
Appendix K

Transportation Impact Study



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TRANSPORTATION IMPACT STUDY
DELANEY SQUARE PROJECT
City of Azusa, California
May 27, 2026

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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
ADA	Americans with Disabilities Act
AWSC	All-Way Stop Control
CEQA	California Environmental Quality Act
CMP	Congestion Management Plan
EIR	Environmental Impact Report
HCM	Highway Capacity Manual
ICU	Intersection Capacity Utilization
ITE	Institute of Transportation Engineers
LD-IGR	Local Development and Intergovernmental Review
LOS	Level of Service
OPR	Office of Planning and Research
PRC	Public Resources Code
SCAG	Southern California Association of Governments
SGVCOG	San Gabriel Valley Council of Governments
TDM	Transportation Demand Management
TISG	Transportation Impact Study Guide
TWSC	Two-Way Stop Control
VMT	Vehicle Miles Traveled

TRANSPORTATION IMPACT STUDY
DELANEY SQUARE PROJECT
City of Azusa, California
May 27, 2026

1.0 INTRODUCTION

This transportation impact study has been conducted to identify and evaluate the potential transportation impacts of the proposed Delaney Square project (“Project”). The proposed Project is located on the northwest corner of the intersection of Calera Avenue and Mauna Loa Avenue (“Project Site”) in the City of Azusa, California and is currently occupied by the vacant W.R. Powell Elementary School. The Project Site location and general vicinity are shown in *Figure 1-1*.

The transportation impact analysis follows the analysis recommendations set forth by the California Governor’s Office of Planning and Research (“OPR”) in the *Technical Advisory on Evaluating Transportation Impacts in CEQA*¹ (“*Technical Advisory*”). Specifically, in compliance with California Environmental Quality Act (“CEQA”) Sections 15064.3 and 15064.7, this transportation impact analysis utilizes Vehicle Miles Traveled (“VMT”) for the purpose of analyzing transportation impacts under CEQA. In addition, the City of Azusa requires additional site access studies in order to identify a proposed project’s effect on local transportation infrastructure. The site access studies prepared for the proposed Project evaluate potential project-related effects on intersection operations and Level of Service (“LOS”) at five (5) key intersections in the vicinity of the Project Site. The study intersections were determined in consultation with City of Azusa staff.

In summary, this report (i) presents the Project’s existing transportation network context, (ii) presents existing traffic volumes, (iii) forecasts cumulative baseline conditions, (iv) forecasts Project-generated traffic, (v) assesses the potential for Project-related transportation impacts consistent with the CEQA based and non-CEQA based metrics, and (vi) recommends transportation network improvement measures, where necessary.

¹ “Technical Advisory on Evaluating Transportation Impacts in CEQA”, State of California Governor’s Office of Planning and Research, December 2018.

1.1 Study Methodology

The CEQA and non-CEQA analysis criteria for this transportation impact report were identified in consultation with City of Azusa staff. The analysis criteria were determined based on the *Technical Advisory*, the proposed Project description and location, and the characteristics of the surrounding transportation system. The City of Azusa confirmed the appropriateness of the analysis criteria when it approved the transportation impact analysis Scope of Work memorandum. The approved scoping memorandum is attached to this report in *Appendix A*.

On September 27, 2013, Governor Brown signed Senate Bill (“SB”) 743 (Steinberg, 2013). Among other things, SB 743 initiated a change in the methodology to analyze transportation impacts under CEQA (Public Resources Code Section [“PRC”] 21000 and following). Through PRC Section 21099, which states in part that “automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment,” SB 743 directed OPR to identify a new metric for evaluating transportation impacts. OPR identified vehicle miles traveled (“VMT”) as the most appropriate metric, and developed the *Technical Advisory*, which provides non-binding recommendations on the implementation of VMT analysis methodology that has significantly informed the way VMT analyses are conducted in the State. State-wide implementation of the new metric was required by July 1, 2020.

Pursuant to current statutes, the City of Azusa utilizes VMT as the metric for determining environmental impacts in compliance with SB 743. It is noted that the City of Azusa has not yet adopted transportation assessment guidelines for VMT analyses, therefore, the VMT assessment has been prepared in compliance with the methodology recommended by OPR in the *Technical Advisory*.

The passage of SB 743 and the resulting implementation of VMT does not prevent agencies from continuing to analyze delay or LOS outside of CEQA review for other transportation planning or analysis purposes (i.e., general plans, impact fee programs, corridor studies, congestion reduction, or ongoing network monitoring). The City of Azusa therefore also requires additional studies of the local transportation network. Specifically, the City of Azusa requires an operational analysis of intersections in the vicinity of a proposed project in order to evaluate site access and circulation constraints that may be caused or worsened by project-generated traffic. For purposes of this analysis, a total of five (5) study intersections were selected in coordination with City of Azusa staff. The study intersections are illustrated in *Figure I-1*. This assessment utilizes the Intersection Capacity Utilization (“ICU”) methodology to evaluate LOS at signalized intersections, and utilizes the latest version of the Highway Capacity Manual (“HCM”) methodology to evaluate LOS at unsignalized intersections.

In summary, the proposed Project's CEQA transportation impacts have been evaluated based on the VMT screening criteria, methodology, and thresholds set forth in the *Technical Advisory*. In order to evaluate the proposed Project's effect on local transportation infrastructure, a non-CEQA analysis of five (5) study intersections has also been conducted for the weekday AM and PM peak hours, utilizing the City-approved ICU and HCM operational methodologies for signalized and unsignalized intersections, respectively.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Delaney Square project is located on the northwest corner of the intersection of Calera Avenue and Mauna Loa Avenue in the City of Azusa, California. The Project Site is generally bounded by multifamily residential development to the north, Mauna Loa Avenue to the south, Calera Avenue to the east, and single-family homes to the west. The Project Site location and general vicinity are shown in *Figure 1-1*.

The existing Project Site is comprised of one legal lot, assigned Assessor Parcel Number (“APN”) 8628-004-900 and comprises approximately 9.77 acres. The existing Project Site is currently zoned as Institutional / School (“INS”) by the City of Azusa and is currently occupied by the vacant W.R. Powell Elementary School (“School”), which was closed in June 2023. It is noted that the School had an average enrollment of 287 students during the past five school years (i.e. 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023), prior to closing in June 2023. It should be further noted that the 287 student average enrollment has been utilized for the purposes of establishing the historic CEQA baseline for the study intersections.

Prior to the School’s closure, vehicular access to the existing Project Site was provided via two driveways along the west side of Calera Avenue. The existing northerly driveway along the west side of Calera Avenue accommodated ingress movements only and the existing southerly driveway along the west side of Calera Avenue accommodated egress movements only. It is noted that two additional existing curb cuts are provided along Calera Avenue (i.e., the northernmost existing curb cut as well as the southerly existing curb cut near the center of the existing Project Site’s Calera Avenue frontage). However, these two curb cuts were not operational since they were fenced off. It is noted that all four curb cuts are currently fenced off due to the closure of the School. An aerial photograph of the existing Project Site is presented in *Figure 2-1*.

2.2 Proposed Project Description

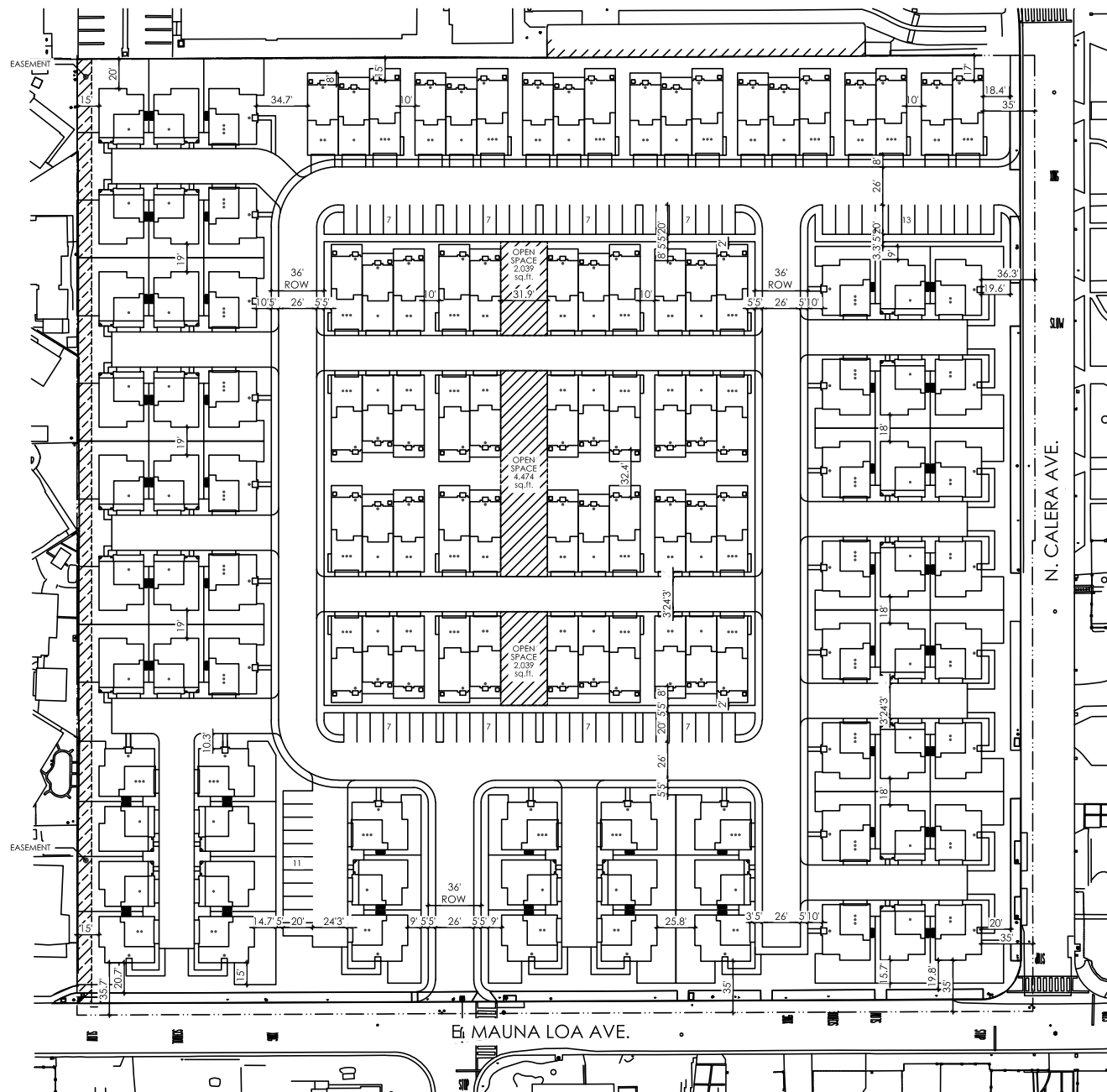
The Project proposes to remove the existing improvements on the Project Site to accommodate the construction of a residential development totaling 128 multifamily residential dwelling units. Of the 128 units, 65 units will be cluster product residential dwelling units and 63 units will be two-story townhome residential dwelling units. The cluster product units will consist of three and four-bedroom units and the townhome units will consist of two and three-bedroom units. The Project proposes to provide 256 covered parking spaces and 70 uncovered parking spaces on-site, totaling 326 parking spaces. Vehicular access to the Project Site is proposed to be accommodated by the northernmost existing driveway along Calera Avenue and one proposed driveway along Mauna Loa Avenue at Fairvale Drive. Further discussion of the proposed Project Site access is provided in *Section 2.3* below. Construction and occupancy of the Project is proposed to be completed by the year 2028. The site plan for the Project is provided in *Figure 2-2*.

