Appendix H:
Traffic Impact Analysis

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H.1 - Traffic Impact Analysis Report

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1661 W Broadway
Traffic Impact Analysis

City of Anaheim, California

October 19, 2021

Prepared by:

TJW ENGINEERING, INC.
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TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

October 19, 2021

Mr. Kim Prijatel
CITY VENTURES
3121 Michaelson Drive, Suite 150
Irvine, CA 92618

Subject: Traffic Impact Analysis – 1661 W Broadway, City of Anaheim

Dear Mr. Prijatel:

TJW ENGINEERING, INC. (TJW) is pleased to present you with this traffic impact analysis for the proposed 1661 W Broadway project located 1661 W Broadway in the City of Anaheim.

This traffic study has been prepared to meet the traffic study requirements for the City of Anaheim and assesses the forecast traffic operations associated with the proposed project and its impact on the local street network. This report is being submitted to you for review and forwarding to the City of Anaheim.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat, PE, TE
President

Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*

David Chew, PTP
Transportation Planner

Daniel Flores
Project Engineer

1661 W Broadway
Traffic Impact Analysis

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1.0 EXECUTIVE SUMMARY

This traffic impact analysis (TIA) analyzes the projected traffic operations associated with the proposed 1661 W Broadway project located at 1661 W Broadway in the City of Anaheim. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from development of the proposed project, and to recommend improvements to achieve acceptable operations, if applicable. This analysis has been prepared in coordination with the City of Anaheim via a scoping agreement (See **Appendix B**) and is pursuant to applicable City of Anaheim traffic impact analysis guidelines.

The proposed project consists of a three story 34 multi-family residential dwelling units. Site access is planned via one full-access driveway along Broadway. The site is currently zoned as General Commercial (C-G) in the City of Anaheim. The project site is currently occupied by pharmacies and medical offices.

The proposed project is anticipated to be built and generating trips in 2022. A growth rate of 2% was used to account for 2022 volumes.

The proposed project is projected to generate 185 daily trips, 12 AM peak hour trips, and 15 PM peak hour trips.

The following two (2) intersections and one (1) roadway segment in the vicinity of the project site have been included in the intersection level of service (LOS) analysis:

Intersection:

1. Euclid Street / Broadway
2. Project Driveway / Broadway

Roadway Segment:

1. Broadway between Euclid St and Project Driveway

The study intersections are analyzed for the following study scenarios:

- Existing Year Traffic Condition
- Project Opening Year Base Traffic Condition
- Project Opening Year plus Project Traffic Condition
- General Plan Traffic Condition
- General Plan plus Project Traffic Condition

1.1 SUMMARY OF LEVEL OF SERVICE ANALYSIS RESULTS

Table ES-1 summarizes the results of the intersection level of service analysis based on the City of Anaheim thresholds of significance for analyzing transportation deficiencies.

Table ES-1
Summary of Transportation Deficiencies at Study Intersections

Intersection			Opening Year Plus Project
1	Euclid Street	Broadway	No Deficiencies
2	Project Driveway	Broadway	No Deficiencies

Existing Conditions
The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for *Existing* conditions.

Project Opening Year (OY) Conditions
The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for *Project Opening Year* conditions.

Project Opening Year Plus Project (OYWP) Conditions
The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for *Project Opening Year Plus Project* conditions.

General Plan (GP) Conditions
The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for *General Plan* conditions.

General Plan Plus Project (GPWP) Conditions
The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for *General Plan Plus Project* conditions.

1.2 SUMMARY OF DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

The determination of a deficiency at an intersection is based on the project's contribution to the intersection's level of service (LOS) as defined in *The City of Anaheim Criteria for Preparation of Traffic Impact Studies*. Based on those thresholds, no off-site improvements were identified since the proposed project is projected to result in no deficiencies at the study intersections for all analysis scenarios.

1.3 SUMMARY OF VEHICLE MILES TRAVELED ANALYSIS

Consistent with the new metric of VMT for analysis of transportation impacts under CEQA, this analysis follows the OPR and City guidelines. Using the City of Anaheim VMT screening tool, the project is located in a TPA (Transit Priority Area), therefore the project is considered to be less than significant per City of Anaheim standards. A separate technical memo will be provided from the traffic impact analysis.

2.0 INTRODUCTION

This traffic impact analysis (TIA) analyzes the projected traffic operations associated with the proposed 1661 W Broadway project located 1661 W Broadway in the City of Anaheim. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from development of the proposed project, and to recommend improvements to achieve acceptable operations, if applicable. This analysis has been prepared in coordination with the City of Anaheim via a scoping agreement (See **Appendix B**) and is pursuant to applicable City of Anaheim traffic impact analysis guidelines.

2.1 PROJECT DESCRIPTION

The proposed project consists of a three story 34 multi-family residential dwelling units. Site access is planned via one full-access driveway along Broadway. The site is currently zoned as General Commercial (C-G) in the City of Anaheim. The project site is currently occupied by pharmacies and medical offices.

The proposed project is anticipated to be built and generating trips in 2022. A growth rate of 2% was used to account for 2022 volumes.

Exhibit 1 shows the project site location. **Exhibit 2** shows the proposed project site plan.

2.2 STUDY AREA

The following two (2) intersections and one (1) roadway segment in the vicinity of the project site have been included in the intersection level of service (LOS) analysis:

Intersection:

1. Euclid Street / Broadway
2. Project Driveway / Broadway

Roadway Segment:

1. Broadway between Euclid St and Project Driveway

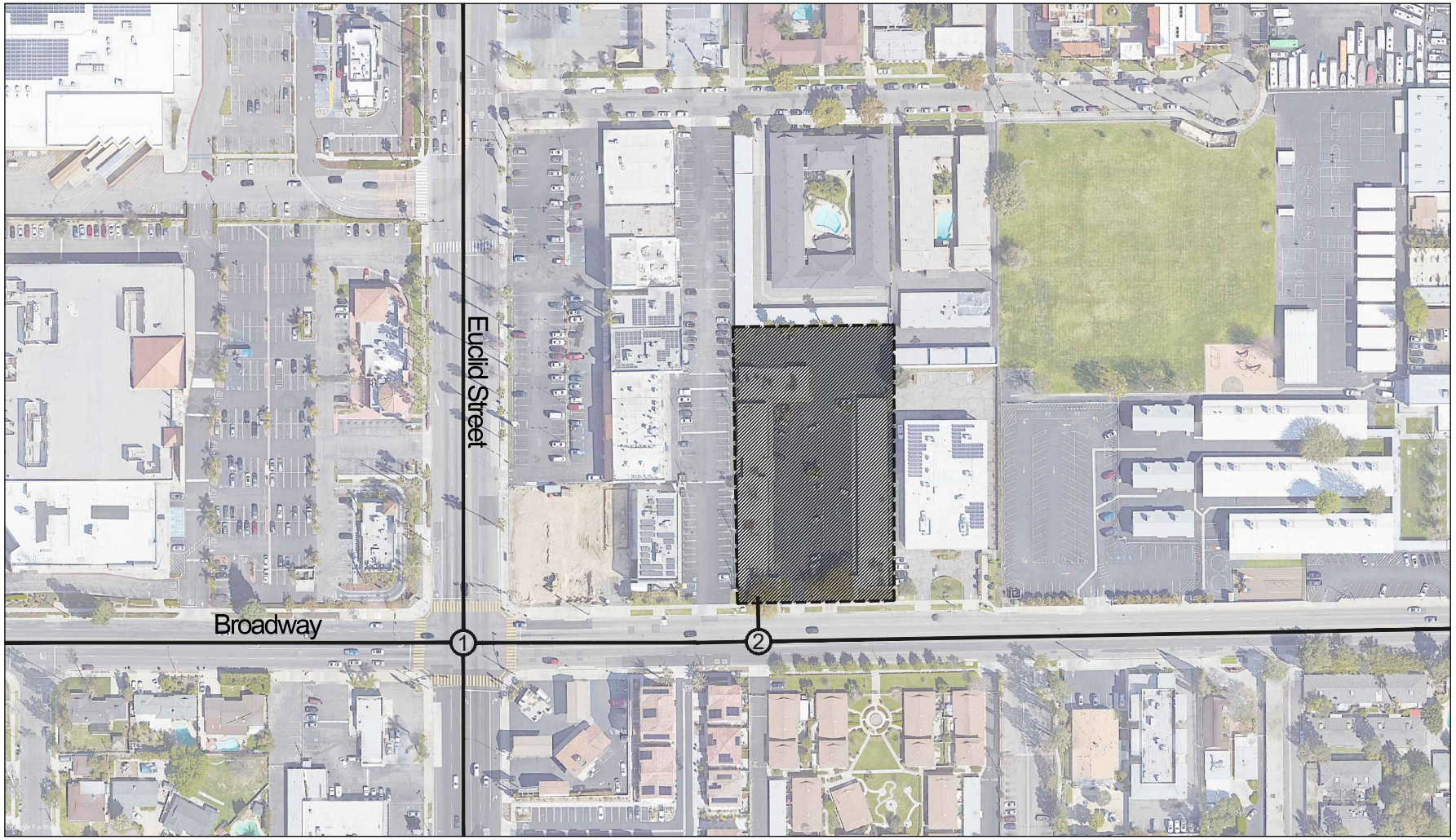
This traffic analysis follows the *City of Anaheim Criteria for Preparation of Traffic Impact Studies*.

Below are the following study scenarios:

- Existing Year Traffic Condition
- Project Opening Year Base Traffic Condition
- Project Opening Year plus Project Traffic Condition
- General Plan Traffic Condition
- General Plan plus Project Traffic Condition

Traffic operations are evaluated for the following time periods:

- Weekday AM Peak Hour occurring within 7:00 AM to 9:00 AM; and
- Weekday PM Peak Hour occurring within 4:00 PM to 6:00 PM.



Legend:

Project Site

(#) Study Intersection Location

Exhibit 1: Project Location

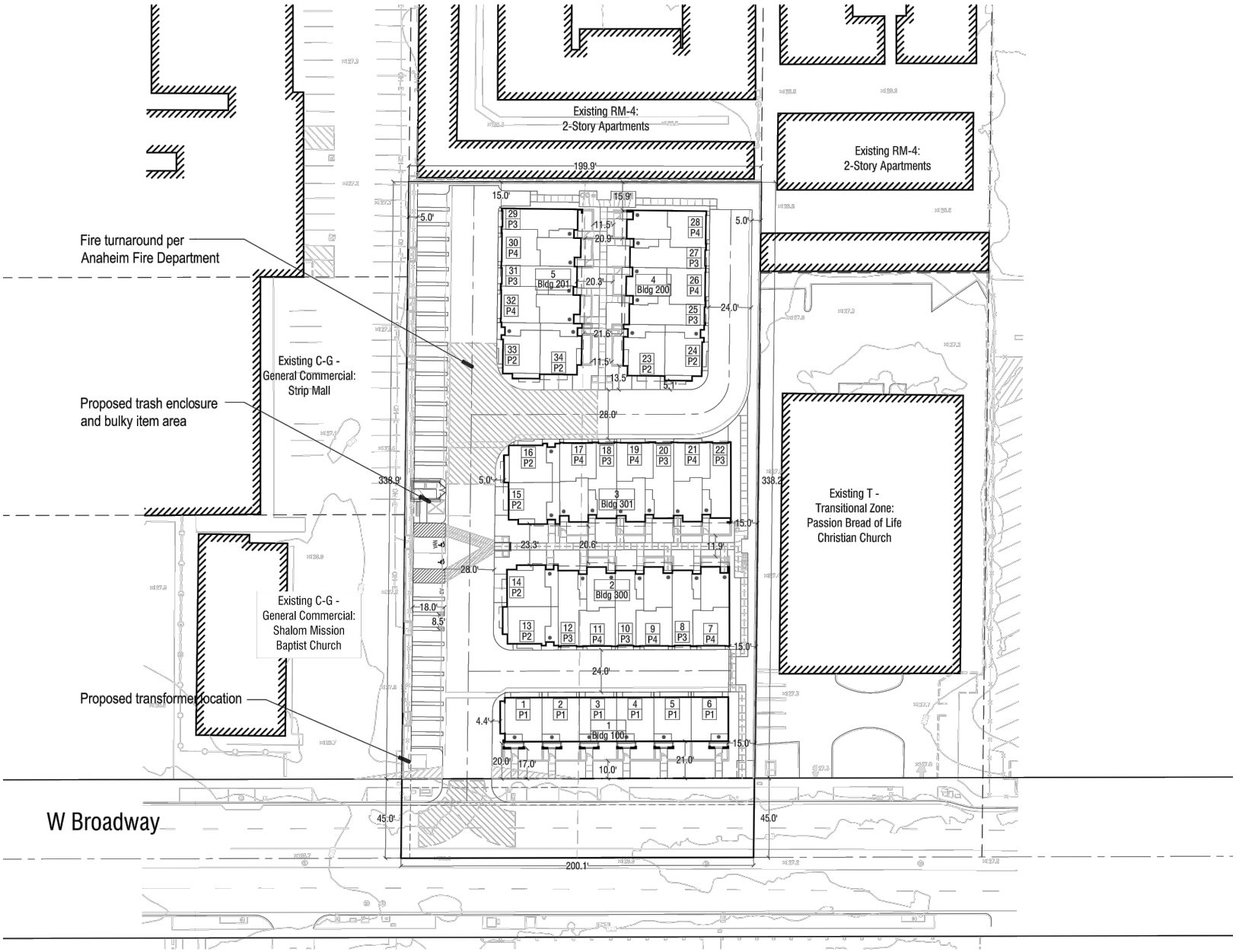


Exhibit 2: Proposed Project Site Plan

2.3 ANALYSIS METHODOLOGY

2.3.1 Intersection Analysis Methodology

The traffic analysis focuses on the project's off-site traffic-related impacts at the traffic study area intersections and on the study area roadways. In accordance with the City of Anaheim and the County of Orange CMP, intersection operation for signalized intersections is evaluated using the Intersection Capacity Utilization (ICU) methodology, and intersection operation for unsignalized intersections is evaluated using the Highway Capacity Manual (HCM) methodology.

The ICU methodology provides a comparison of the theoretical hourly vehicular capacity of an intersection to the number of vehicles passing through that intersection during the peak hour. The results of the evaluation are reported in terms of a volume-to-capacity (v/c) ratio, which corresponds to a Level of Service (LOS). Level of Service is represented by letter grades A through F, with LOS A representing free-flow conditions, and LOS F representing congested, over-capacity conditions.

The procedure for stop-control analysis determines the average total delay, expressed in seconds of delay per vehicle, for left turns from the major street and from the stop-controlled minor street traffic stream. Delay values are calculated based on the relationship between traffic on the major street and the availability of acceptable "gaps" in this stream through which conflicting traffic movements can be made.

