**	**12:15**	**12:22**
	10:55	11:16	11:22	11:34	11:50	**12:00**	**12:13**	**12:26**	**12:35**	**12:42**
	11:15	11:36	11:42	11:54	**12:10**	**12:20**	**12:33**	**12:46**	**12:54**	**1:01**
	11:31	11:52	11:58	**12:11**	**12:29**	**12:40**	**12:53**	**1:06**	**1:14**	**1:21**
	11:52	**12:13**	**12:19**	**12:32**	**12:49**	**1:00**	**1:13**	**1:26**	**1:34**	**1:41**
	12:12	**12:33**	**12:39**	**12:52**	**1:09**	**1:20**	**1:33**	**1:46**	**1:54**	**2:01**
	12:27	**12:48**	**12:54**	**1:07**	**1:27**	**1:39**	**1:53**	**2:06**	**2:15**	**2:22**
	12:47	**1:08**	**1:14**	**1:27**	**1:47**	**1:59**	**2:13**	**2:26**	**2:35**	**2:42**
	1:07	**1:28**	**1:34**	**1:47**	**2:07**	**2:19**	**2:33**	**2:46**	**2:55**	**3:02**
	1:27	**1:48**	**1:54**	**2:07**	**2:27**	**2:39**	**2:53**	**3:06**	**3:15**	**3:22**
	1:47	**2:09**	**2:15**	**2:28**	**2:48**	**3:00**	**3:14**	**3:27**	**3:36**	**3:43**
	2:05	**2:28**	**2:34**	**2:48**	**3:08**	**3:20**	**3:34**	**3:47**	**3:56**	**4:03**
	2:16	**2:40**	**2:47**	**3:01**	**3:27**	**3:40**	**3:55**	**4:07**	**4:16**	**4:23**
	2:33	**2:57**	**3:04**	**3:18**	**3:44**	**3:57**	**4:12**	**4:24**	**4:33**	**4:40**
S			**3:07**	**3:22**	**3:48**					
	2:47	**3:11**	**3:18**	**3:33**	**3:59**	**4:12**	**4:27**	**4:39**	**4:48**	**4:55**
S			**3:21**	**3:36**	**4:02**					
	3:02	**3:26**	**3:33**	**3:48**	**4:14**	**4:27**	**4:42**	**4:54**	**5:03**	**5:10**
	3:19	**3:42**	**3:49**	**4:04**	**4:31**	**4:44**	**4:59**	**5:11**	**5:20**	**5:27**
	3:41	**4:04**	**4:10**	**4:25**	**4:49**	**5:01**	**5:16**	**5:28**	**5:37**	**5:44**
	4:01	**4:24**	**4:30**	**4:45**	**5:09**	**5:21**	**5:36**	**5:48**	**5:57**	**6:04**
	4:21	**4:44**	**4:50**	**5:05**	**5:29**	**5:41**	**5:56**	**6:08**	**6:16**	**6:23**
	4:41	**5:04**	**5:10**	**5:25**	**5:49**	**6:01**	**6:16**	**6:28**	**6:36**	**6:43**
	5:02	**5:26**	**5:32**	**5:46**	**6:09**	**6:21**	**6:35**	**6:47**	**6:55**	**7:02**
	5:29	**5:52**	**5:58**	**6:11**	**6:31**	**6:42**	**6:56**	**7:08**	**7:15**	**7:21**
	5:51	**6:14**	**6:20**	**6:33**	**6:50**	**7:00**	**7:14**	**7:26**	**7:33**	**7:39**
	6:19	**6:42**	**6:48**	**7:01**	**7:18**	**7:28**	**7:42**	**7:54**	**8:01**	**8:07**
	6:49	**7:11**	**7:17**	**7:30**	**7:47**	**7:57**	**8:11**	**8:21**	**8:28**	**8:34**
	7:14	**7:38**	**7:44**	**7:58**	**8:17**	**8:27**	**8:40**	**8:50**	**8:57**	**9:03**
	7:56	**8:17**	**8:23**	**8:34**	**8:48**	**8:57**	**9:08**	**9:18**	**9:24**	**9:30**
	8:41	**9:02**	**9:08**	**9:19**	**9:33**	**9:42**	**9:53**	**10:03**	**10:09**	**10:15**
	9:29	**9:48**	**9:54**	**10:04**	**10:18**	**10:27**	**10:38**	**10:48**	**10:54**	**11:00**
	10:32	**10:51**	**10:56**	**11:06**	**11:18**	**11:27**	**11:37**	**11:46**	**11:52**	**11:58**

S = Operates on days Godinez HS is in session/*Opera los dias que Godinez HS está en sesión*