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-  Project Site
-  Existing Driveway

Figure 2-1
Aerial Photograph of Existing Project Site



SOURCE: KEVIN L. CROOK ARCHITECT INC.

2.3 Project Site Access

As noted previously, vehicular access to the Project Site will be provided via two driveways. Specifically, vehicular access to the Project Site will be provided via the existing northernmost driveway along the west side of Calera Avenue and a proposed driveway along the north side of Mauna Loa Avenue at the Fairvale Drive/Mauna Loa Avenue intersection. It is noted that both driveways will not be gated upon construction and occupancy of the Project. Further discussion of the proposed Project Site access is provided below.

2.3.1 Vehicular Site Access

As shown in *Figure 2-2*, vehicular access to the Project Site will be provided via one driveway located along Calera Avenue and one driveway located along Mauna Loa Avenue. The Project driveways and vehicular access scheme are described in detail below:

- Existing Northernmost Calera Avenue Driveway

The existing northernmost driveway along the west side of Calera Avenue (i.e., along the Project Site's easterly frontage) will be approximately 26 feet wide upon construction and occupancy of the Project. In addition, this driveway will accommodate one inbound and one outbound lane and will allow full vehicular access (i.e., left-turn and right-turn ingress and egress movements).

- Proposed Mauna Loa Avenue Driveway

The proposed driveway along the north side of Mauna Loa Avenue at the Fairvale Drive / Mauna Loa Avenue intersection (i.e., along the Project Site's southerly frontage) will be approximately 26 feet wide. The proposed driveway will form the north leg of the Fairvale Drive/Mauna Loa Avenue intersection and will accommodate one inbound and one outbound lane upon construction and occupancy of the Project. The proposed driveway will allow full vehicular access (i.e., left-turn and right-turn ingress and egress movements).

Internal access to the multifamily residential dwelling units and the associated parking areas (i.e., covered and uncovered parking) will be accommodated by a network of internal private roadways. The proposed roadways will be constructed to the applicable City standards for local roads and would adequately accommodate emergency vehicles as required by the Fire Department.

2.3.2 Pedestrian and Bicycle Access

The Project Site is planned to provide pedestrian and bicycle access as well. The Project will provide sidewalks, curb, and gutter along all of its internal private roadways in order to accommodate pedestrian access to the planned residential dwelling units. The internal sidewalks will connect to the public sidewalks provided along Calera Avenue and Mauna Loa Avenue adjacent to the Project Site. Thus, the Project will provide a comfortable, convenient, and safe environment for pedestrians to access the Project Site from the public right-of-way. Bicycle access to and from the Project Site will also be provided via Calera Avenue and Mauna Loa Avenue and will be accommodated by the Project's internal roadway network.

2.4 Project Trip Generation and Distribution

2.4.1 Project Trip Generation Forecast

Traffic trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. The traffic volumes anticipated to be generated by the Project were forecast for the typical weekday AM and PM peak commute hours as well as over a 24-hour period (i.e., daily). Trip generation rate information provided in the Institute of Transportation Engineers' ("ITE") *Trip Generation Manual*, 11th Edition² per dwelling unit was utilized to prepare the trip generation forecast for the proposed Project. Specifically, trip generation average rates for the following ITE Land Use Code was used to forecast the traffic volumes expected to be generated by the Project:

- Land Use 220: Multi-Family Housing – Low Rise

In addition to the trip generation forecasts for the Project (which are essentially an estimate of the number of vehicles that could be expected to enter and exit the Project Site access points), an adjustment was made to the trip generation forecast based on the Project Site's existing land use. The existing land use includes the existing entitled School that accommodated an average enrollment of 287 students during the past five school years (i.e. 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023), prior to closing in June 2023. The trips associated with the existing entitled land use were distributed and manually added to the existing traffic counts to establish the historic CEQA baseline for the study intersections. ITE Land Use Code 520: Elementary School trip generation average rates were used to estimate the trips related to the existing entitled School.

The trip generation forecast for the Project is summarized in **Table 2-1**. As presented in the middle portion of *Table 2-1*, the proposed Project is forecast to generate 863 daily trips, 51 AM peak hour trips and 65 PM peak hour trips and the existing entitled School is forecast to generate 651 daily trips, 212 AM peak hour trips and 46 PM peak hour trips. As shown at the bottom of *Table 2-1*, the Project is expected to generate 161 fewer net vehicle trips (102 fewer inbound trips and 59 fewer outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the Project is expected to generate 19 greater net new vehicle trips (20 greater inbound trips and 1 fewer outbound trip). Over a 24-hour period, the Project is forecast to generate 212 greater net new daily vehicle trips (approximately 106 greater inbound trips and approximately 106 greater outbound trips) on a typical weekday. These net trips are evaluated as part of the Non-CEQA Level of Service (LOS) Analysis for the proposed Project.

2.4.2 Project Trip Distribution and Assignment

Project traffic volumes both entering and exiting the Project Site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to major traffic corridors (i.e., Citrus Avenue, Historic Route 66 etc.);

² Institute of Transportation Engineers *Trip Generation Manual*, 11th Edition, Washington D.C., 2021.

TABLE 2-1
PROJECT TRAFFIC GENERATION FORECAST¹
DELANEY SQUARE PROJECT, AZUSA

ITE Land Use Code/ Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<u>Generation Rates:</u>							
▪ 220: Multi-Family Housing – Low Rise (TE/DU)	6.74	24%	76%	0.40	63%	37%	0.51
▪ 520: Elementary School (TE/Student)	2.27	54%	46%	0.74	46%	54%	0.16
<u>Proposed Project Generation Forecast:</u>							
[A] – Delaney Square Project (128 DU)	863	12	39	51	41	24	65
<u>Existing Entitled Land Use Generation Forecast:</u>							
[B] – W.R. Powell Elementary School (287 Students)	651	114	98	212	21	25	46
Total Net Trip Generation Forecast [A] – [B]	+212	-102	-59	-161	+20	-1	+19