Table 1 identifies each Level of Service category, and the corresponding intersection capacity utilization and delay values:

Table 1:
ICU – Volume-to-Capacity Ratio – Signalized Intersection

Level of Service Ranges	
Level of Service (LOS)	Volume-to-Capacity Ratio (ICU Methodology)
A	< 0.600
B	0.601 – 0.700 >
C	0.701 – 0.800 >
D	0.801 – 0.900 >
E	0.901 – 1.000 >
F	>1.000

Source: Transportation Research Board Circular 212 – Interim Materials on Highway Capacity.
LOS = Level of Service, ICU = Intersection Capacity Utilization.

Table 1 describes the general characteristics of traffic flow and accompanying delay ranges at signalized intersections.

Collected peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. It is a common practice in LOS analysis to conservatively use a peak 15-minute flow rate applied to the entire hour to derive flow rates in vehicles per hour that are used in the LOS analysis. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume. PHF = [Hourly Volume]/ [4 * Peak 15-Minute Volume]. The use of a 15-minute PHF produces a more detailed and conservative analysis compared to analyzing vehicles per hour. Existing PHFs, obtained from the existing traffic counts have been used for all analysis scenarios in this study.

The City of Anaheim traffic study guidelines also require unsignalized intersection operations be analyzed utilizing the HCM 6th Edition methodology. Intersection operation for unsignalized intersections is based on the weighted average control delay expressed in seconds per vehicle.

At a two-way or side-street stop-controlled intersection, LOS is calculated for each stop-controlled minor street movement, for the left-turn movement(s) from the major street, and for the intersection as a whole. For approaches consisting of a single lane, the delay is calculated as the average of all movements in that lane. For all-way stop-controlled intersection, LOS is computed for the intersection as a whole.

Table 2 describes the general characteristics of traffic flow and accompanying delay ranges at unsignalized intersections.

Table 2:
HCM – LOS & Delay Ranges – Unsignalized Intersections

Level of Service	Description	Delay (in seconds)
A	Little or no delays.	0 – 10.00
B	Short traffic delays.	10.01 – 15.00
C	Average traffic delays.	15.01 – 25.00
D	Long traffic delays. Multiple vehicles in queue.	25.01 – 35.00
E	Very long delays. Demand approaching capacity of intersection	35.01 – 50.00
F	Very constrained flow with extreme delays and intersection capacity exceeded.	> 50.01

Source: *Highway Capacity Manual* (HCM) 6 Edition.

This analysis utilizes *PTV Vistro*, Version 2021 analysis software for all signalized and unsignalized intersections. Vistro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis specified in Chapter 16 of the HCM. The level of service and capacity analysis performed within Vistro takes the optimization and coordination of signalized intersections within a network into consideration.

Daily Roadway Analysis Roadway segment level of service is estimated by comparing the two-way 24-hour traffic volumes on the roadway segment to the daily roadway capacity, based on its functional classification. This comparison results in a volume-to-capacity (v/c) ratio, which represents the percentage of the daily

vehicular capacity that is required to accommodate the daily traffic volume. **Table 3** presents the daily roadway capacity for each roadway classification.

Table 3:
Roadway Capacities

Roadway Classification	LOS E Daily Capacity (Vehicles per day)
Eight Lanes Divided	75,000
Six Lanes Divided	56,300
Four Lanes Divided	37,500
Four Lanes Undivided	25,000
Two Lanes Divided	22,000
Two Lanes Undivided	12,500

Source: County of Orange Guidance for Administration of the Orange County Master Plan of Arterial Highways.

2.3.2 Vehicle Miles Traveled (VMT) Analysis

Senate Bill (SB) 743 was adopted in 2013 requiring the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within the California Environmental Quality Act (CEQA). For land use projects, OPR has identified Vehicle Miles Traveled (VMT) as the new metric for transportation analysis under CEQA. The regulatory changes to the CEQA guidelines that implement SB 743 were approved on December 28th, 2018 with an implementation date of June, 2020 as the new metric.

2.4 PERFORMANCE CRITERIA

2.4.1 City of Anaheim

The City of Anaheim Level of Service standard is Level of Service (LOS) D or better for intersection operations, and LOS C or better on a daily basis for arterial roadways.

For roadway segments that are deficient on a daily basis, the City of Anaheim applies a methodology to determine the level of service for peak hour conditions. The peak hour link analysis determines directional morning and evening peak hour v/c ratios for each link that exceeds the daily LOS threshold. The peak hour capacity is determined by using Equation 18-15 of the 2010 Highway Capacity Manual (HCM 2010), multiplying the mid-block number of lanes for each direction by a lane capacity of 1,700 vehicles per hour, then multiplied by the percentage of green time at the controlling signalized intersection for that arterial segment. The percentage of green time is estimated by dividing the directional v/c ratios by the total v/c ratio at signalized intersections along the arterial segment. If the v/c ratio of the roadway segment is LOS E or LOS F under peak hour conditions, improvements should be considered to improve the segment to an acceptable level of service.

Table 4 is based on the City of Anaheim standards, a project impact for intersections would be considered significant in accordance with the following:

Table 4:
Significance Thresholds

Level of Service	Final V/C	Project-Related Increase in V/C
C	> 0.700 – 0.800	≥ 0.050
D	> 0.800 – 0.900	≥ 0.30
E or F	> 0.900	≥ 0.010

3.0 EXISTING CONDITIONS

3.1 EXISTING CIRCULATION NETWORK/STUDY AREA CONDITIONS

The characteristics of the roadways in the vicinity of the proposed project site are described in **Table 5.**

Table 5:
Roadway Characteristics within Study Area

Roadway	Classification[1]	Direction	Existing Travel Lanes	Median Type	Speed Limit (mph)	On-Street Parking
Euclid Street	Primary Arterial	North-South	4 South of Broadway 6 North of Broadway	Two-way-left-turn lane	35	No
Broadway	Secondary Arterial	East-West	4	Two-way-left-turn lane	40mph West of Euclid St 35 mph east of Euclid St	No

1: Sources: City of Anaheim General Plan

Exhibit 3 shows existing conditions study area intersection and roadway geometry.

3.2 EXISTING TRAFFIC VOLUMES

To determine the existing operation of the study intersections, AM and PM peak period traffic counts at the study intersections were collected on Tuesday August 17, 2021. Additionally 24 hour roadway segments counts were conducted August 17, 2021. Detailed traffic count data is provided in the **Appendix C**. **Exhibit 4** show existing AM and PM peak hour volumes at the study intersections.

3.3 EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

Existing conditions AM and PM peak hour intersection analysis is shown in **Table 6**. Calculations are based on the existing geometrics at the study area intersections as shown in **Exhibit 3.** HCM analysis sheets are provided in **Appendix D**.

Table 6:
Intersection Analysis – Existing Conditions

Intersection			Control Type	Peak Hour	Existing Conditions	
					ICU/Delay[1]	LOS
1	Euclid Street	Broadway	Signal	AM	0.468	A
				PM	0.668	B
2	Project Driveway	Broadway	One Way Stop Control	AM	--	--
				PM	--	--

1 = Per the Highway Capacity Manual 6th Edition, for intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

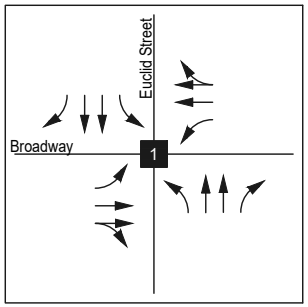
As shown in **Table 6**, the study intersections are currently operating at an acceptable LOS during the AM and PM peak hours for *existing* conditions.

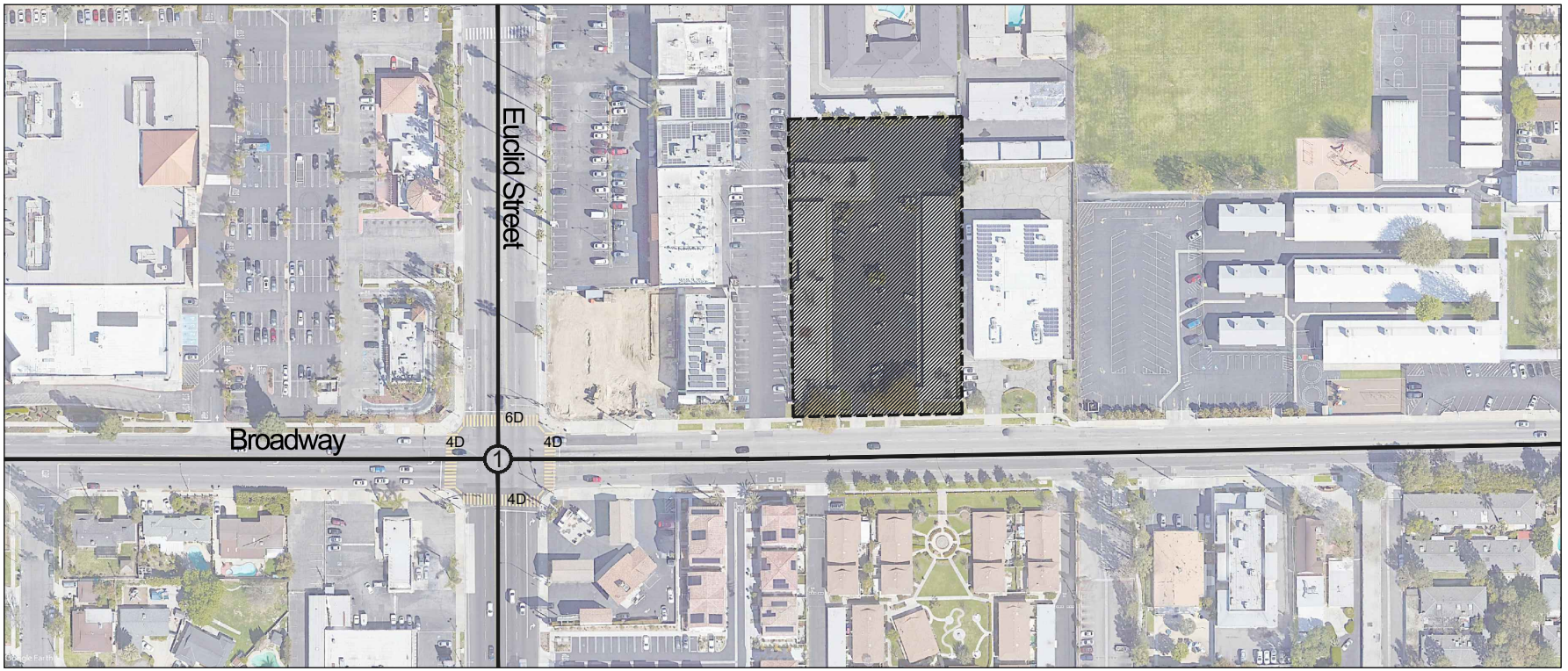
3.4 EXISTING CONDITIONS ROADWAY SEGMENT ANALYSIS

The roadway level of service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Existing Conditions are shown on **Table 7**. Review of this table indicates that the study roadway segment of Broadway between Euclid Street to the Project Driveway is currently operating at an acceptable level of service (LOS D or worse) on a daily basis.

Table 7:
Roadway Segment – Existing Conditions

Roadway	Segment	Roadway Classification	Existing Lane Configuration	LOS E Capacity	Existing ADT	V/C	LOS
Broadway	Euclid Street to Project Driveway	Secondary Arterial	4 Lanes Divided	37,500	16,914	0.451	A





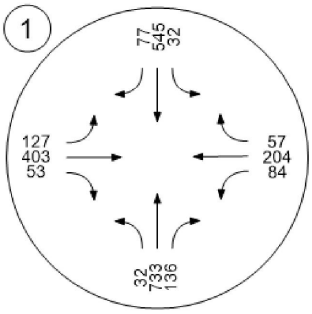
Legend:

- Project Site
- Existing Lane
- Signal-Controlled Intersection
- 4D — 4-Lane Divided Roadway
- 6D — 6-Lane Divided Roadway

Exhibit 3: Existing Lane Geometry and Intersection Controls

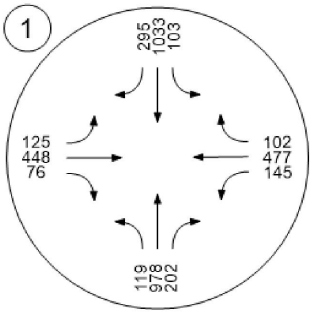
AM Peak Hour Trips

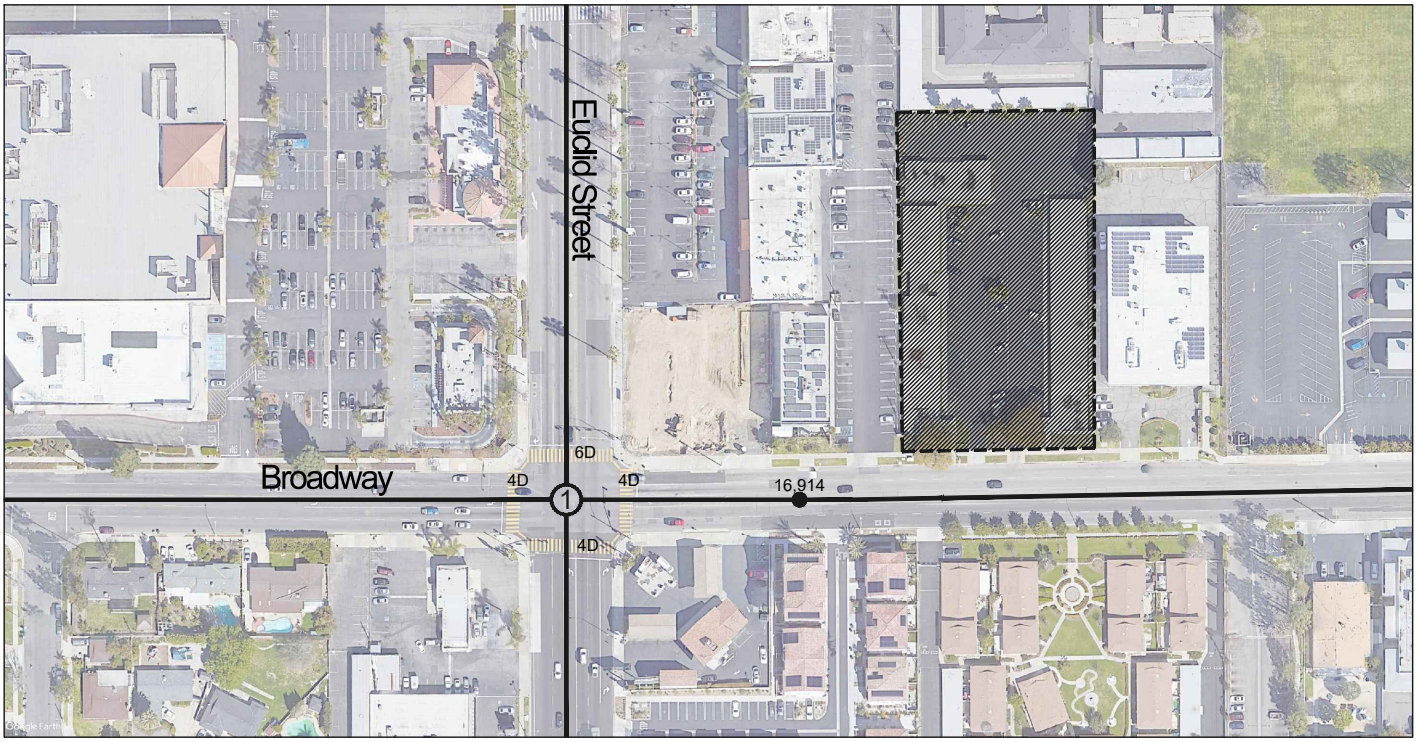
Euclid Street/Broadway



PM Peak Hour Trips

Euclid Street/Broadway





Legend:

X,XXX Average Daily Traffic Volume

Exhibit 4: Existing AM/PM Peak Hour Volumes

4.0 PROPOSED PROJECT

4.1 PROJECT DESCRIPTION

The proposed project consists of a three story 34 multi-family residential dwelling units. Site access is planned via one full-access driveway along Broadway. The site is currently zoned as General Commercial (C-G) in the City of Anaheim. The project site is currently occupied by pharmacies and medical offices.