Monday-Friday
SOUTHBOUND To: Balboa

	Fullerton Transportation Center	Lemon & Freedom	Anaheim & Lincoln	Haster & Katella	The Outlets At Orange	Fairview & Westminster	Fairview & Segerstrom	Fairview & Arlington	Harbor & Wilson	Balboa & 23rd
						4:45	4:59	5:07	5:13	5:32
	4:41	4:43	4:49	4:56	5:03	5:13	5:27	5:35	5:41	6:00
	5:11	5:13	5:19	5:26	5:33	5:43	5:58	6:07	6:13	6:32
	5:32	5:34	5:40	5:47	5:54	6:04	6:19	6:28	6:34	6:55
	5:45	5:47	5:55	6:05	6:14	6:26	6:42	6:52	6:59	7:21
	6:00	6:02	6:10	6:20	6:29	6:41	6:57	7:07	7:14	7:36
	6:14	6:16	6:24	6:34	6:44	6:56	7:17	7:28	7:35	7:57
T						7:07	7:28	7:39		
	6:29	6:31	6:39	6:49	6:59	7:11	7:32	7:43	7:50	8:12
	6:40	6:42	6:50	7:01	7:12	7:24	7:45	7:56	8:03	8:25
T						7:34	7:55	8:06		
	6:57	6:59	7:07	7:18	7:29	7:41	8:02	8:13	8:20	8:42
T						7:53	8:14	8:25		
	7:12	7:14	7:22	7:33	7:44	7:56	8:17	8:28	8:35	8:57
	7:24	7:27	7:37	7:48	7:59	8:12	8:29	8:40	8:48	9:08
	7:39	7:42	7:52	8:03	8:14	8:27	8:44	8:55	9:03	9:23
M						8:40	8:57	9:08		
	7:59	8:02	8:12	8:23	8:34	8:47	9:04	9:15	9:23	9:43
	8:19	8:22	8:32	8:43	8:54	9:07	9:24	9:35	9:43	10:03
	8:40	8:43	8:53	9:04	9:14	9:27	9:42	9:53	10:01	10:23
	9:01	9:03	9:13	9:24	9:34	9:46	10:01	10:12	10:21	10:43
	9:21	9:23	9:33	9:44	9:54	10:06	10:21	10:32	10:41	11:03
	9:41	9:43	9:53	10:04	10:14	10:26	10:41	10:52	11:01	11:23
	10:01	10:03	10:13	10:24	10:34	10:46	11:01	11:12	11:21	11:43
	10:20	10:22	10:32	10:44	10:54	11:06	11:21	11:32	11:41	**12:03**
	10:39	10:41	10:52	11:04	11:14	11:26	11:41	11:52	**12:01**	**12:23**
	10:59	11:01	11:12	11:24	11:34	11:46	**12:01**	**12:12**	**12:21**	**12:43**
	11:20	11:22	11:33	11:45	11:55	**12:07**	**12:22**	**12:33**	**12:42**	**1:04**
	11:38	11:41	11:52	**12:04**	**12:15**	**12:29**	**12:45**	**12:57**	**1:05**	**1:30**
	11:58	**12:01**	**12:12**	**12:24**	**12:35**	**12:49**	**1:05**	**1:17**	**1:25**	**1:50**
	12:19	**12:22**	**12:33**	**12:45**	**12:56**	**1:10**	**1:26**	**1:38**	**1:46**	**2:11**
	12:38	**12:40**	**12:52**	**1:04**	**1:16**	**1:30**	**1:47**	**1:59**	**2:08**	**2:31**
	12:58	**1:00**	**1:12**	**1:24**	**1:36**	**1:50**	**2:07**	**2:19**	**2:28**	**2:51**
	1:18	**1:20**	**1:32**	**1:44**	**1:56**	**2:10**	**2:27**	**2:39**	**2:48**	**3:11**
	1:38	**1:40**	**1:52**	**2:04**	**2:16**	**2:30**	**2:47**	**2:59**	**3:08**	**3:31**
	1:58	**2:00**	**2:12**	**2:24**	**2:36**	**2:50**	**3:07**	**3:19**	**3:28**	**3:51**
	2:18	**2:20**	**2:32**	**2:44**	**2:56**	**3:10**	**3:27**	**3:39**	**3:48**	**4:11**
	2:37	**2:39**	**2:52**	**3:05**	**3:17**	**3:31**	**3:48**	**4:01**	**4:10**	**4:33**
	2:57	**2:59**	**3:12**	**3:25**	**3:38**	**3:52**	**4:09**	**4:22**	**4:31**	**4:54**
	3:17	**3:19**	**3:32**	**3:45**	**3:58**	**4:12**	**4:29**	**4:42**	**4:51**	**5:14**
	3:37	**3:39**	**3:52**	**4:05**	**4:18**	**4:32**	**4:49**	**5:02**	**5:10**	**5:33**
	3:58	**4:00**	**4:13**	**4:26**	**4:39**	**4:53**	**5:10**	**5:23**	**5:31**	**5:54**
	4:19	**4:21**	**4:34**	**4:47**	**5:00**	**5:14**	**5:31**	**5:44**	**5:52**	**6:13**
	4:38	**4:40**	**4:53**	**5:07**	**5:20**	**5:34**	**5:51**	**6:03**	**6:11**	**6:32**
	4:58	**5:00**	**5:13**	**5:27**	**5:40**	**5:54**	**6:11**	**6:23**	**6:31**	**6:52**
	5:25	**5:27**	**5:39**	**5:52**	**6:04**	**6:18**	**6:34**	**6:46**	**6:54**	**7:15**
	5:49	**5:51**	**6:03**	**6:16**	**6:28**	**6:42**	**6:58**	**7:10**	**7:18**	**7:39**
	6:19	**6:21**	**6:33**	**6:46**	**6:58**	**7:10**	**7:24**	**7:35**	**7:42**	**8:03**
	6:49	**6:51**	**7:03**	**7:16**	**7:28**	**7:40**	**7:54**	**8:05**	**8:12**	**8:33**
	7:19	**7:21**	**7:33**	**7:46**	**7:58**	**8:10**	**8:24**	**8:35**	**8:42**	**9:03**
	7:54	**7:56**	**8:06**	**8:18**	**8:28**	**8:38**	**8:50**	**9:00**	**9:06**	**9:27**
	8:49	**8:51**	**9:01**	**9:13**	**9:23**	**9:33**	**9:45**	**9:55**	**10:01**	**10:22**
	10:01	**10:03**	**10:11**	**10:21**	**10:31**	**10:41**	**10:52**	**11:01**	**11:07**	**11:28**