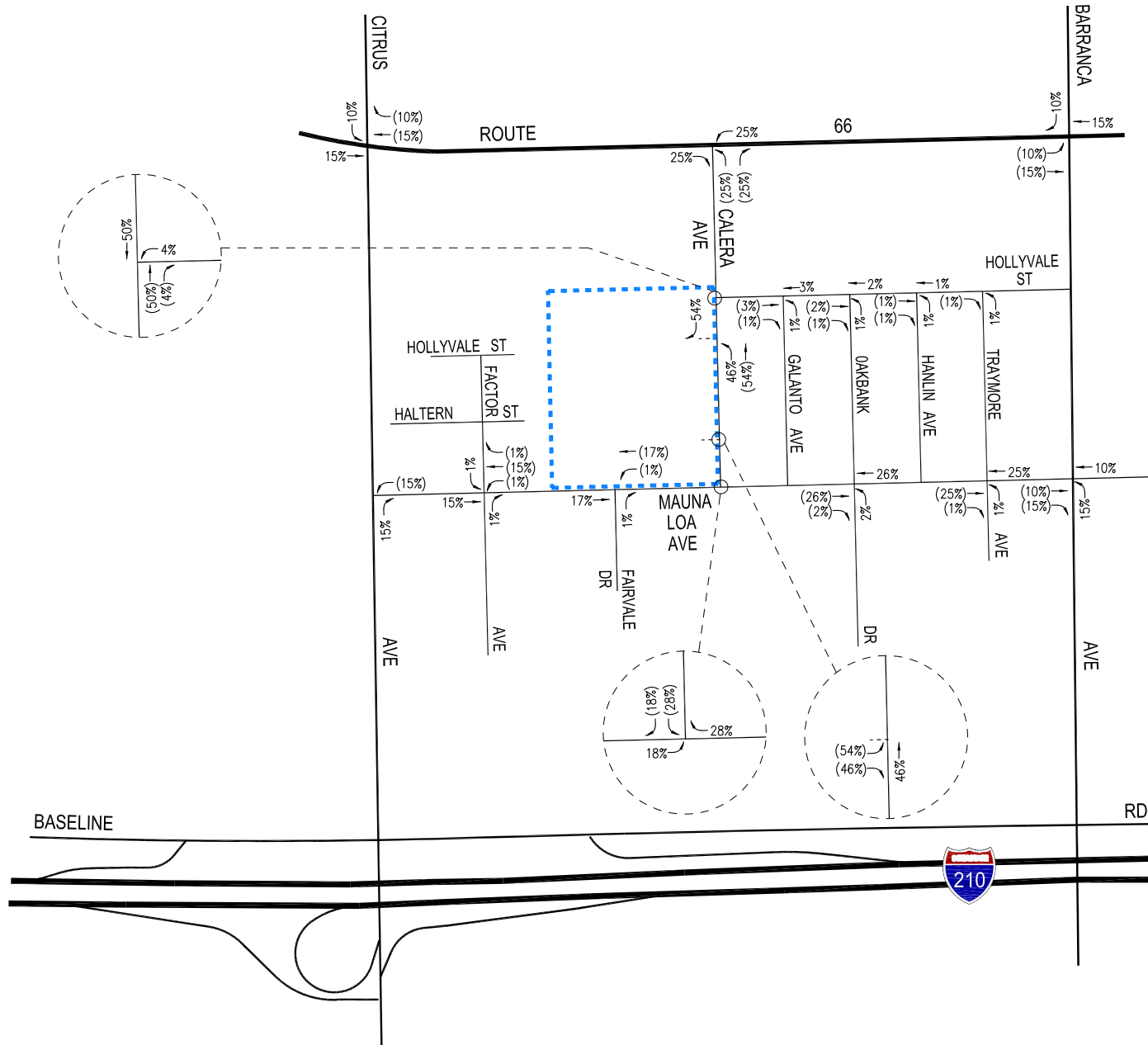
Notes:

- TE/DU = Trip End per Dwelling Unit
- TE/Student = Trip End per Student

¹ Source: *Trip Generation, 11th Edition*, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2021)].

- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes;
- Ingress/egress availability at the Project Site assuming the site access and circulation scheme described in *Section 2.3.1*;
- The location of proposed parking areas;
- Nearby population and employment centers; and
- Input from City of Azusa staff.

The general, directional traffic distribution pattern for the existing use on the Project Site is presented in **Figure 2-3**. The general, directional traffic distribution pattern for the Project is presented in **Figure 2-4**. The forecast net new weekday AM and PM peak hour project traffic volumes at the study intersections associated with the Project are presented in **Figures 2-5** and **2-6**, respectively. The traffic volume assignments presented in *Figures 2-5* and *2-6* reflect the traffic distribution characteristics shown in *Figure 2-4* and the Project trip generation forecast presented in *Table 2-1*.



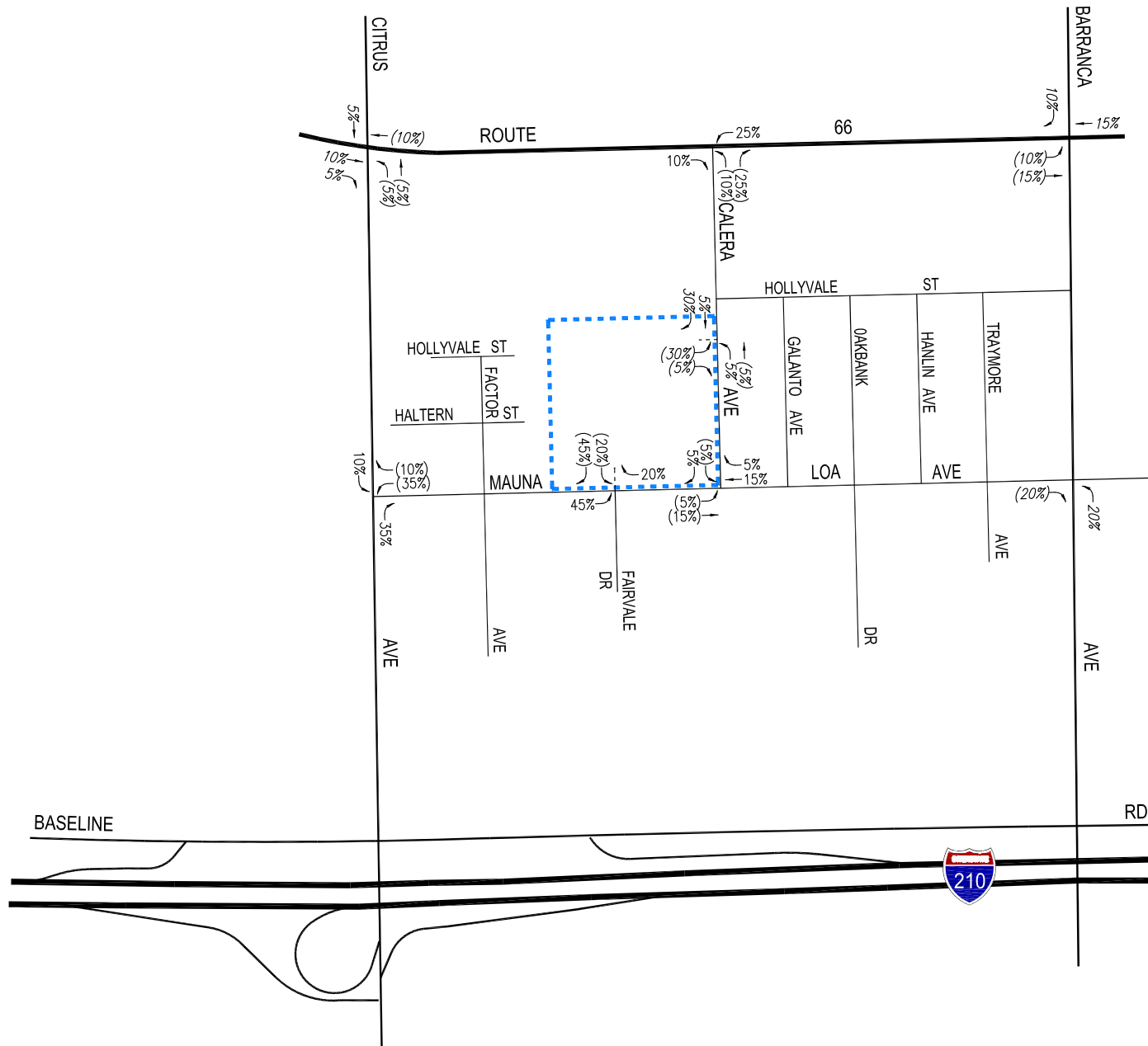
 Project Site

XX = Inbound Percentages

(XX) = Outbound Percentages



Figure 2-3
Existing Trip Distribution



 Project Site

XX = Inbound Percentages

(XX) = Outbound Percentages



Figure 2-4
Project Trip Distribution

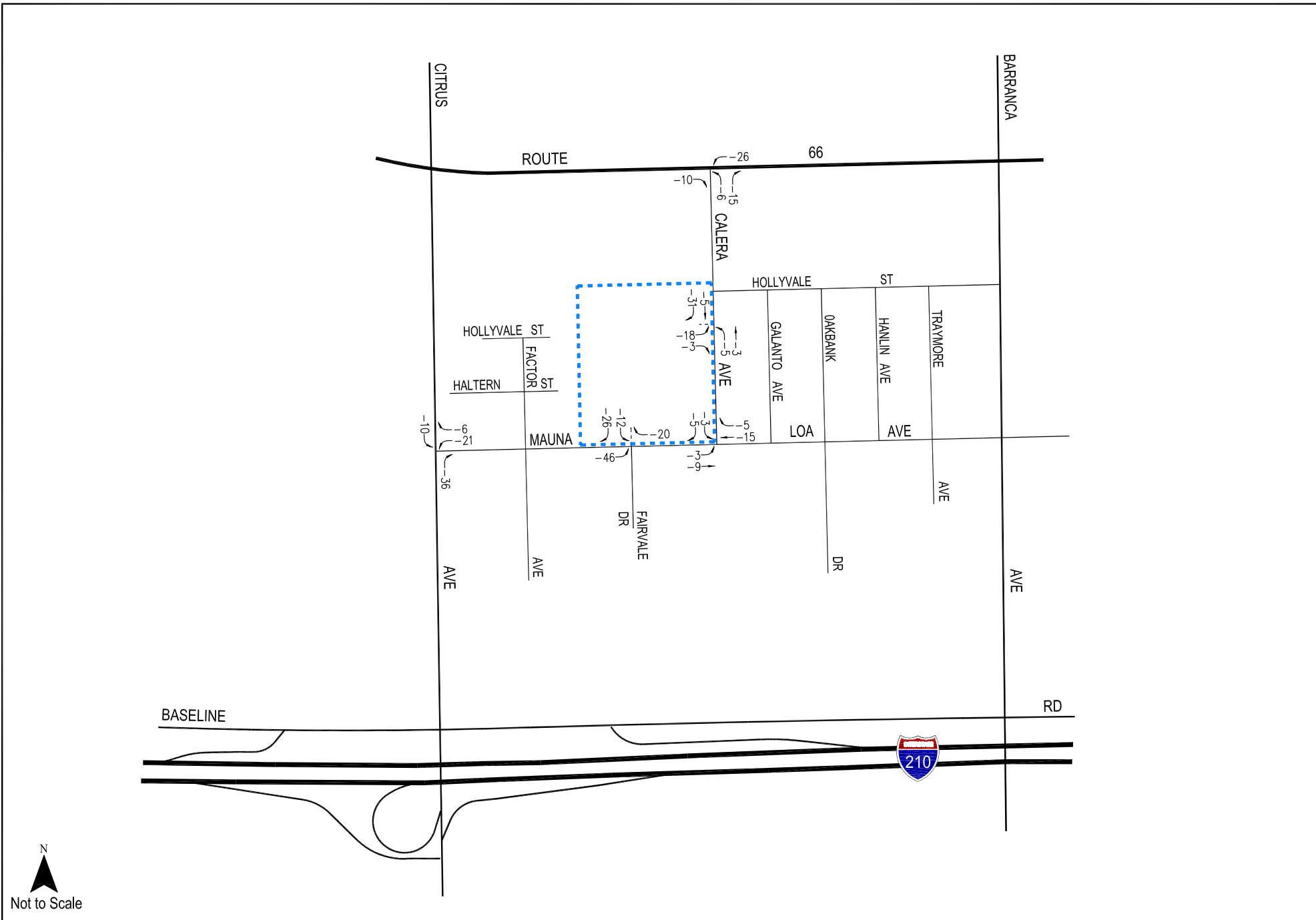


Figure 2-5
Net New Project Traffic Volumes
Weekday AM Peak Hour
Delaney Square Project