The proposed project is anticipated to be built and generating trips in 2022. A growth rate of 2% was used to account for 2022 volumes.

Exhibit 5 shows the existing transit services located on Euclid Street less than 500 feet from the project site.

Exhibit 2 previously showed the proposed project site plan.

4.2 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic, both inbound and outbound, produced by a development. Determining trip generation for a proposed project is based on projecting the amount of traffic that the specific land uses being proposed will produce. Industry standard *Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017)* trip generation rates were used to determine trip generation of for most of the proposed project land uses.

Table 8 summarizes the projected AM peak hour, PM peak hour and daily trip generation of the proposed project. The proposed project is projected to generate 185 daily trips, 12 AM peak hour trips, and 15 PM peak hour trips.

Table 8:
Proposed Project Trip Generation

Proposed Land Use[1]	Qty	Unit[2]	Daily Trips (ADTs)		AM Peak Hour					PM Peak Hour				
			Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
							In	Out	Total			In	Out	Total
Multifamily Housing (Mid-Rise) (221)	34	DU	5.44	185	0.36	26:74	3	9	12	0.44	61:39	9	6	15
Total				**185**			**3**	**9**	**12**			**9**	**6**	**15**

1: Rates from ITE Trip Generation (10th Edition, 2017).
2: DU = Dwelling Unit.

4.3 PROJECT TRIP DISTRIBUTION

Projecting trip distribution involves the process of identifying probable destinations and traffic routes that will be utilized by the proposed project's traffic. The potential interaction between the proposed land use

and surrounding regional access routes are considered to identify the probable routes onto which project traffic would distribute. The projected trip distribution for the proposed project is based on anticipated travel patterns to and from the project site.

Exhibit 6 shows the projected trip distribution of proposed project trips.

Exhibit 7 shows the project AM and PM peak hour volumes at the intersection

4.4 CUMULATIVE PROJECTS TRAFFIC

Opening Year (2022) traffic volumes were developed using an annual ambient growth rate of 2%. It is assumed the growth rate of 2% would account for any potential cumulative projects within the study area.

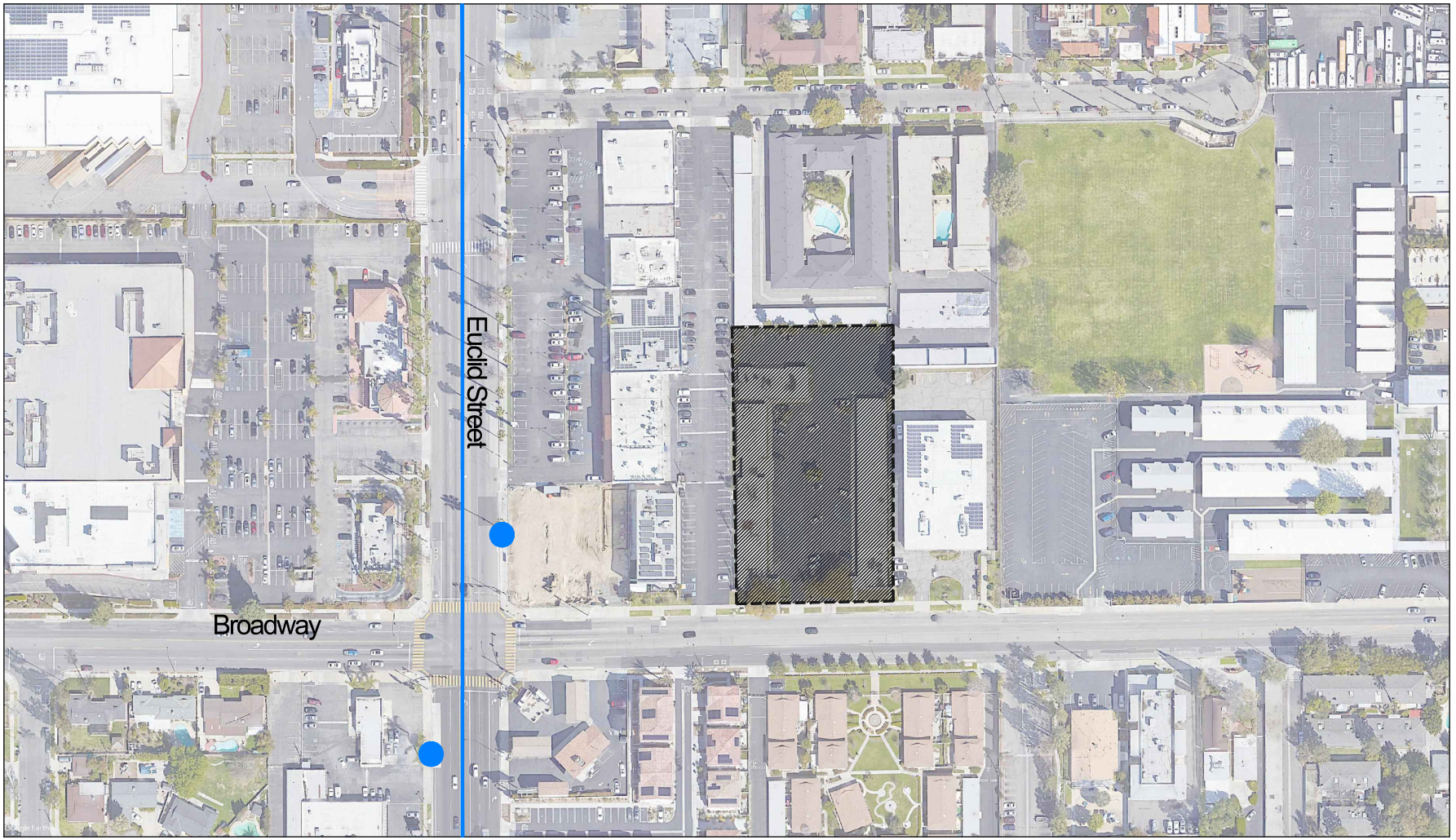
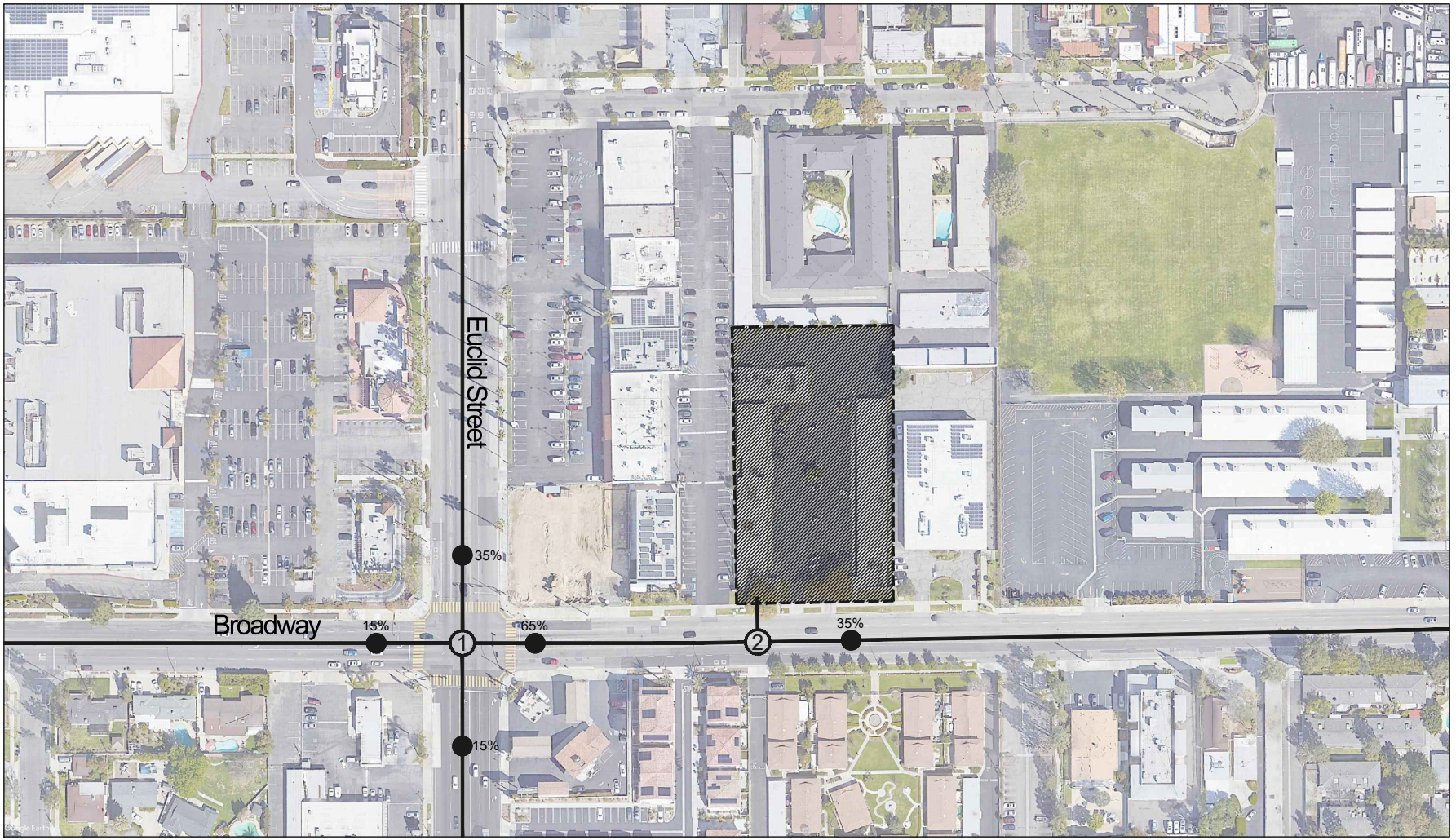


Exhibit 5: Existing Transit Services



Legend:

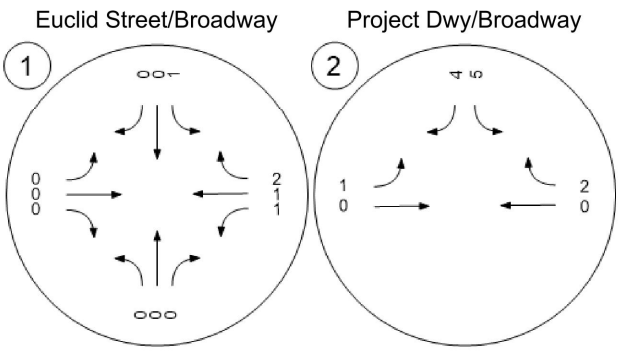
Project Site

(#) Study Intersection Location

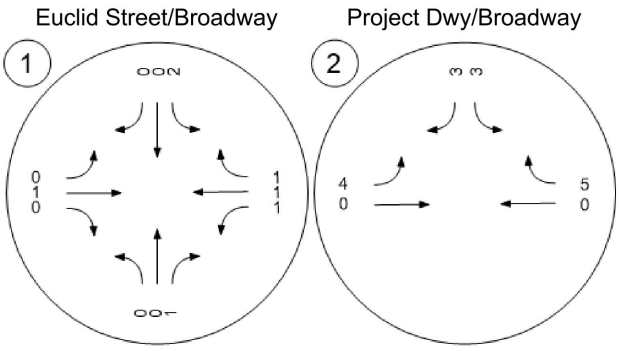
XX% Percent Trip Distribution

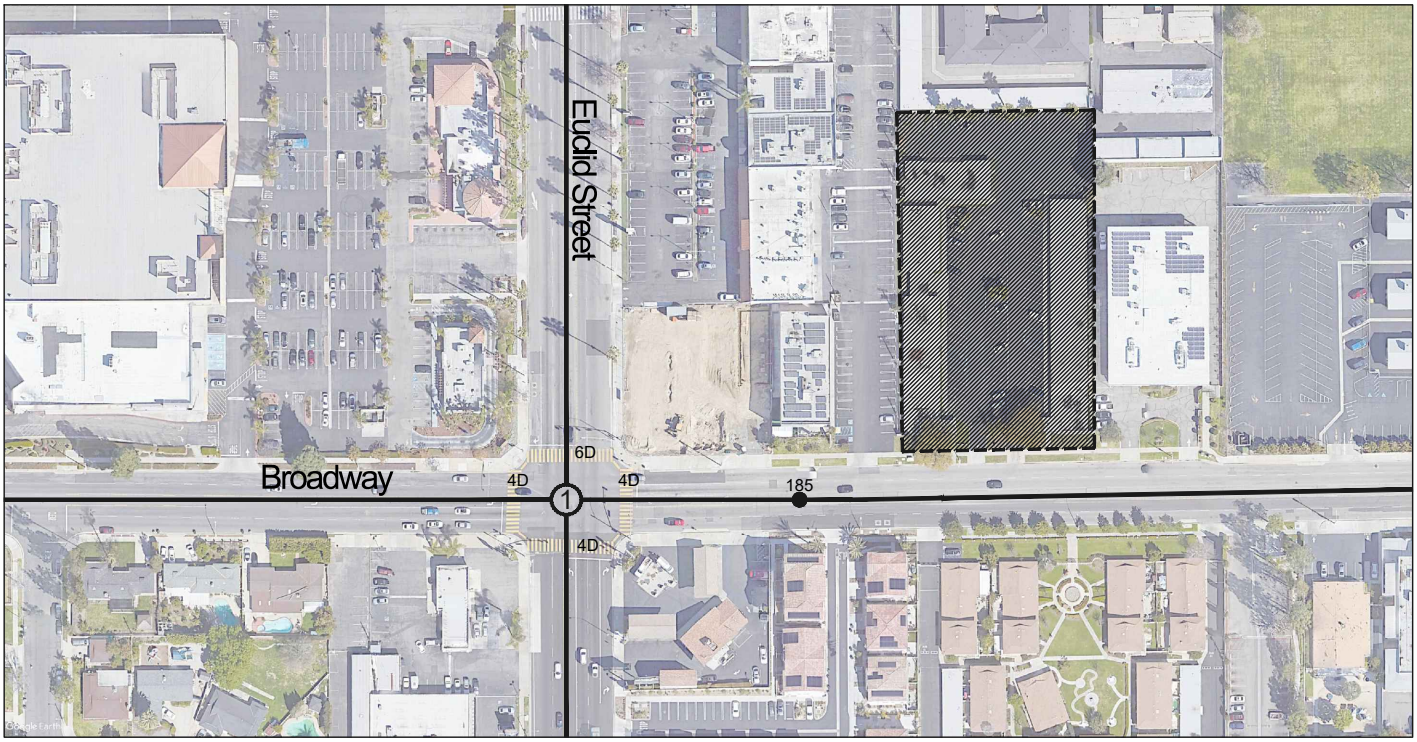
Exhibit 6: Trip Distribution of Proposed Project Trips at Study Intersections