M = Operates on days Godinez High School has a late start on Mondays/ *Opera los días en que Godinez High School comienza tarde los lunes.*

T = Operates Tuesday - Friday on days Godinez High School is in session/*Opera de martes a viernes en los días en que Godinez High School está en sesión.*

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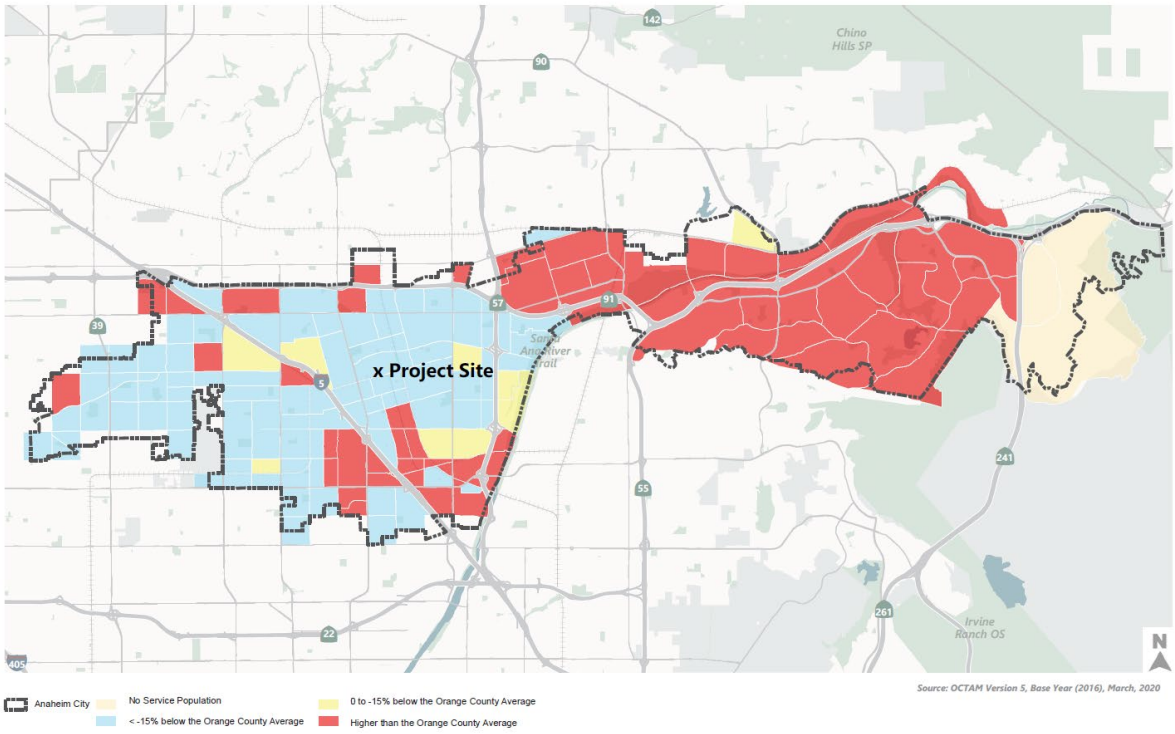
ATTACHMENT C
LOW VMT AREA SCREENING

EXHIBIT C-1: CITY OF ANAHEIM LOW VMT AREA MAP



Attachment B

Daily VMT per Service Population in Anaheim TAZs as Compared to the Orange County Average (2016)

ATTACHMENT D
TRIP GENERATION DATA

TABLE D-1: PROJECT TRIP GENERATION SUMMARY

Land Use[1]	ITE LU Code	Units[2]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Multifamily (Low-Rise) Residential	220	DU	0.10	0.30	0.40	0.32	0.19	0.51	6.74
Affordable Housing	223	DU	0.10	0.26	0.36	0.27	0.19	0.46	4.81

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] DU = Dwelling Units

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Multifamily (Low-Rise) Residential	50	DU	5	15	20	16	9	25	338
Affordable Housing	6	DU	1	2	3	2	1	3	30
Project Total			**6**	**17**	**23**	**18**	**10**	**28**	**368**

[1] DU = Dwelling Units

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