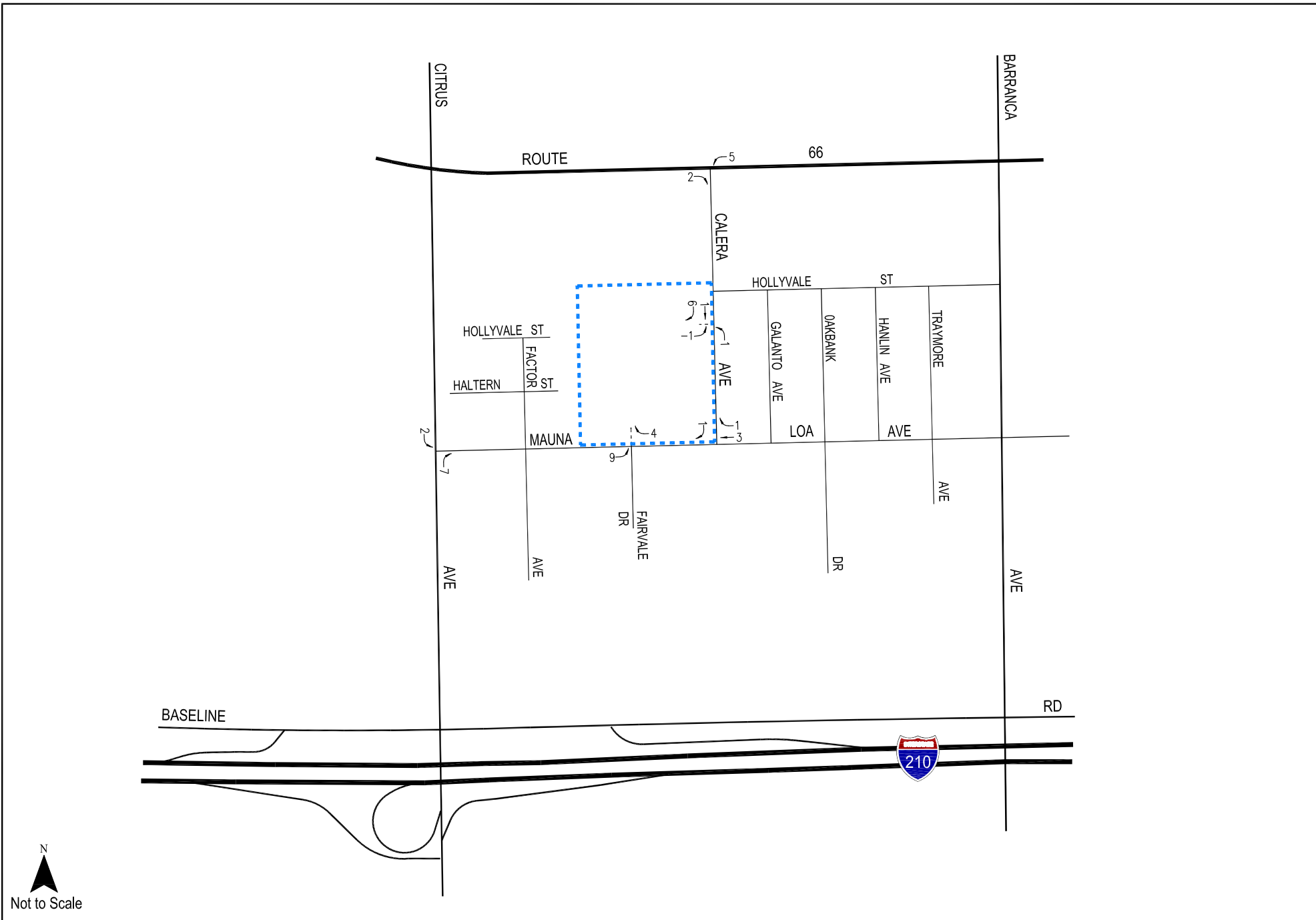


Figure 2-6
Net New Project Traffic Volumes
Weekday PM Peak Hour
Delaney Square Project

3.0 PROJECT SITE CONTEXT

The Project Site is located within a well-established multi-modal transportation network maintained by the City of Azusa. The following sections will provide an overview of the transportation infrastructure in the vicinity of the Project Site, including infrastructure which supports both motorized and non-motorized transportation modes.

3.1 Active Transportation Network

Active transportation generally encompasses walking, biking, and other active transportation modes. Distinct facilities are often provided for these non-vehicular modes. Most prominently, paved sidewalks are typically provided to facilitate pedestrian travel outside of the roadway. In some cases, bicycle facilities such as painted bike lanes or separated bike paths are provided within the roadway in order to separate bike traffic from vehicular traffic. Roadways which are designed to prioritize non-vehicular transportation modes utilize complimentary non-vehicular infrastructure in order to promote comfortable, safe travel for both pedestrians and bicyclists. A review of the pedestrian and bicycle infrastructure provided in the vicinity of the Project Site is provided below.

3.1.1 Pedestrian System

Pedestrian infrastructure consists of facilities such as sidewalks, crosswalks, pedestrian signals, curb access ramps, Americans with Disabilities Act (“ADA”) compliant tactile warning strips, and curb extensions, among other things. These facilities are generally provided within the study area.

Public sidewalks are provided along the Project Site’s Calera Avenue and Mauna Loa Avenue frontages, as well as along most roadways within the vicinity of the Project Site, including along Citrus Avenue, Barranca Avenue, Historic Route 66, Hollyvale Street, and Baseline Road. It is noted that portions of various local residential streets in the vicinity of the Project Site do not currently provide paved public sidewalks, such as portions of the south side of Mauna Loa Avenue and the east side of Calera Avenue, although paved public sidewalks are provided elsewhere along these roadways. The Project will ensure that sidewalks, curb, and gutter along its frontages are in compliance with City of Azusa standards.

Traditional parallel bar or continental style pedestrian crosswalks with pedestrian signals are provided at the signalized intersections in the vicinity of the Project Site. Yellow continental style pedestrian crosswalks are provided across the south leg of the Powell Avenue/Historic Route 66 intersection, across the east leg of the Fairvale Drive/Mauna Loa Avenue intersection, across the south and east legs of the Calera Avenue/Historic Route 66 intersection and the Calera Avenue / Hollyvale Street intersection, across the north leg of the Calera Avenue/Mauna Loa Avenue intersection, and across the west leg of the Barranca Avenue/Historic Route 66 intersection. In addition, speed feedback signs are provided for the northbound approach on Citrus Avenue approximately 610 feet south of the Citrus Avenue/Historic Route 66 intersection and for the westbound approach on Baseline Road approximately 1,275 feet west of the Citrus

Avenue/Baseline Road intersection. Flashing yellow beacons are also installed at the Fairvale Drive/Mauna Loa Avenue crosswalk.

Additionally, ADA curb ramps with tactile warning strips consisting of yellow or grey truncated dome pads are provided at most major intersections in the vicinity of the Project Site, although truncated dome pads and ADA ramps are not provided at the Fairvale Drive/Mauna Loa Avenue crosswalk, and truncated dome pads are not provided for the existing ADA ramps at the Calera Avenue/Hollyvale Street and Calera Avenue/Mauna Loa Avenue intersections.

3.1.2 Bicycle System

Bicycle infrastructure consists of both facilities within the roadway as well as public bicycle parking spaces. The Federal and State transportation systems recognize four primary bikeway facilities: Bicycle Paths (Class I), Bicycle Lanes (Class II), Bicycle Routes (Class III), and Separated Bikeways (Class IV). Bicycle Paths (Class I) are exclusive car-free facilities that are typically not located within a roadway area. Bicycle Lanes (Class II) are part of the street design that is dedicated only for bicycles and identified by a striped lane separating vehicle lanes from bicycle lanes. Bicycle Routes (Class III) are preferably located on collector and lower volume arterial streets. Separated Bikeways (Class IV) are similar to Bicycle Lanes (Class II), but also provide physical separation between vehicle lanes and bicycle lanes.