AM Peak Hour Trips



PM Peak Hour Trips





Legend:

X,XXX Average Daily Traffic Volume

Exhibit 7: Project AM/PM Peak Hour Volumes

5.0 OPENING YEAR CONDITIONS (OY)

Opening Year (OY) traffic conditions analysis is intended to identify baseline conditions in the near-term without the proposed project.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the *Opening Year* scenario are consistent with those previously shown in **Exhibit 3**.

5.2 OY TRAFFIC VOLUMES

Opening Year volumes include background traffic which includes nearby cumulative projects. Since the proposed project is expected to be built and generating trips in 2022, *Opening Year* volumes include a growth rate of 2% per year for one year, applied to existing volumes. It is assumed the growth rate of 2% would account for any potential cumulative projects within the study area.

Opening Year Volumes = (Existing (2021) Counts * 1.02^1)

Exhibit 8 shows *Opening Year* AM and PM peak hour volumes at the study intersections.

5.3 OY INTERSECTION LEVEL OF SERVICE ANALYSIS

Opening Year AM and PM peak hour intersection analysis is shown in **Table 9**. Calculations are based on the existing geometrics at the study area intersections as shown in **Exhibit 3.** HCM analysis sheets are provided in the **Appendix D**.

Table 9:

Intersection Analysis – Project Opening Year (OY) Conditions

Intersection			Control Type	Peak Hour	OY Conditions	
					ICU/Delay[1]	LOS
1	Euclid Street	Broadway	Signalized	AM	0.477	A
				PM	0.680	B
2	Project Driveway	Broadway	One Way Stop Control	AM	--	--
				PM	--	--

1 = Per the Highway Capacity Manual 6th Edition, for intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in ***Table 9,*** the study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for *Opening Year* conditions.

5.4 OY CONDITIONS ROADWAY SEGMENT ANALYSIS

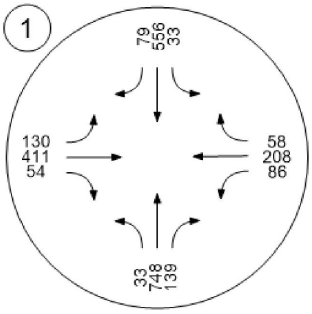
The roadway level of service analysis results for the Opening Year 2022 scenario are summarized on **Table 10.** Review of this table indicates that the study roadway would continue to operate at an acceptable level of service (LOS D or worse) on a daily basis

Table 10:
Roadway Segment – Project Opening Year (OY) Conditions

Roadway	Segment	Roadway Classification	Existing Lane Configuration	LOS E Capacity	OY ADT	V/C	LOS
Broadway	Euclid Street to Project Driveway	Secondary Arterial	4 Lanes Divided	37,500	17,252	0.460	A

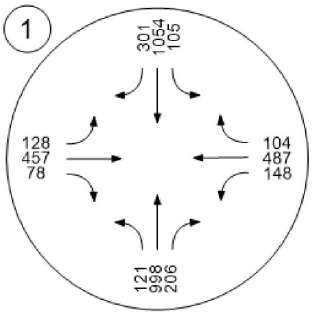
AM Peak Hour Trips

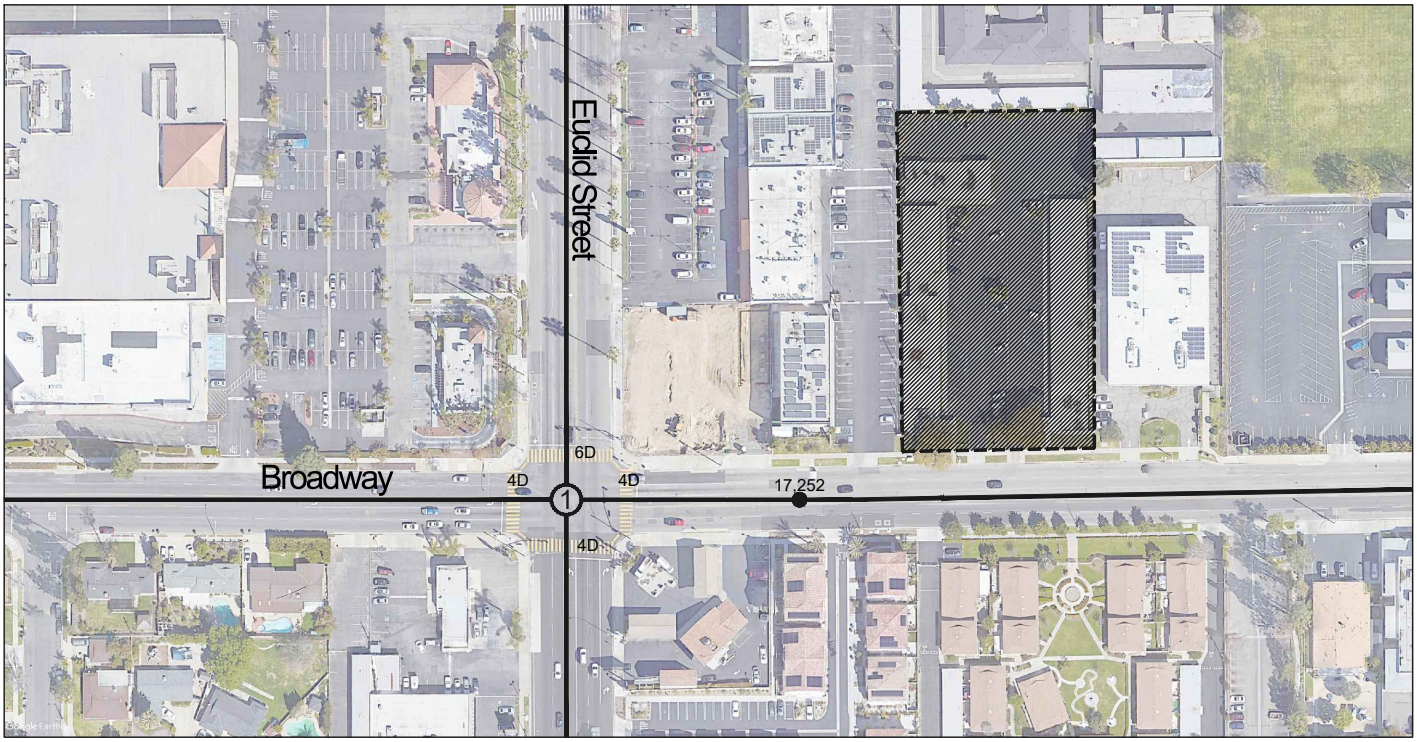
Euclid Street/Broadway



PM Peak Hour Trips

Euclid Street/Broadway





Legend:

X,XXX Average Daily Traffic Volume

Exhibit 8: Project Opening Year (OY) AM/PM Peak Hour Volumes

6.0 OPENING YEAR PLUS PROJECT CONDITIONS (OYP)

Opening Year Plus Project (OYP) conditions analysis is intended to identify the project-related impacts on both the existing and planned near-term circulation system.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the *Opening Year plus Project* scenario are consistent with those previously shown in **Exhibit 3**, with the exception of project driveway and other facilities assumed to be constructed by the proposed project to provide site access.

6.2 OYP TRAFFIC VOLUMES

Opening Year Plus Project volumes include background traffic which includes nearby cumulative projects and the addition the traffic projected to be generated by the proposed project. Since the proposed project is expected to be built and generating trips in 2022, *Opening Year Plus Project* volumes include a growth rate of 2% per year for one year, applied to existing base volumes. It is assumed the growth rate of 2% would account for any potential cumulative projects within the study area.

Opening Year Plus Project Volumes = (Existing (2021) Counts * 1.02^1) + Project Volume

Exhibit 9 shows *Opening Year Plus Project* AM and PM peak hour volumes at the study intersections.

6.3 OYP INTERSECTION LEVEL OF SERVICE ANALYSIS

Opening Year Plus Project conditions AM and PM peak hour intersection analysis is shown in ***Table* 11**. HCM analysis sheets are provided in the ***Appendix D***.

Table 11:
Intersection Analysis – Project Opening Year Plus Project (OYP) Conditions

Intersection			Control Type	Peak Hour	OY Conditions		OYP Conditions		Change	Deficient?
					ICU/Delay[1]	LOS	ICU/Delay[1]	LOS		
1	Euclid Street	Broadway	Signalized	AM	0.477	A	0.478	A	0.001	NO
				PM	0.680	B	0.681	B	0.001	NO
2	Project Driveway	Broadway	One Way Stop Control	AM	--	--	10.9	B	--	NO
				PM	--	--	13.5	B	--	NO

1 = Per the Highway Capacity Manual 6th Edition, for intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 11**, the study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for *Opening Year plus Project* conditions.

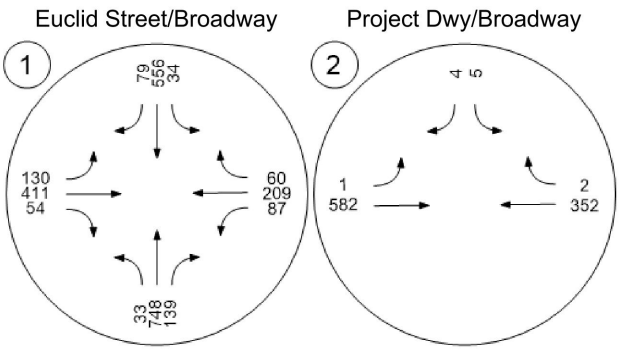
6.4 OYP CONDITIONS ROADWAY SEGMENT ANALYSIS

The roadway level of service analysis results for the Opening Year 2022 Plus Project scenario are summarized on **Table 12**. Review of this table indicates that the roadway would continue to operate at an acceptable level of service (LOS D or worse) on a daily basis.

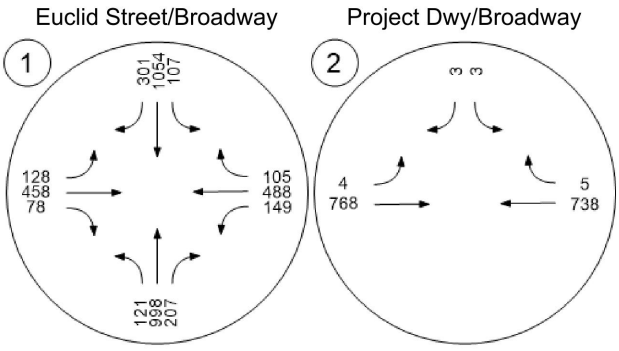
Table 12:
Roadway Segment – Project Opening Year plus Project (OYP) Conditions

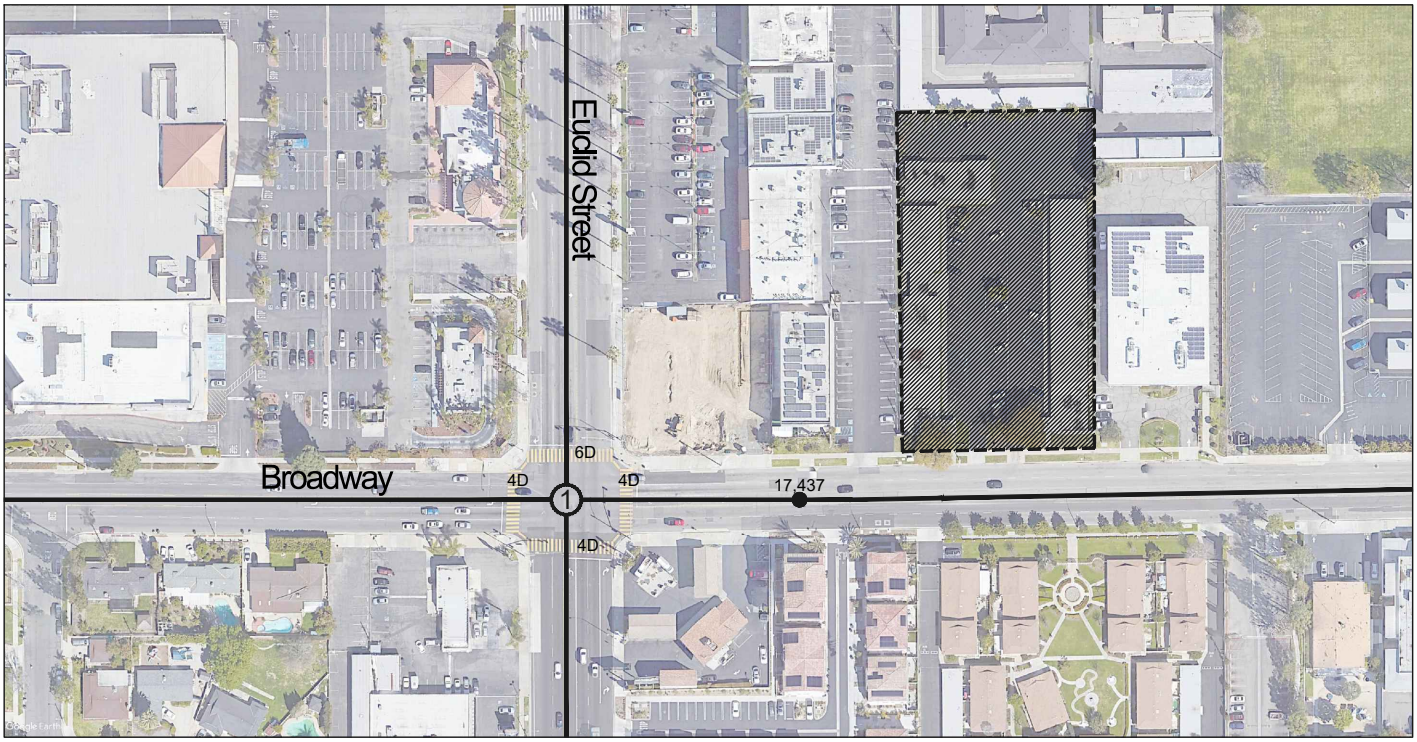
Roadway	Segment	Roadway Classification	Existing Lane Configuration	LOS E Capacity	OY ADT	Project ADT	OY + Project	V/C	LOS
Broadway	Euclid Street to Project Driveway	Secondary Arterial	4 Lanes Divided	37,500	17,252	185	17,437	0.465	A

AM Peak Hour Trips



PM Peak Hour Trips





Legend:

X,XXX Average Daily Traffic Volume

Exhibit 9: Project Opening Year Plus Project (OYP) AM/PM Peak Hour Volumes

7.0 GENERAL PLAN CONDITIONS (GP)

General Plan (GP) conditions analysis is intended to identify the project-related impacts on both the existing and planned near-term circulation system.

7.1 ANALYSIS OF BUILD-OUT TRAFFIC CONDITIONS

Analysis of future traffic conditions at build-out of the City was conducted to determine whether the traffic study area locations can accommodate future traffic demands including project traffic. Build-out year is assumed to be 2035. If future roadway or intersection deficiencies are projected to occur as a result of the project, then improvements needed to accommodate project traffic will be identified.

7.2 Methodology

The methodology for developing future traffic forecasts at the study locations is a multi-step process, based on the following resources and assumptions:

The City of Anaheim provided the General Plan Buildout without project volumes for each study area. Existing counts were submitted to the City of Anaheim so that the General Plan buildout volumes can be provided through the City's post-processor. Current buildout year is 2035.

7.3 GP INTERSECTION LEVEL OF SERVICE ANALYSIS

General Plan conditions AM and PM peak hour intersection analysis is shown in **Table 13**. HCM analysis sheets are provided in the ***Appendix D.***

Exhibit 10 shows *General Plan* AM and PM peak hour volumes at the study intersections.

Table 13:
Intersection Analysis – General Plan (GP) Conditions

Intersection			Control Type	Peak Hour	Existing Conditions	
					ICU/Delay[1]	LOS
1	Euclid Street	Broadway	Signalized	AM	0.917	E
				PM	0.906	E
2	Project Driveway	Broadway	One Way Stop Control	AM	--	--
				PM	--	--

1 = Per the Highway Capacity Manual 6th Edition, for intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 13**, the study intersection is projected to continue operating at unacceptable LOS during the AM and PM peak hours for G*eneral Plan* conditions.

7.4 GP CONDITIONS ROADWAY SEGMENT ANALYSIS

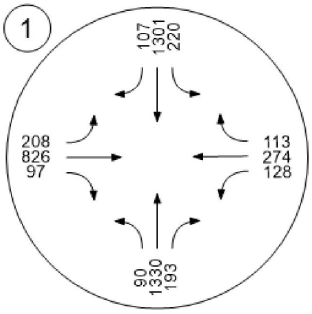
The roadway level of service analysis results for the General Plan scenario are summarized on **Table 14**. Review of this table indicates that the roadway would continue to operate at an acceptable level of service (LOS D or worse) on a daily basis.

Table 14:
Roadway Segment – General Plan (GP) Conditions

Roadway	Segment	Roadway Classification	Existing Lane Configuration	LOS E Capacity	GP ADT	V/C	LOS
Broadway	Euclid Street to Project Driveway	Secondary Arterial	4 Lanes Divided	37,500	18,700	0.499	A

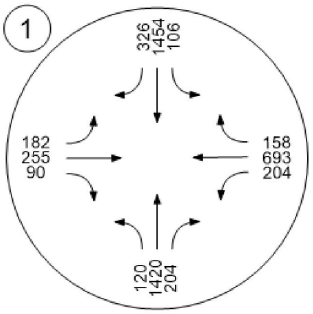
AM Peak Hour Trips

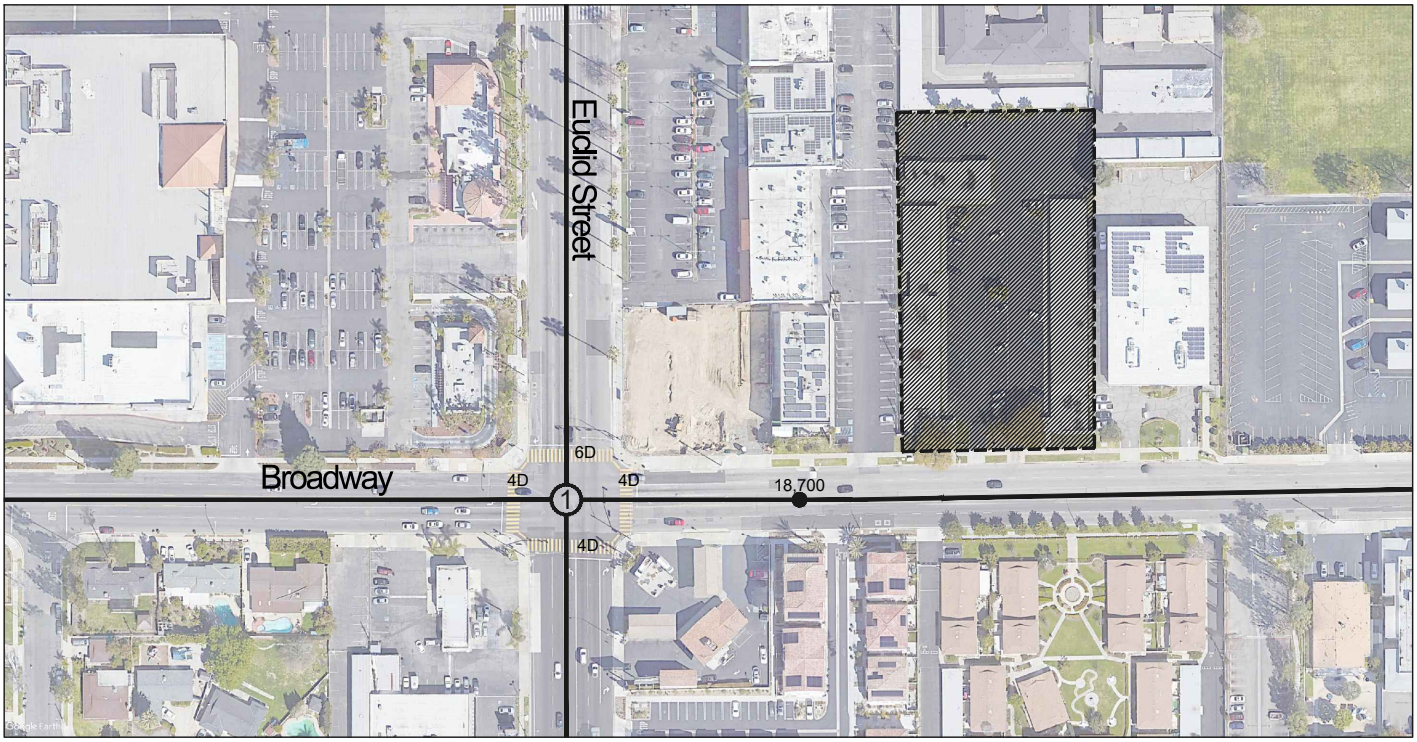
Euclid Street/Broadway



PM Peak Hour Trips

Euclid Street/Broadway





Legend:

X,XXX Average Daily Traffic Volume

Exhibit 10: General Plan (GP) AM/PM Peak Hour Volumes

8.0 GENERAL PLAN PLUS PROJECT CONDITIONS (GPWP)

General Plan Plus Project (GPWP) conditions analysis is intended to identify the project-related impacts on both the existing and planned near-term circulation system.

8.1 GPWP INTERSECTION LEVEL OF SERVICE ANALYSIS

General Plan plus Project conditions AM and PM peak hour intersection analysis is shown in **Table 15**. HCM analysis sheets are provided in the ***Appendix D***.

Exhibit 11 shows *General Plan plus Project* AM and PM peak hour volumes at the study intersections.

Table 15:
Intersection Analysis – General Plan plus Project (GPWP) Conditions

Intersection			Control Type	Peak Hour	GPWP Conditions		GPWP Conditions		Change	Deficient?
					ICU/Delay[1]	LOS	ICU/Delay[1]	LOS		
1	Euclid Street	Broadway	Signalized	AM	0.917	E	0.919	E	0.002	NO
				PM	0.906	E	0.906	E	0.000	NO
2	Project Driveway	Broadway	One Way Stop Control	AM	--	--	13.3	B	--	NO
				PM	--	--	13.4	B	--	NO

1 = Per the Highway Capacity Manual 6th Edition, for intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 15**, the study intersection is projected to continue operating at unacceptable LOS during the AM and PM peak hours for G*eneral Plan plus Project* conditions. Based on the City of Anaheim guidelines, the proposed project does not warrant improvements to the study intersection.

8.2 GPWP CONDITIONS ROADWAY SEGMENT ANALYSIS

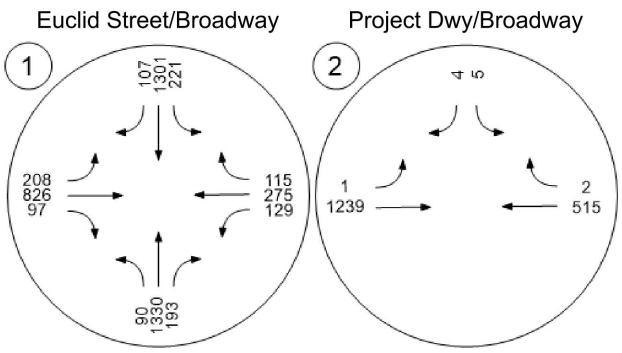
The roadway level of service analysis results for the General Plan plus Project scenario are summarized on **Table 16**. Review of this table indicates that the roadway would continue to operate at an acceptable level of service (LOS D or worse) on a daily basis.

Table 16:
Roadway Segment – General Plan plus Project (GPWP) Conditions

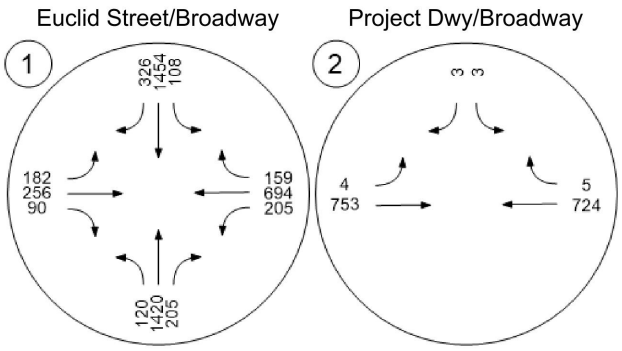
Roadway	Segment	Roadway Classification	Existing Lane Configuration	LOS E Capacity	GP ADT	Project ADT	GP + Project	V/C	LOS
Broadway	Euclid St to Project Dwy	Secondary Arterial	4 Lanes Divided	37,500	18,700	185	18,885	0.504	A

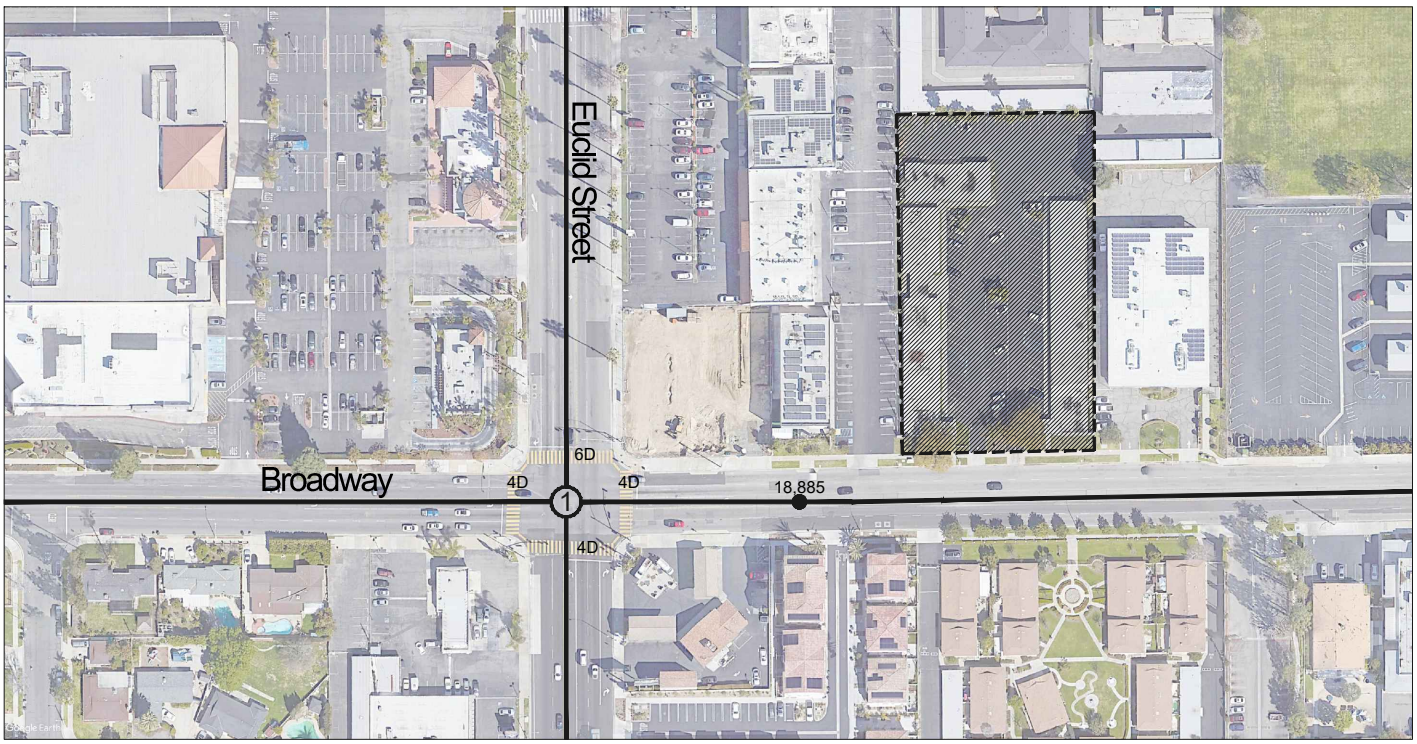
1 = Per the Highway Capacity Manual 6th Edition, for intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

AM Peak Hour Trips



PM Peak Hour Trips





Legend:

X,XXX Average Daily Traffic Volume

Exhibit 11: General Plan Plus Project (GPWP) AM/PM Peak Hour Volumes

APPENDIX

APPENDIX A

Glossary of Terminology

Glossary of Terminology

ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
LOS	Level of Service
TSF	Thousand Square Feet
V/C	Volume/Capacity
VMT	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic travelling at a given speed to radically alter their speed or trajectory. Corner sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 36 inches above the pavement in the center of the nearest approach lane.