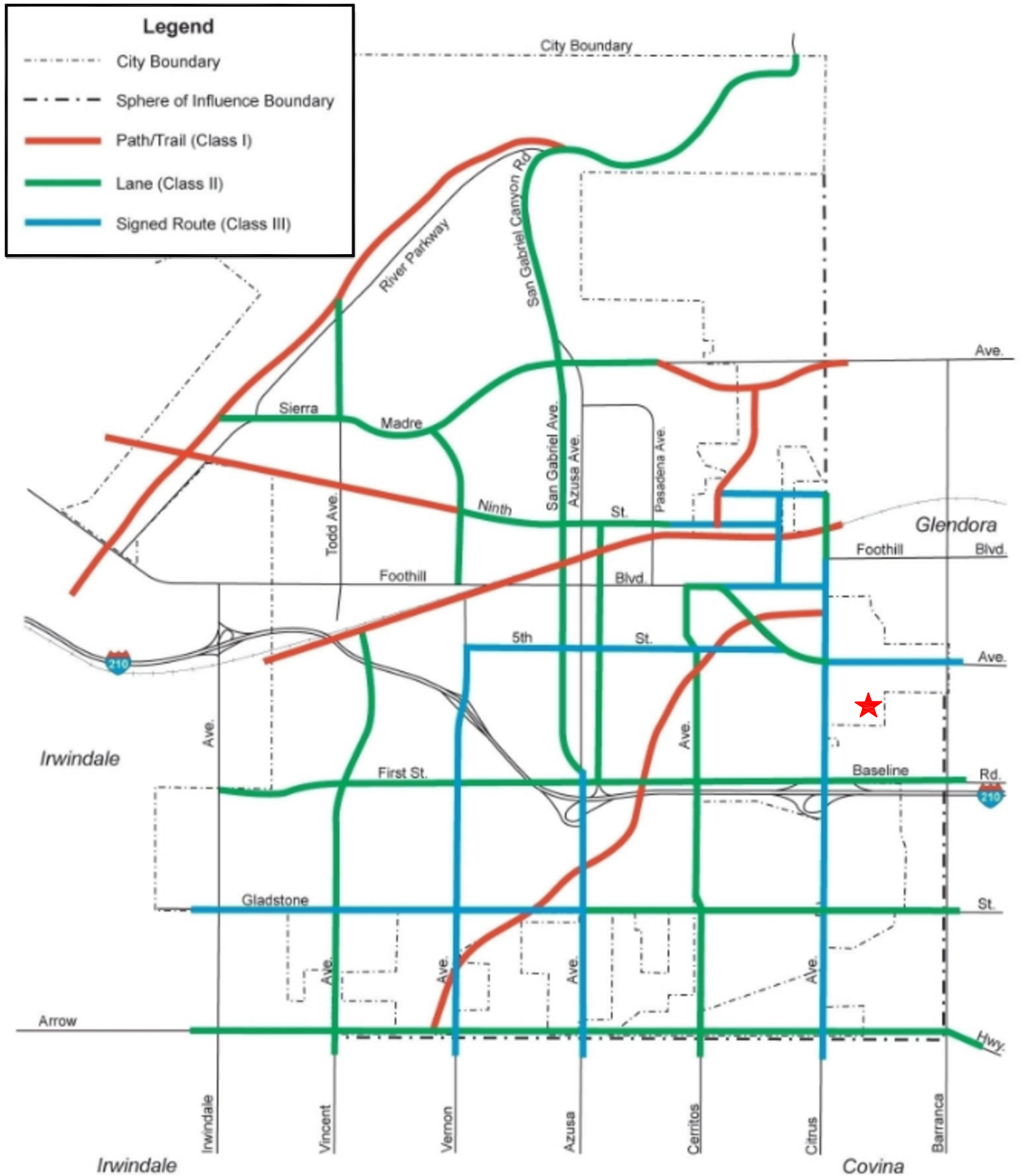
The City of Azusa General Plan³ Mobility section, which provides the existing and planned citywide bicycle network, identifies planned Class III bicycle routes for Citrus Avenue between Foothill Boulevard and Arrow Highway, as well as for Historic Route 66 between Citrus Avenue and Barranca Avenue. The Azusa General Plan bicycle network is illustrated in **Figure 3-1**. The Los Angeles County Bicycle Master Plan (“BMP”) identifies planned Class II bicycle lanes for Mauna Loa Avenue between Citrus Avenue and La Serena Drive, planned Class IV separated bicycle lanes for Baseline Road between Citrus Avenue and La Serena Drive, and planned bike boulevards for Factor Avenue between Mauna Loa Avenue and Baseline Road as well as for Mauna Loa Avenue between La Serena Drive and Vecino Drive. The Los Angeles County BMP existing and planned bicycle facilities in the vicinity of the Project Site are illustrated in **Figure 3-2**.

3.2 Transit Network

Public transit services are provided within the Project study area by Foothill Transit and City of Glendora Transit. The existing public transit routes in the vicinity of the Project Site are illustrated in **Figure 3-3**. A summary of the existing transit service within approximately 1.0 mile of the Project Site, including the transit line number, corridor(s) served, and typical number of buses or trains per hour is presented in **Table 3-1**. As summarized in **Table 3-1**, a total of five (5) public transit bus routes provide service along roadways in the vicinity of the Project Site. Each line

³ “Gateway to the American Dream: Azusa General Plan”, April 2004.

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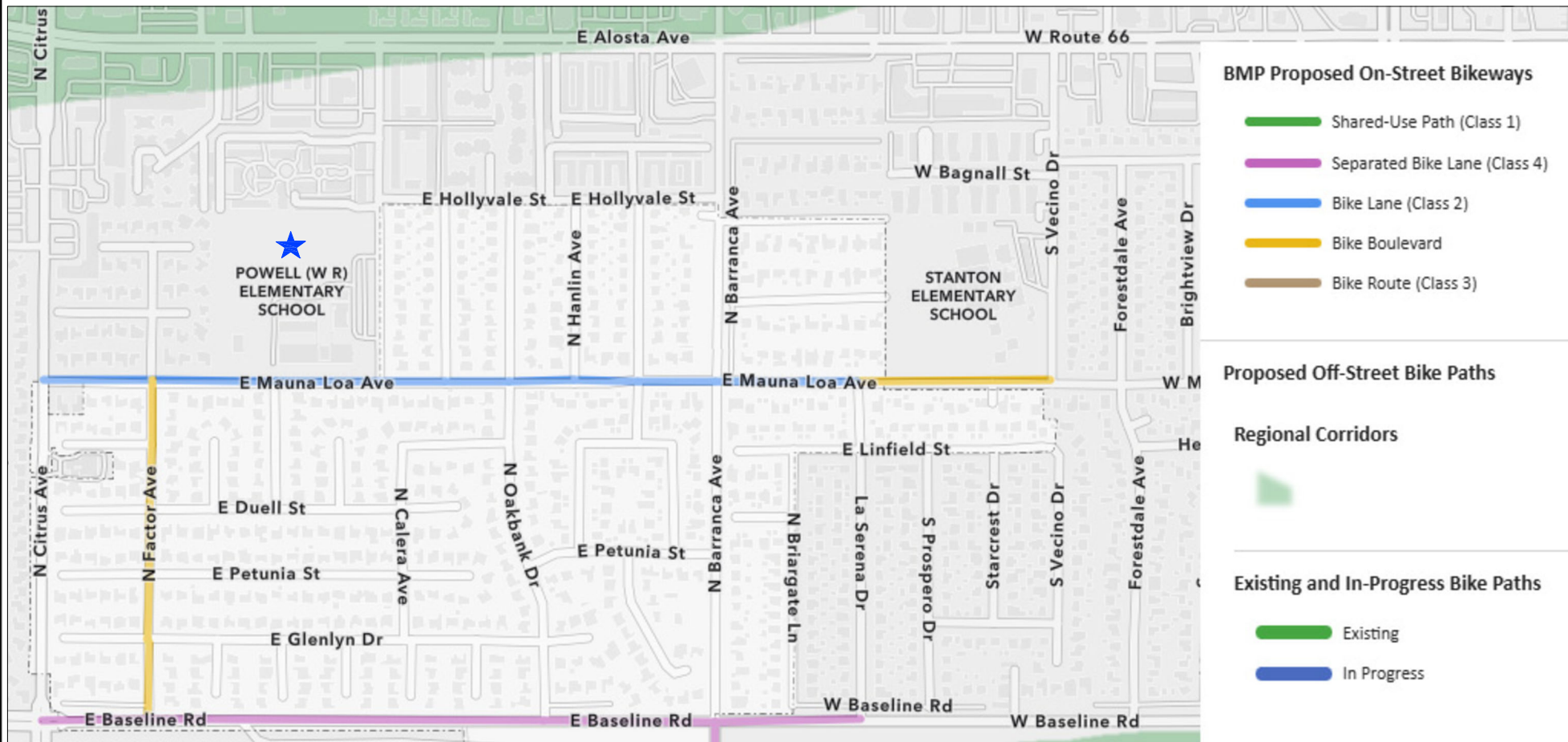
Source: Azusa General Plan, 2004