CYCLE LENGTH: The time period in seconds required for a traffic signal to complete one full cycle of indications.

CUL-DE-SAC: A local street open at one end only and with special provisions for turning around.

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

PASSENGER CAR EQUIVALENT (PCE): A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a Traffic signal, stop sign, or access gate.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through an intersection.

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle on the major roadway travelling at a given speed to bring the vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 6 inches above the pavement.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TURNING RADIUS: The circular arc formed by the smallest turning path radius of the front outside tire of a vehicle, such as that performed by a U-turn maneuver. This is based on the length and width of the wheel base as well as the steering mechanism of the vehicle.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

SCOPING AGREEMENT

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This Memorandum of Understanding acknowledges the Traffic Impact Analysis requirements for the following project. The Traffic Impact Analysis will be completed in accordance with Anaheim TIA guidelines.

Project Name:	1661 W Broadway
Project Address/Location:	1661-1673 W Broadway
Governmental Jurisdiction:	City of Anaheim
Project Description and Land Use:	A 3 story 34 multi-family residential dwelling units, with one full access driveway on Broadway.
Analysis Scenarios:	Existing, Opening year (with/without) Project, General Plan (with/without) Project
Traffic Counts:	New counts will be collected for Existing. Opening year volumes will be developed using existing counts and the below annual growth rate. Existing counts will be submitted to the City so that the General Plan buildout volumes can be provided through the City's post processor.
VMT:	Using the City of Anaheim VMT screening tool the project is located in a TPA (Transit Priority Area), therefore the project is therefore the project is considered to be less than significant per City of Anaheim standards. A separate technical memo will be provided from the traffic impact analysis.

Growth Rate: 2% Project Build Out Year: 2022

Study Intersections:

#1 - Euclid Street/Broadway	#2 - Project Driveway/Broadway

Roadway Segment:

#1 - Broadway between Euclid Street and Project Driveway	

	Consultant	Developer
Name:	David Chew	Kim Prijatel
Firm:	TJW Engineering, Inc.	CITY VENTURES
Address:	9841 Irvine Center Drive, Suite 200	3121 Michaelson Drive, Suite 150
	Irvine, California 92618	Irvine California 92618
Telephone:	949-878-3509	
E-mail:	david@tjwengineering.com	

Internal Trip Capture Allowance	No	(_____ Trip Discount)
Pass-By Trip Allowance	No	(_____ Trip Discount)

Approved by:

David Chew	07/16/2021		
Consultant's Representative	Date	City Representative	Date

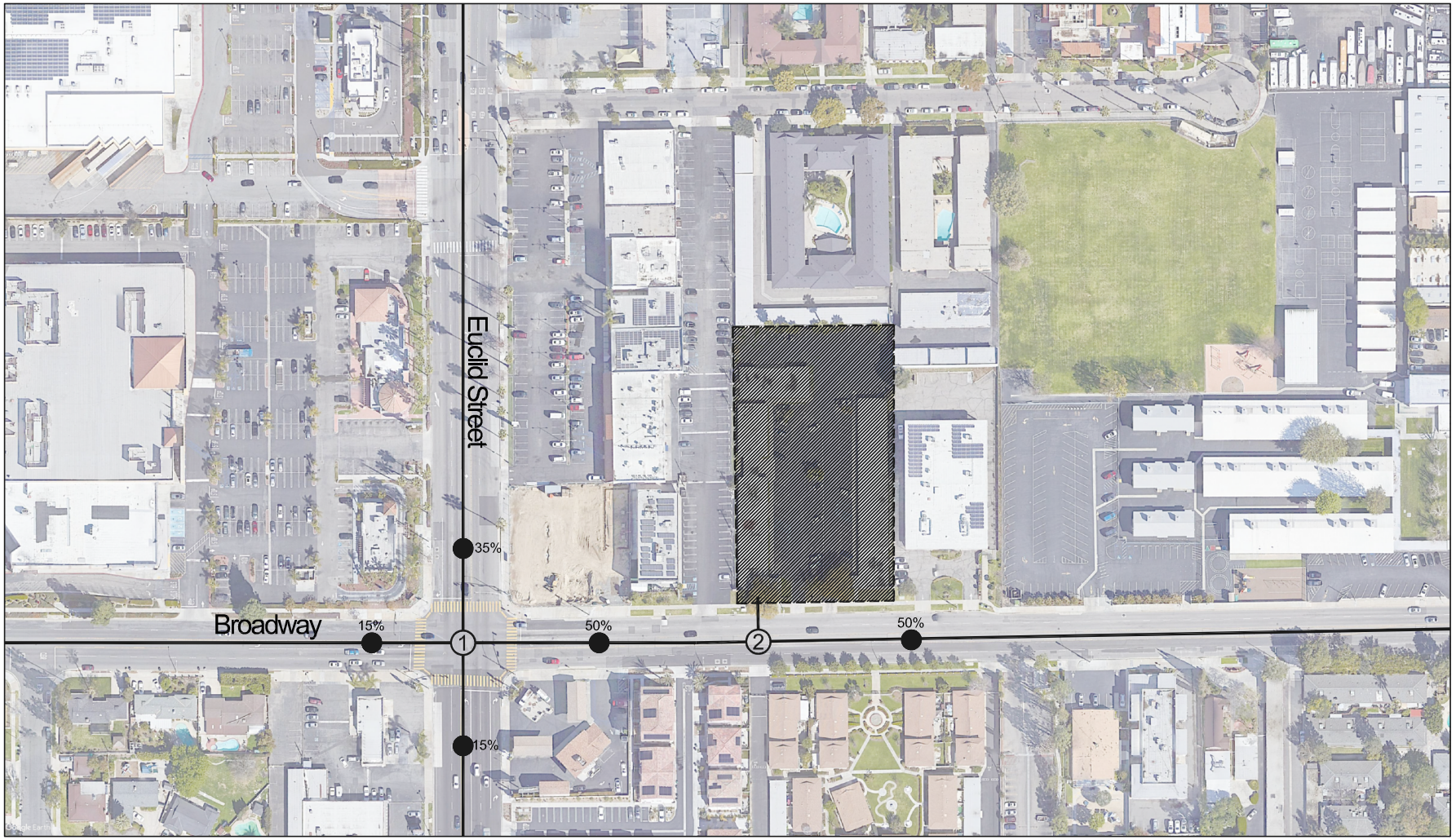
Table 1: Proposed Trip Generation

Proposed Land Use[1]	Quantity	Unit[2]	Daily Trips (ADTs)		AM Peak Hour					PM Peak Hour				
			Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
							In	Out	Total			In	Out	Total
Multifamily Housing (Mid-Rise)	34	DU	5.44	185	0.36	26:74	4	9	12	0.44	61:39	9	5	15
Total[3]				**185**			**4**	**9**	**12**			**9**	**5**	**15**

1: Rates from ITE Trip Generation (10th Edition, 2017), Land Use Code:221.

2: DU = Dwelling Units.

3: No trip credits were taken from existing land use.



Legend:

- Project Site
- (#) Study Intersection Location
- XX% Project Distribution

Exhibit 1: Project Location & Trip Distribution

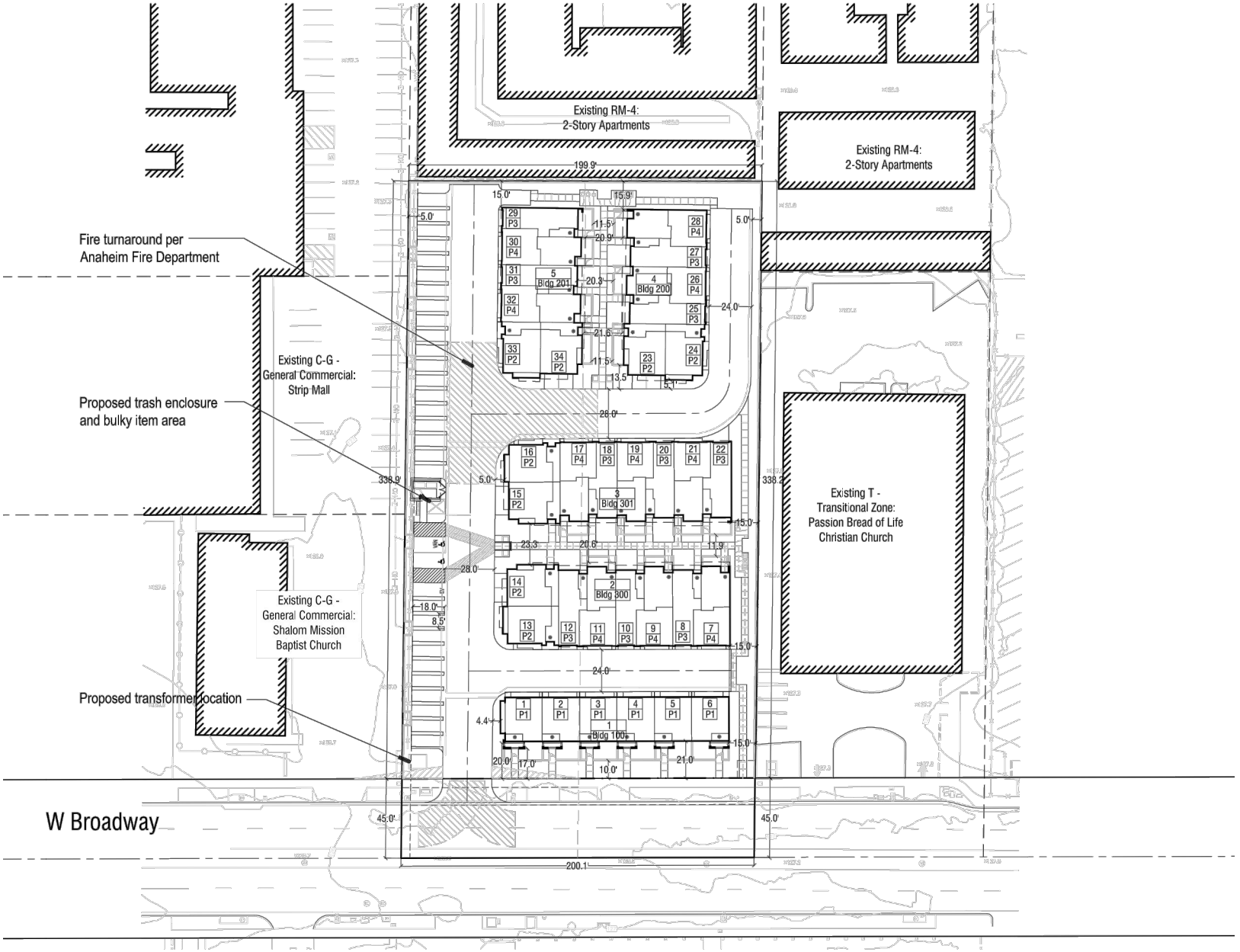


Exhibit 2: Proposed Project Site Plan

APPENDIX C

EXISTING TRAFFIC COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

T218

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

DATE: Tue, Aug 17, 21

LOCATION: Anaheim
NORTH & SOUTH: Euclid
EAST & WEST: Broadway

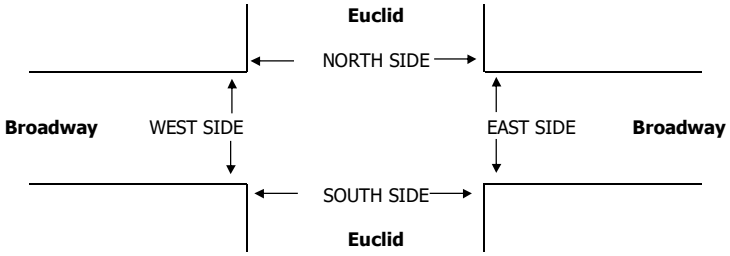
PROJECT #: SC3000
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

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

☑ Add U-Turns to Left Turns

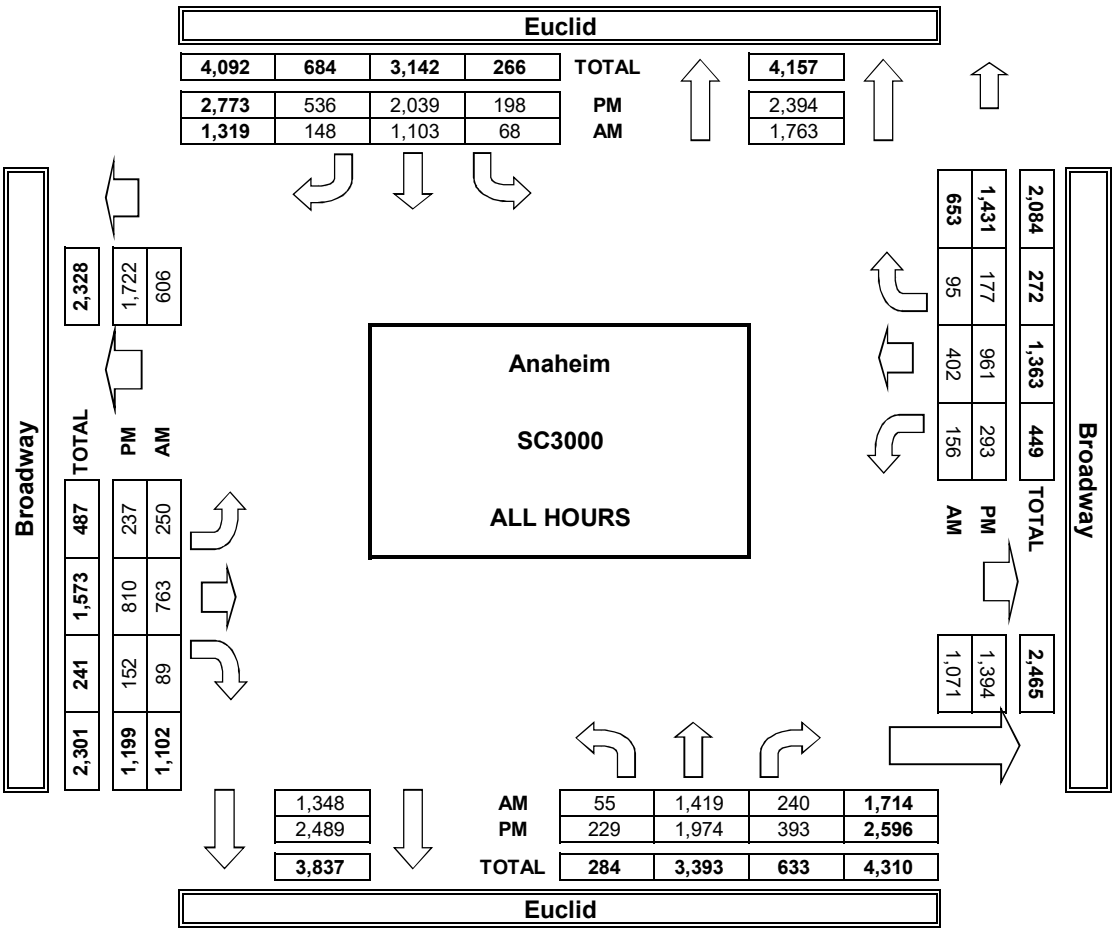
		NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Broadway			WESTBOUND Broadway				U-TURNS				
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	7	128	19	6	113	17	34	87	10	18	40	10	489	0	0	1	0	1
	7:15 AM	6	185	28	13	139	16	33	84	11	17	49	7	588	0	0	0	0	0
	7:30 AM	3	199	24	9	127	21	30	113	6	16	62	16	626	0	0	0	0	0
	7:45 AM	11	189	42	8	153	23	35	112	15	11	51	9	659	0	0	0	0	0
	8:00 AM	5	162	33	10	109	19	29	114	13	23	58	11	586	0	0	0	0	0
	8:15 AM	7	180	34	8	146	16	29	86	10	26	33	16	591	0	0	0	0	0
	8:30 AM	9	202	27	6	137	19	34	91	15	24	62	21	647	0	0	0	0	0
	8:45 AM	7	174	33	8	179	17	26	76	9	21	47	5	602	0	0	0	0	0
	VOLUMES	55	1,419	240	68	1,103	148	250	763	89	156	402	95	4,788	0	0	1	0	1
	APPROACH %	3%	83%	14%	5%	84%	11%	23%	69%	8%	24%	62%	15%						
	APP/DEPART	1,714	/	1,763	1,319	/	1,348	1,102	/	1,071	653	/	606	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	32	733	136	32	545	77	127	403	53	84	204	57	2,483					
	APPROACH %	4%	81%	15%	5%	83%	12%	22%	69%	9%	24%	59%	17%						
	PEAK HR FACTOR		0.931			0.889			0.900			0.806		0.942					
	APP/DEPART	901	/	917	654	/	682	583	/	571	345	/	313	0					
PM	4:00 PM	29	242	54	22	267	58	29	82	16	22	115	23	959	1	0	0	0	1
	4:15 PM	20	253	42	21	252	61	33	99	22	42	130	18	993	0	3	0	0	3
	4:30 PM	33	271	44	26	238	48	26	83	19	39	120	12	959	1	0	0	0	1
	4:45 PM	28	230	51	26	249	74	24	98	19	45	119	22	985	1	1	0	0	2
	5:00 PM	34	250	51	35	271	63	30	117	17	33	112	26	1,039	0	1	0	0	1
	5:15 PM	27	236	46	22	245	79	33	118	20	35	141	23	1,025	0	0	0	0	0
	5:30 PM	28	257	50	27	265	70	29	107	17	37	114	21	1,022	2	2	0	0	4
	5:45 PM	30	235	55	19	252	83	33	106	22	40	110	32	1,017	0	0	1	0	1
	VOLUMES	229	1,974	393	198	2,039	536	237	810	152	293	961	177	7,999	5	7	1	0	13
	APPROACH %	9%	76%	15%	7%	74%	19%	20%	68%	13%	20%	67%	12%						
	APP/DEPART	2,596	/	2,394	2,773	/	2,489	1,199	/	1,394	1,431	/	1,722	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	119	978	202	103	1,033	295	125	448	76	145	477	102	4,103					
	APPROACH %	9%	75%	16%	7%	72%	21%	19%	69%	12%	20%	66%	14%						
	PEAK HR FACTOR		0.969			0.970			0.949			0.910		0.987					
	APP/DEPART	1,299	/	1,207	1,431	/	1,256	649	/	750	724	/	890	0					

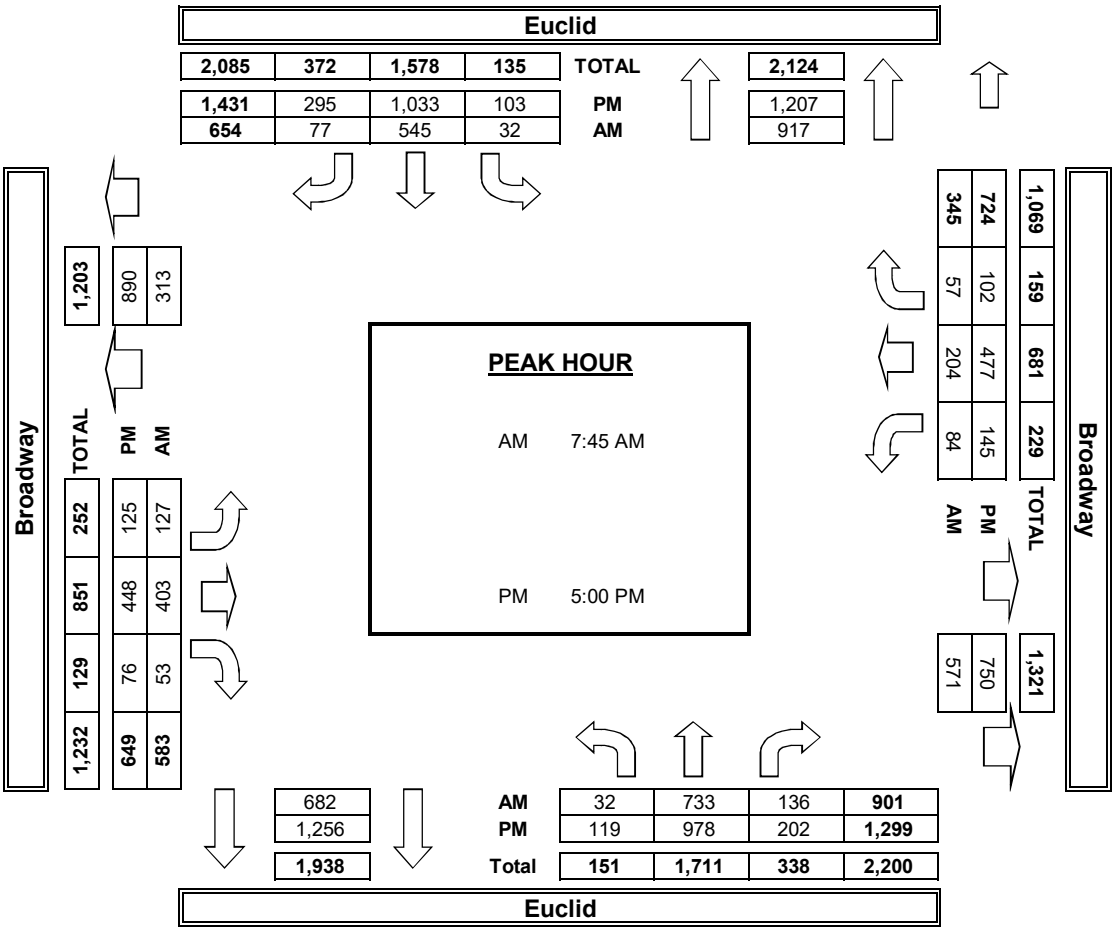


		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	AM BEGIN PEAK HR	7:45 AM					0	0	0	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM BEGIN PEAK HR	5:00 PM					0	0	0	0	0					

AimTD LLC

TURNING MOVEMENT COUNTS





Tuesday, August 17, 2021 | CITY: Anaheim | PROJECT: SC3000

ADT1 Broadway east of Euclid.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	EB		WB			PM Period	EB		WB		
0:00	16		22			12:00	121		118		
0:15	13		20			12:15	130		133		
0:30	16		16			12:30	124		125		
0:45	17	62	5	63	125	12:45	150	525	109	485	1010
1:00	9		11			13:00	133		116		
1:15	9		11			13:15	130		108		
1:30	13		4			13:30	145		127		
1:45	12	43	8	34	77	13:45	137	545	116	467	1012
2:00	6		8			14:00	146		120		
2:15	8		9			14:15	157		117		
2:30	10		1			14:30	137		136		
2:45	10	34	6	24	58	14:45	178	618	122	495	1113
3:00	6		10			15:00	139		148		
3:15	5		7			15:15	188		138		
3:30	6		8			15:30	140		141		
3:45	10	27	4	29	56	15:45	157	624	157	584	1208
4:00	12		3			16:00	158		160		
4:15	15		6			16:15	159		190		
4:30	27		20			16:30	153		171		
4:45	31	85	19	48	133	16:45	174	644	186	707	1351
5:00	26		14			17:00	202		171		
5:15	33		30			17:15	186		199		
5:30	55		34			17:30	182		172		
5:45	71	185	41	119	304	17:45	180	750	182	724	1474
6:00	56		26			18:00	168		138		
6:15	89		44			18:15	150		161		
6:30	90		46			18:30	138		134		
6:45	89	324	60	176	500	18:45	149	605	119	552	1157
7:00	112		68			19:00	140		141		
7:15	125		73			19:15	135		136		
7:30	146		94			19:30	107		97		
7:45	162	545	71	306	851	19:45	111	493	83	457	950
8:00	157		92			20:00	105		118		
8:15	128		75			20:15	101		118		
8:30	124		107			20:30	112		86		
8:45	117	526	73	347	873	20:45	84	402	93	415	817
9:00	82		87			21:00	102		74		
9:15	101		93			21:15	62		72		
9:30	105		89			21:30	90		62		
9:45	110	398	101	370	768	21:45	74	328	62	270	598
10:00	114		100			22:00	77		78		
10:15	101		95			22:15	62		52		
10:30	102		90			22:30	45		61		
10:45	115	432	101	386	818	22:45	46	230	56	247	477
11:00	99		107			23:00	53		46		
11:15	113		105			23:15	38		35		
11:30	142		103			23:30	25		30		
11:45	114	468	133	448	916	23:45	22	138	19	130	268
Total Vol.		3129		2350	**5479**			5902		5533	**11435**

Daily Totals	EB	WB	**Combined**
	9031	7883	**16914**

	AM			**PM**		
Split %	57.1%	42.9%	**32.4%**	51.6%	48.4%	**67.6%**
Peak Hour	7:30	11:45	**11:45**	17:00	16:45	**17:00**
Volume	593	509	**998**	750	728	**1474**
P.H.F.	0.92	0.96	**0.95**	0.93	0.91	**0.96**

cs@aimtd.com Tell. 714 253 7888

APPENDIX D

HCM ANALYSIS WORKSHEETS

EXISTING CONDITION

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	32	733	136	32	545	77	127	403	53	84	204	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	733	136	32	545	77	127	403	53	84	204	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	183	34	8	136	19	32	101	13	21	51	14
Total Analysis Volume [veh/h]	32	733	136	32	545	77	127	403	53	84	204	57
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.22	0.08	0.02	0.16	0.05	0.07	0.13	0.13	0.05	0.08	0.08
Intersection LOS	A											
Intersection V/C	0.468											

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	119	978	202	103	1033	295	125	448	76	145	477	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	119	978	202	103	1033	295	125	448	76	145	477	102
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	245	51	26	258	74	31	112	19	36	119	26
Total Analysis Volume [veh/h]	119	978	202	103	1033	295	125	448	76	145	477	102
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.29	0.12	0.06	0.30	0.17	0.07	0.15	0.15	0.09	0.17	0.17
Intersection LOS	B											
Intersection V/C	0.668											

PROJECT OPENING YEAR

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	32	733	136	32	545	77	127	403	53	84	204	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	748	139	33	556	79	130	411	54	86	208	58
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	187	35	8	139	20	33	103	14	22	52	15
Total Analysis Volume [veh/h]	33	748	139	33	556	79	130	411	54	86	208	58
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.22	0.08	0.02	0.16	0.05	0.08	0.14	0.14	0.05	0.08	0.08
Intersection LOS	A											
Intersection V/C	0.477											

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.680

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	119	978	202	103	1033	295	125	448	76	145	477	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	998	206	105	1054	301	128	457	78	148	487	104
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	250	52	26	264	75	32	114	20	37	122	26
Total Analysis Volume [veh/h]	121	998	206	105	1054	301	128	457	78	148	487	104
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.29	0.12	0.06	0.31	0.18	0.08	0.16	0.16	0.09	0.17	0.17
Intersection LOS	B											
Intersection V/C	0.680											

PROJECT OPENING YEAR PLUS PROJECT

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	32	733	136	32	545	77	127	403	53	84	204	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	1	0	0	0	0	0	1	1	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	748	139	34	556	79	130	411	54	87	209	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	187	35	9	139	20	33	103	14	22	52	15
Total Analysis Volume [veh/h]	33	748	139	34	556	79	130	411	54	87	209	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.22	0.08	0.02	0.16	0.05	0.08	0.14	0.14	0.05	0.08	0.08
Intersection LOS	A											
Intersection V/C	0.478											

Intersection Level Of Service Report
Intersection 2: Project Dwy/Broadway

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Project Dwy		Broadway		Broadway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		Broadway		Broadway	
Base Volume Input [veh/h]	0	0	0	571	345	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	4	1	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	1	582	352	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	146	88	1
Total Analysis Volume [veh/h]	5	4	1	582	352	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	Yes					
Number of Storage Spaces in Median	1		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.14	9.36	7.96	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.11	1.11	0.06	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.90		0.01		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.681

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	119	978	202	103	1033	295	125	448	76	145	477	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	2	0	0	0	1	0	1	1	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	998	207	107	1054	301	128	458	78	149	488	105
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	250	52	27	264	75	32	115	20	37	122	26
Total Analysis Volume [veh/h]	121	998	207	107	1054	301	128	458	78	149	488	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.29	0.12	0.06	0.31	0.18	0.08	0.16	0.16	0.09	0.17	0.17
Intersection LOS	B											
Intersection V/C	0.681											