★ Project Site

Figure 3-1
Azusa General Plan Bicycle Network



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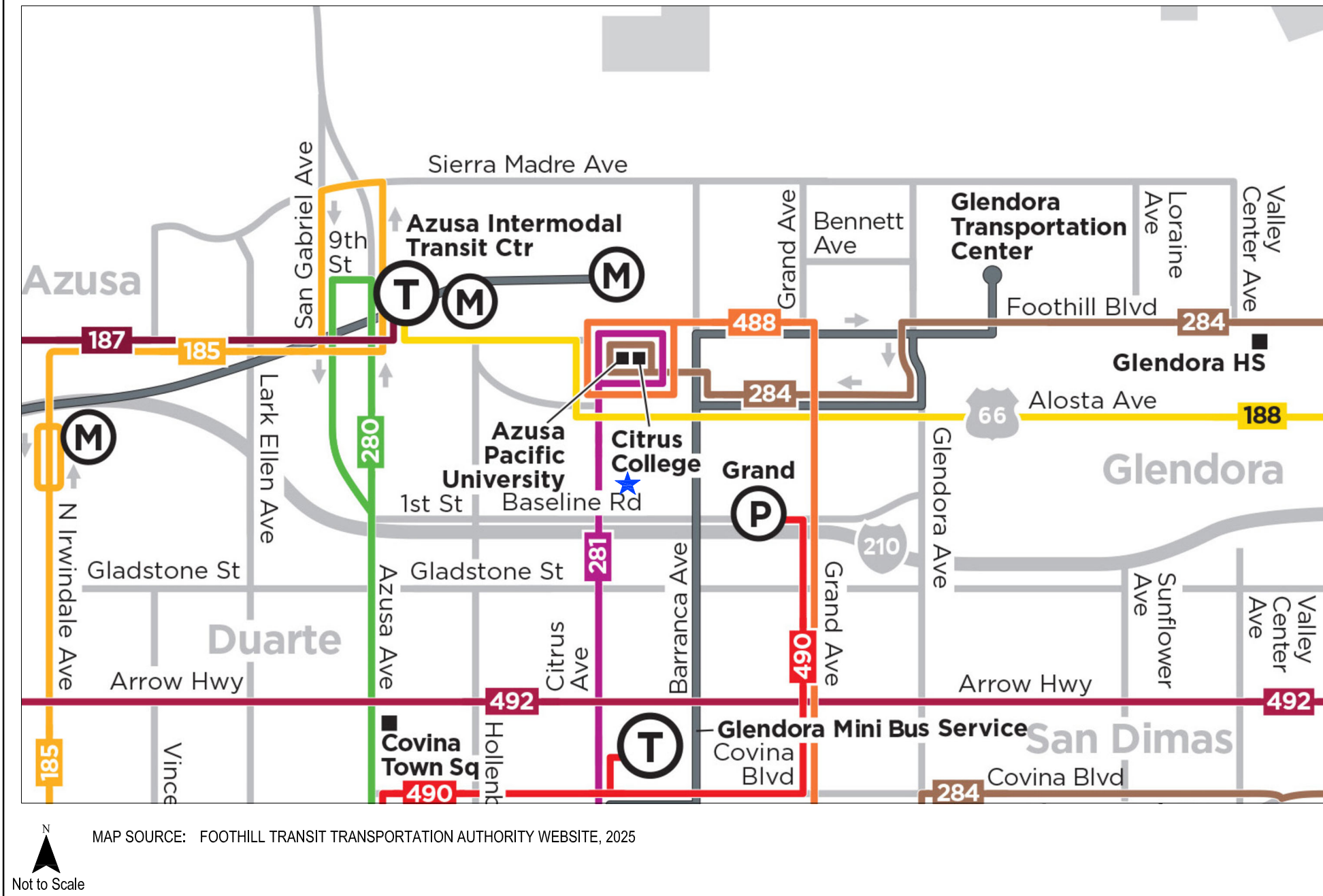


MAP SOURCE: LOS ANGELES COUNTY PUBLIC WORKS WEBSITE, 2025

★ Project Site



Figure 3-2
Existing and Proposed Bikeways



★ Project Site

Figure 3-3
Existing Transit Routes

**Table 3-1
EXISTING TRANSIT ROUTES [1]**

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
FT 188	Montclair to Azusa via Claremont, Pomona, La Verne, San Dimas, Glendora	Route 66, N. Calera Avenue	EB WB	4 4	4 4
FT 281	Puente Hills to Citrus college via Glendora, Azusa, West Covina, Industry, Rowland Heights	Route 66, Citrus Ave, E. Mauna Loa Avenue N. Calera Avenue	NB SB	2 2	2 2
FT 284	Puente Hills to Citrus College via West Covina, Covina Glendora, Azusa	Route 66, N. Calera Avenue	NB SB	3 2	2 2
FT 488	El Monte to Glendora via El Monte, Baldwin Park, West Covina, Covina, Azusa, Glendora	Route 66, N. Calera Avenue	EB WB	5 5	4 4
Gold Line Shuttle	Transit Parking Plaza to APU/Citrus Station Teen & Family Center to Glendora Ave/Route 66	Route 66	NB SB	6 4	6 4
TOTAL				37	34

[1] Sources: Foothill Transit (FT) and City of Glendora websites, 2025.

provides service approximately every 15-60 minutes during the morning and evening peak commute hours.

Regular public bus transit services are provided along Citrus Avenue to the west of the Project Site and along Historic Route 66 to the north of the Project Site. No public transit bus lines currently provide service along Calera Avenue or Mauna Loa Avenue. The nearest public bus stop to the Project Site is provided for Foothill Transit Line 281. Northbound and southbound public bus stops for Foothill Transit Line 281 are provided approximately 620 feet west of the Project Site's westerly frontage at the Citrus Avenue / Mauna Loa Avenue intersection, where no transit supportive street furniture (e.g., bus benches, shelters, or public trash receptacles) is provided on the southwest or southeast corners along Citrus Avenue. In addition, a bus stop for Foothill Transit Line 281 is provided at the Citrus Avenue / Historic Route 66 intersection approximately 925 feet northwest of the Project Site, where a bus bench, shelter, and public trash receptacle is provided on the southwest corner along Citrus Avenue. Bus stops for Foothill Transit Line 281 are also provided at the Citrus Avenue / Baseline Road intersection approximately 1,450 feet southwest of the Project Site, where bus benches, a shelter, and a public trash receptacle are provided on the northeast corner and a public trash receptacle is provided on the northwest corner along Citrus Avenue.

Additional bus stops for Foothill Transit Lines 188, 281, 284, and 488 as well as the Glendora Gold Line are provided at the Calera Avenue / Historic Route 66 intersection approximately 620 feet north of the Project Site's northerly frontage, where trash receptacles are provided on the northwest corner and approximately 220 feet west of the southwest corner along Historic Route 66. In addition, bus stops for Foothill Transit Lines 188 and 284 as well as the Glendora Gold Line are provided at the Barranca Avenue / Historic Route 66 intersection approximately 1,460 feet northeast of the Project Site, where a bus bench and public trash receptacles are provided on the northeast corner and a public trash receptacle is provided on the southwest corner along Historic Route 66.

It is noted that public light rail transit is provided by the Los Angeles County Metropolitan Transportation Authority ("LA Metro") A (previously L/Gold) Line. The APU / Citrus College Station is located northwest of the Citrus Avenue / Foothill Boulevard intersection, over 0.5-miles away from the Project Site. Light rail transit service is provided approximately every 8-10 minutes during the morning and evening peak commute hours.

3.3 Vehicle Network

3.3.1 Roadway Classifications

The City of Azusa utilizes the roadway categories recognized by regional, state and federal transportation agencies. There are four general categories in the roadway hierarchy, ranging from freeways with the highest capacity to two-lane undivided roadways with the lowest capacity. The roadway categories are summarized as follows:

- *Freeways* are limited-access and high speed travel ways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.
- *Arterial* roadways are major streets that primarily serve through-traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with four to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: principal and secondary arterials. Principal arterials are typically four-or-more lane roadways and serve both local and regional through-traffic. Secondary arterials are typically two-to-four lane streets that service local and commute traffic.
- *Collector* roadways are streets that provide access and traffic circulation within residential and non-residential (e.g., commercial and industrial) areas. Collector roadways connect local streets to arterials and are typically designed with two through travel lanes (i.e., one through travel lane in each direction) that may accommodate on-street parking. They may also provide access to abutting properties.
- *Local* roadways distribute traffic within a neighborhood, or similar adjacent neighborhoods, and are not intended for use as a through-street or a link between higher capacity facilities such as collector or arterial roadways. Local streets are fronted by residential uses and do not typically serve commercial uses.

3.3.2 Regional Highway Access

Primary regional access is provided by the I-210 Freeway as shown in *Figure I-1*. The *Foothill (I-210) Freeway* is a major east-west freeway located south of the Project Site. The I-210 Freeway connects the foothill communities from the westerly terminus in Sylmar to the easterly terminus in Redlands. In the Project vicinity, four mixed-flow mainline lanes and one High Occupancy Vehicle lane are provided in each direction on the I-210 Freeway. Eastbound on- and off-ramps are provided at Citrus Avenue south of the Project Site, and westbound on- and off-ramps are provided at Baseline Road south of the Project Site.

3.3.3 Roadway Descriptions

The following study intersections were selected in consultation with the City of Azusa staff for analysis of potential traffic operations deficiencies due to the Project:

1. Citrus Avenue/Mauna Loa Avenue (signalized)
2. Fairvale Drive – Project Driveway No. 1/Mauna Loa Avenue (unsignalized)
3. Calera Avenue/Historic Route 66 (signalized)
4. Calera Avenue/Mauna Loa Avenue (unsignalized)

5. Calera Avenue/Project Driveway No. 2 (unsignalized)

The current lane configurations and traffic control measures at each study intersection are presented in **Figure 3-4**. Descriptions of the roadways which make up the study area are provided in **Table 3-2**, including the roadway classification, number of lanes, median types, and speed limits designated by the City of Azusa and other agencies with jurisdiction over the roadways in the study area.