Intersection Level Of Service Report
Intersection 2: Project Dwy/Broadway

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Project Dwy		Broadway		Broadway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		Broadway		Broadway	
Base Volume Input [veh/h]	0	0	0	753	724	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	3	4	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	3	4	768	738	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	192	185	1
Total Analysis Volume [veh/h]	3	3	4	768	738	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	Yes					
Number of Storage Spaces in Median	1		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	16.21	10.82	9.14	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.06	1.06	0.34	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.52		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	C					

GENERAL PLAN CONDITIONS

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.917

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	90	1330	193	220	1301	107	208	826	97	128	274	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	1330	193	220	1301	107	208	826	97	128	274	113
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	333	48	55	325	27	52	207	24	32	69	28
Total Analysis Volume [veh/h]	90	1330	193	220	1301	107	208	826	97	128	274	113
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.39	0.11	0.13	0.38	0.06	0.12	0.27	0.27	0.08	0.11	0.11
Intersection LOS	E											
Intersection V/C	0.917											

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	120	1420	204	106	1454	326	182	255	90	204	693	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	1420	204	106	1454	326	182	255	90	204	693	158
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	355	51	27	364	82	46	64	23	51	173	40
Total Analysis Volume [veh/h]	120	1420	204	106	1454	326	182	255	90	204	693	158
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.42	0.12	0.06	0.43	0.19	0.11	0.10	0.10	0.12	0.25	0.25
Intersection LOS	E											
Intersection V/C	0.906											

GENERAL PLAN PLUS PRROJECT CONDITIONS

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.919

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	90	1330	193	220	1301	107	208	826	97	128	274	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	1	0	0	0	0	0	1	1	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	1330	193	221	1301	107	208	826	97	129	275	115
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	333	48	55	325	27	52	207	24	32	69	29
Total Analysis Volume [veh/h]	90	1330	193	221	1301	107	208	826	97	129	275	115
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.39	0.11	0.13	0.38	0.06	0.12	0.27	0.27	0.08	0.11	0.11
Intersection LOS	E											
Intersection V/C	0.919											

Intersection Level Of Service Report
Intersection 2: Project Dwy/Broadway

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Project Dwy		Broadway		Broadway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		Broadway		Broadway	
Base Volume Input [veh/h]	0	0	0	1239	515	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	4	1	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	1	1239	515	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	310	129	1
Total Analysis Volume [veh/h]	5	4	1	1239	515	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	Yes					
Number of Storage Spaces in Median	1		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	15.96	9.99	8.40	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.56	1.56	0.07	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.31		0.01		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: Euclid Street/Broadway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name	Euclid St			Euclid St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	145.00	160.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Euclid St			Euclid St			Broadway			Broadway		
Base Volume Input [veh/h]	120	1420	204	106	1454	326	182	255	90	204	693	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	2	0	0	0	1	0	1	1	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	1420	205	108	1454	326	182	256	90	205	694	159
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	355	51	27	364	82	46	64	23	51	174	40
Total Analysis Volume [veh/h]	120	1420	205	108	1454	326	182	256	90	205	694	159
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.42	0.12	0.06	0.43	0.19	0.11	0.10	0.10	0.12	0.25	0.25
Intersection LOS	E											
Intersection V/C	0.906											

Intersection Level Of Service Report
Intersection 2: Project Dwy/Broadway

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Project Dwy		Broadway		Broadway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		Broadway		Broadway	
Base Volume Input [veh/h]	0	0	0	753	724	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	3	4	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	3	4	753	724	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	188	181	1
Total Analysis Volume [veh/h]	3	3	4	753	724	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	Yes					
Number of Storage Spaces in Median	1		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	16.00	10.76	9.09	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.05	1.05	0.34	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.38		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	C					

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H.2 - Vehicle Miles Screening Memorandum

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December 1, 2021

TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

Ms. Kim Prijatel
CITY VENTURES
3121 Michaelson Drive, Suite 150
Irvine, CA 92618

SUBJECT: 1661 W Broadway Vehicle Miles Traveled (VMT) Screening, City of Anaheim

Dear Ms. Prijatel,

*TJW Engineering, Inc. (*TJW*)* is pleased to submit this VMT Screening for the proposed project located at 1661 W Broadway in the City of Anaheim. The proposed project includes 34 multifamily residential dwelling units. A site plan is attached for reference. The purpose of this memorandum is to summarize the project VMT Screening.

Proposed Project

The proposed site is located at 1661 W Broadway in the City of Anaheim. The project will replace 14,144 square feet of existing office use and construct 34 multifamily residential dwelling units. Site access will be provided via one full-access driveway along Broadway.

Vehicle Miles Traveled (VMT) Screening

Senate Bill (SB) 743 was adopted in 2013 requiring the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within the California Environmental Quality Act (CEQA). For land use projects, OPR has identified Vehicle Miles Traveled (VMT) as the new metric for transportation analysis under CEQA. The regulatory changes to the CEQA guidelines that implement SB 743 were approved on December 28th, 2018 with an implementation date of July 1st, 2020 as the new metric.

As the project falls within the jurisdiction of the City of Anaheim, the City of Anaheim Traffic Impact Analysis Guidelines for California Environmental Quality Act Analysis (June 2020) was consulted. The document outlines guidelines for CEQA analysis including screening criteria and requirements for VMT assessment of land use projects. The VMT guidelines provides screening criteria for projects including Type 1: Transit Priority Area (TPA) Screening, Type 2: Low VMT Area Screening, and Type 3: Project Type Screening.

The City's Guidelines for Type 3: Project Type Screening outlines some project types are presumed to have a less than significant transportation impact as their uses can be considered local serving in nature. Among the list of various uses, project's generating less than 110 daily vehicle trips can be presumed to have a less than significant impact.

To determine the project's trip generation, the Institute of Transportation Engineers Trip Generation Manual (11th Edition) was used. The Table below provides a summary of the project's trip generation. The proposed project site is currently occupied by medical and general offices. As such, the trip generation for these existing uses were applied as credits to the proposed project to determine the net change with the proposed project.

Table 1 – Trip Generation

Proposed Land Use	Qty	Unit	Daily Trips (ADTs)		AM Peak Hour					PM Peak Hour				
			Rate	Trips	Rate	In:Out Split	Trips			Rate	In:Out Split	Trips		
							In	Out	Total			In	Out	Total
EXISTING														
Medical Offices (720)	6.22	TSF	36.00	224	3.10	79:21	15	4	19	3.93	30:70	7	17	24
General Offices (712)	7.93	TSF	14.39	114	1.67	82:18	11	2	13	2.16	34:66	6	11	17
Subtotal				338			26	6	32			13	28	41
PROPOSED														
Multi-Family (220)	34	DU	6.74	229	0.40	24:76	3	11	14	0.51	63:37	11	6	17
Subtotal				229			3	11	14			11	6	17
Net Total				**-109**			**-23**	**5**	**-18**			**-2**	**-22**	**-24**

Notes: ITE Trip Generation (11th Edition, 2021); DU=Dwelling Unit, TSF=Thousand Square Feet

The proposed project is projected to generate fewer total trips than the existing uses. As such, the proposed project will generate less than 110 daily vehicle trips and can be presumed to have a less than significant impact under Type 3: Project Type Screening per the City's Guidelines for VMT analysis.

Summary

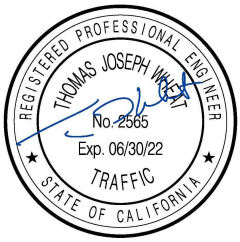
This memorandum provides an overview of the Vehicle Miles Traveled screening. Based on the City of Anaheim Traffic Impact Analysis Guidelines for California Environmental Quality Act Analysis (June 2020), the proposed project generates less than 110 daily vehicle trips and can be presumed to have a less than significant impact on VMT. Consistent with the City guidelines, the proposed project does not require additional VMT analysis.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

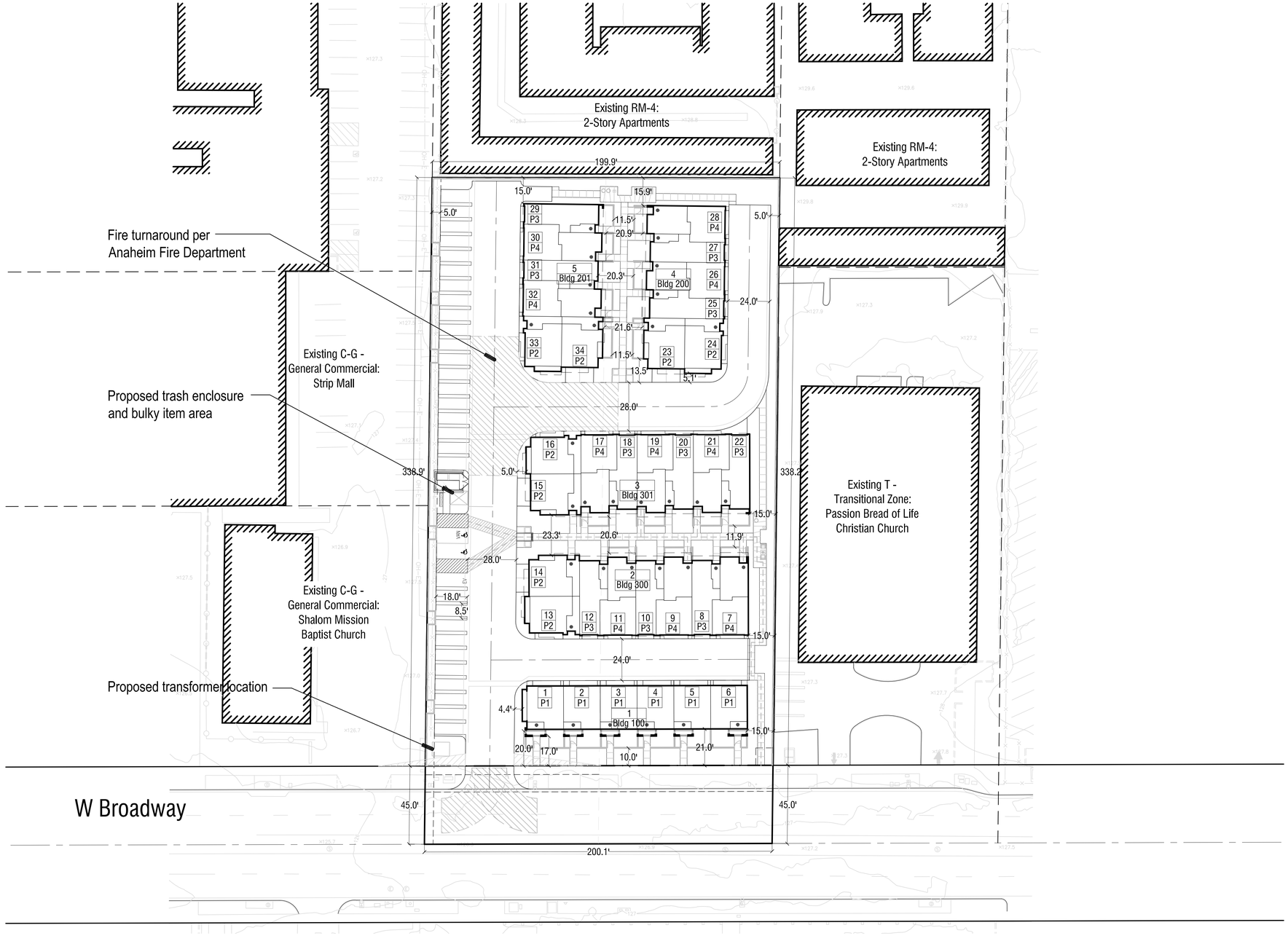
Sincerely,

Thomas Wheat, PE, TE
President

Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*



David Chew, PTP
Transportation Planner



Project Summary

Total Site Area: ± 1.55 Acres (± 67,693 SF)

Total Units: 34 Homes
- (6) Plan 1: ± 1,062 SF, 2 Bedroom, 2.5 Bath
- (2) Plan 2a: ± 1,342 SF, 2 Bedroom, 2.5 Bath, Loft
- (6) Plan 2b: ± 1,342 SF, 3 Bedroom, 2.5 Bath
- (10) Plan 3: ± 1,317 SF, 3 Bedroom, 3 Bath
- (10) Plan 4: ± 1,633 SF, 4 Bedroom, 4 Bath, Opt. Den

Density: 21.93 Homes per Acre

Parking:

Required: 101 Spaces (2.97 spaces per home)
- (8) 2 Bedroom x 2.25 Spaces = 18 Spaces
- (16) 3 Bedroom x 3.0 Spaces = 48 Spaces
- (10) 4 Bedroom x 3.5 Spaces = 35 Spaces

Provided: 101 Spaces (2.97 spaces per home)
- Garage: 68 Spaces
- Head In: 31 Spaces (8.5' x 18'; includes 1 Future EV space)
- ADA: 2 Spaces (9' x 18')

Open Space:

Required: 9,350 SF Total (275 SF per home)
- Common: xx SF (10' min. dim.)
- Private: xx SF (10' min. dim. ground, 7' min. dim deck)

Provided: 9,528 SF Total (± 280 per home)
- Common: 7,547 SF (10' Min. Dimension)
- Private: 1,981 SF
  - Ground: 1,281 SF (10' Min. Dimension)
  - Deck: 700 SF (7' Min. Dimension)

Lot Coverage: 23,084 SF (34.1% of site)

Zoning Summary

Existing General Plan: Office - Low
Proposed General Plan: Mid Density

Existing Zoning: C-G - General Commercial
Proposed Zoning: RM-3.5 - Multiple-Family Residential

Max. Density: 27 Homes per Acre

Building Setbacks: Front Yard: 20'
Interior Side Yard: 15'
Street Side Yard: 15'
Rear Yard: 15'

Building Separation: Varies

Max. Building Height: 40' and 3 Stories

Max. Lot Coverage: 50%

Notes:

1. Site plan is for conceptual purposes only.
2. Site plan must be reviewed by planning, building, and fire departments for code compliance.
3. Base information per civil engineer.
4. Civil engineer to verify all setbacks and grading information
5. Building Footprints might change due to the final design elevation style.
6. Open space area is subject to change due to the balcony design of the elevation.
7. Building setbacks are measured from property lines to building foundation lines.

CONCEPTUAL SITE PLAN

1661 - 1673 W BROADWAY

ANAHEIM, CA

City Ventures

SP-1

0 15 30 60

CITY SUBMITTAL

ARCHITECTS . PLANNERS . DESIGNERS

WHA.

ORANGE COUNTY . LOS ANGELES . BAY AREA