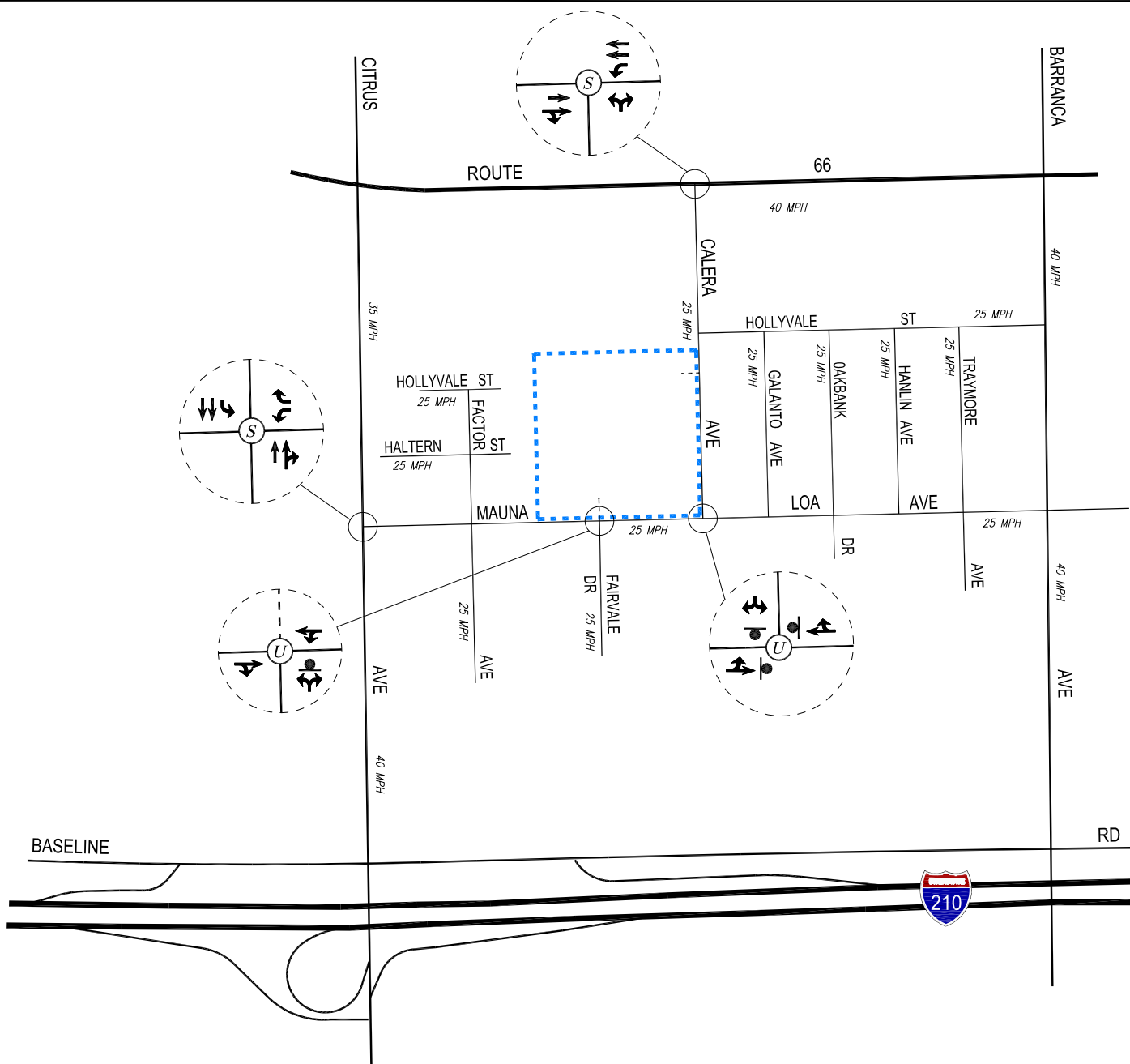
3.4 Vehicle, Pedestrian, and Bicycle Count Data

Manual counts of vehicle, pedestrian, and bicycle volumes were conducted at four out of the five study intersections during the weekday morning (AM) and afternoon (PM) peak periods to determine the peak hour traffic volumes. The manual counts were conducted in June 2025 by an independent traffic count subconsultant (City Traffic Counters) at the study intersections on a typical weekday from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM to determine the AM and PM peak commute hours, respectively. It is noted that all traffic counts were conducted when local schools were in regular, in-person session. The traffic count data for the Calera Avenue/Project Driveway No 2 were derived from the traffic count data for the adjacent intersections (i.e., the northbound and southbound volumes from the Calera Avenue/Historic Route 66 and Calera Avenue/Mauna Loa Avenue intersections.

As noted previously in *Section 2.1* herein, W.R. Powell Elementary School was closed in June 2023 and had an average enrollment of 287 students during the past five school years, prior to closing in June 2023. The School is also entitled and therefore would be able to reopen during the existing year (i.e., year 2025). Therefore, per coordination with City staff and as outlined in the approved transportation impact analysis Scope of Work memorandum provided in *Appendix A*, the vehicular traffic counts were manually adjusted to account for the School's average enrollment of 287 students for the purposes of establishing the historic CEQA baseline for the study intersections. Specifically, the existing AM and PM peak hour school trips shown in *Table 2-1* (i.e., 212 AM peak hour trips and 46 PM peak hour trips) were distributed to the study intersections based on the existing use trip distribution pattern shown in *Figure 2-3* to obtain the AM and PM peak hour traffic volumes generated by the School with its average enrollment of 287 students. The derived traffic volumes were then added to the vehicular traffic counts to obtain existing year (i.e., year 2025) peak hour turning movement traffic volumes at the study intersections.

In conjunction with the manual turning movement vehicle counts, a count of bicycle and pedestrian volumes were collected during the peak periods at four out of the five study intersections. Based on the pedestrian and bicycle counts, it is noted that pedestrian activity is low in the immediate vicinity of the Project Site, however significant pedestrian activity was documented along Historic Route 66 at the Calera Avenue / Historic Route 66 intersection.

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Project Site



Signalized



Unsignalized



Stop Sign



Figure 3-4
Existing Lane Configurations

**Table 3-2
EXISTING ROADWAY DESCRIPTIONS**

ROADWAY	CLASSIFICATION [1]	TRAVEL LANES		MEDIAN TYPES [3]	SPEED LIMIT
		DIRECTION [2]	NO. LANES		
E Mauna Loa Avenue	Local Streets	EB-WB	2	N/A	25
N Calera Avenue	Local Streets	NB-SB	2	N/A	25
N Citrus Avenue	Principal Arterial	NB-SB	4	LT	40/35
N Fairvale Drive	Local Streets	NB-SB	2	N/A	25
Route 66	Principal Arterial	EB-WB	4	RMI	40

Notes:

- [1] Roadway classifications obtained from the Azusa General Plan - Mobility Element, 2025 and *City of Los Angeles Mobility Plan 2035 An Element of the General Plan*, adopted June, 2025.
- [2] Direction of roadways in the project area: NB-SB = northbound and southbound; and EB-WB = eastbound and westbound.
- [3] Median type of the road: RMI = Raised Median Island; LT = Left-Turn Lane; and N/A = Not Applicable.

The existing adjusted weekday AM and PM peak hour intersection vehicle traffic volumes by approach are summarized in **Table 3-3**. The existing adjusted traffic volumes at the study intersections during the weekday AM and PM peak hours are shown in **Figures 3-5** and **3-6**, respectively. Summary data worksheets of the manual traffic counts of the study intersections are contained in **Appendix B**.

3.4.1 Cumulative Development Projects

A forecast of on-street traffic conditions prior to occupancy of the Project was prepared by incorporating the potential trips associated with other known development projects (related projects) in the area (i.e., within an approximate 1.0-mile radius from the Project Site). With this information, the potential impact of the Project can be evaluated within the context of the cumulative impacts of all ongoing development. The related projects research was based on information on file with the City of Azusa. The list of related projects in the Project Site area is presented in **Table 3-4**. The location of the related projects is shown in **Figure 3-7**.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the *ITE Trip Generation Manual*, or they were obtained from other transportation studies as noted. The related projects' respective traffic generation for the weekday AM and PM peak hours, as well as on a daily basis for a typical weekday, is summarized in **Table 3-4**. The related projects traffic volumes were distributed and assigned to the street system based on the projects' locations in relation to the study intersections, their proximity to major traffic corridors, proposed land uses, nearby population and employment centers, etc. The distribution of the related projects traffic volumes to the study intersections during the weekday AM and PM peak hours are displayed in **Figures 3-8** and **3-9**, respectively.

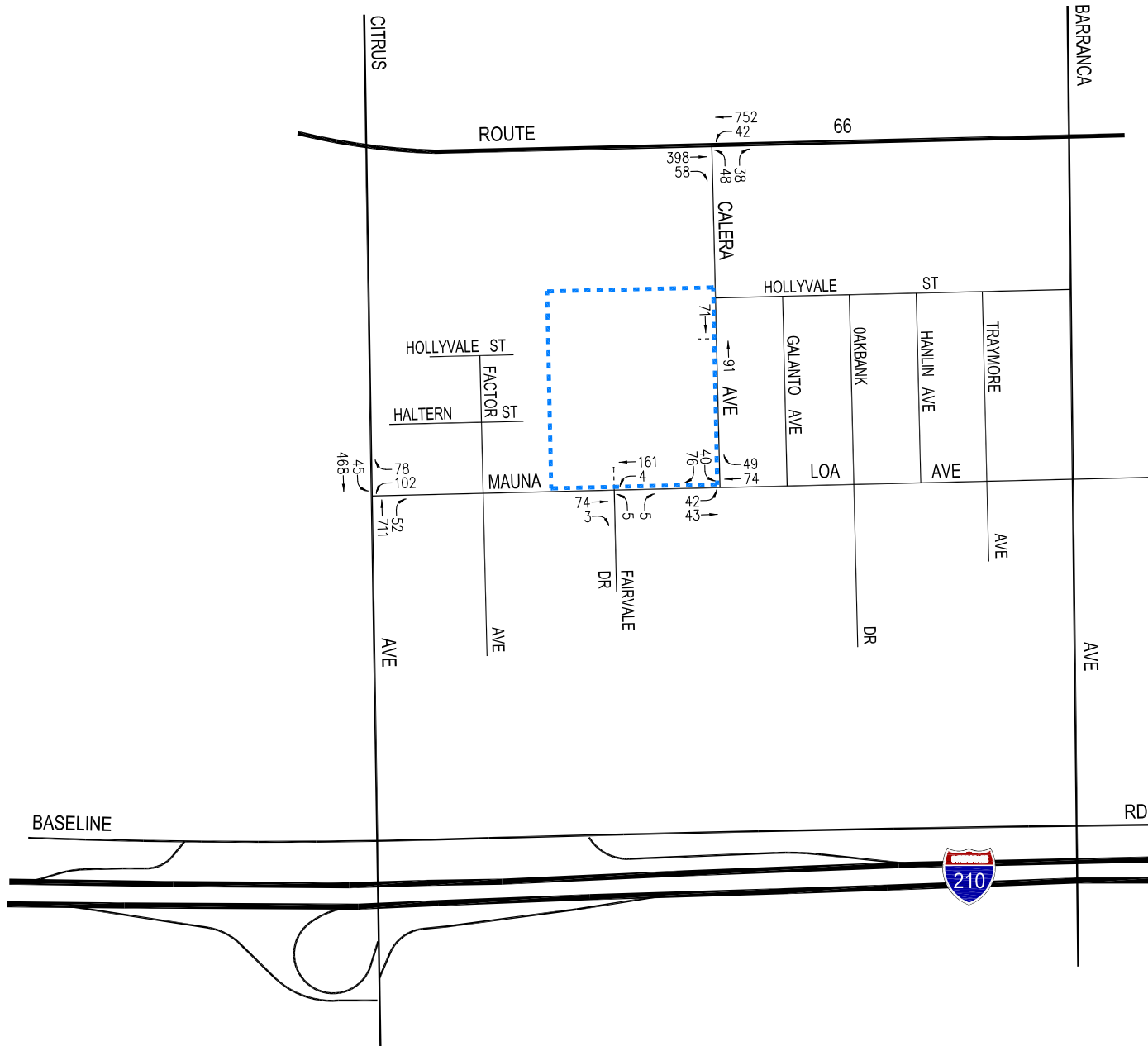
3.4.2 Ambient Growth Factor

In order to account for area-wide regional growth beyond the listed related projects, the existing traffic volumes were increased at an annual compounding rate of 0.40 percent (0.40%) per year between the existing year 2025 and the future build-out year of 2028, resulting in a total growth factor of 1.20% applied to the existing year 2025 traffic volumes. The ambient growth factor was based on general traffic growth factors provided in the Los Angeles County 2010 Congestion Management Program ("CMP") manual for the Project study area (i.e., RSA 26, which is generally bounded by Azusa, Glendora, West Covina, Diamond Bar, and Hacienda Heights) and determined in consultation with City of Azusa staff. Based on information provided by the CMP manual, existing traffic volumes are expected to increase at an annual compounding rate of 0.38% per year between the years 2020 and 2025 (i.e., $[1.066/1.046]^{(1/5)} = 1.0038$ or 0.38%), and at an annual compounding rate of 0.37% between the years 2025 and 2030 (i.e., $[1.086/1.066]^{(1/5)} = 1.0037$ or 0.37%). In order to forecast the future year 2028 traffic conditions, the more conservative growth rate of 0.38% per year was conservatively rounded to 0.40% per year and was applied between the years 2025 and 2028, resulting in a total growth factor of 1.20% (i.e., $[1+0.0040]^{(2028-2025)} = 1.012$ or 1.20%). Thus, application of this annual growth factor in addition to the forecast traffic generated by the related projects allows for a conservative forecast

Table 3-3
EXISTING TRAFFIC VOLUMES [1]
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
1	N Citrus Avenue/ E Mauna Loa Avenue	06/03/2025	NB	7:45 AM	763	4:30 PM	661
			SB		513		836
			EB		0		0
			WB		180		140
2	N Fairvale Dr-Project Dwy 1/ E Mauna Loa Avenue	06/03/2025	NB	7:15 AM	10	5:00 PM	7
			SB		0		0
			EB		77		169
			WB		165		123
3	N Calera Avenue/ Historic Route 66	06/03/2025	NB	7:30 AM	86	4:30 PM	82
			SB		0		0
			EB		456		743
			WB		794		570
4	N Calera Avenue/ E Mauna Loa Avenue	06/03/2025	NB	7:45 AM	0	5:00 PM	0
			SB		116		108
			EB		85		160
			WB		123		93

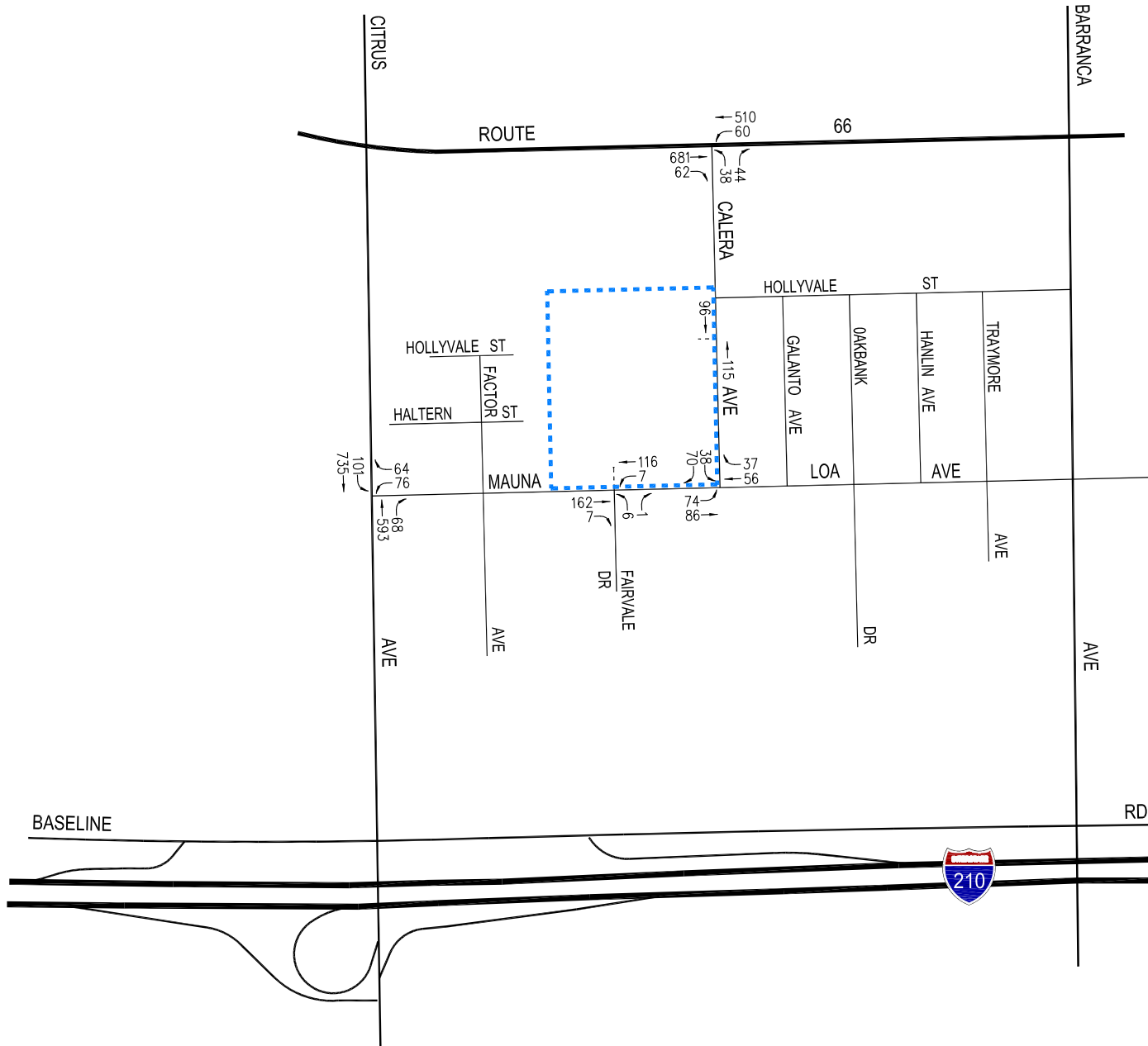
[1] Counts conducted by City Traffic Counters. The existing traffic volumes are adjusted using the existing school as the baseline.



Project Site



Figure 3-5
Existing Traffic Volumes
Weekday AM Peak Hour
Delaney Square Project



Project Site



Figure 3-6
Existing Traffic Volumes
Weekday PM Peak Hour
Delaney Square Project

Table 3-4
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
1	Proposed	Azusa Greens Redevelopment Project	Senior Housing - Multifamily Units Senior Housing - Duplex and Triplex Units General Light Industrial Golf Course	154 DU 76 DU 353,075 GSF 9 Holes	[3]	2,819	262	70	332	85	238	323
2	Proposed	120 N. Aspan St.	Single-Family Detached Housing	69 DU	[4]	651	12	36	48	41	24	65
3	Proposed	627 E. Sierra Madre	Multifamily Housing	8 DU	[5]	54	1	2	3	3	1	4
TOTAL						3,524	275	108	383	129	263	392

[1] Source: City of Azusa Planning Department by applying trip rates as provided in the ITE "Trip Generation", 11th Edition, 2021.

[2] Trips are one-way traffic movements, entering or leaving.

[3] Source: "Azusa Greens Redevelopment Project Draft Traffic Impact Study", prepared by LLG Engineers, August 22, 2024.

[4] ITE Land Use Code 210 (Single-Family Detached Housing) trip generation average rates.

[5] ITE Land Use Code 220 (Multi-Family Detached Housing) trip generation average rates.

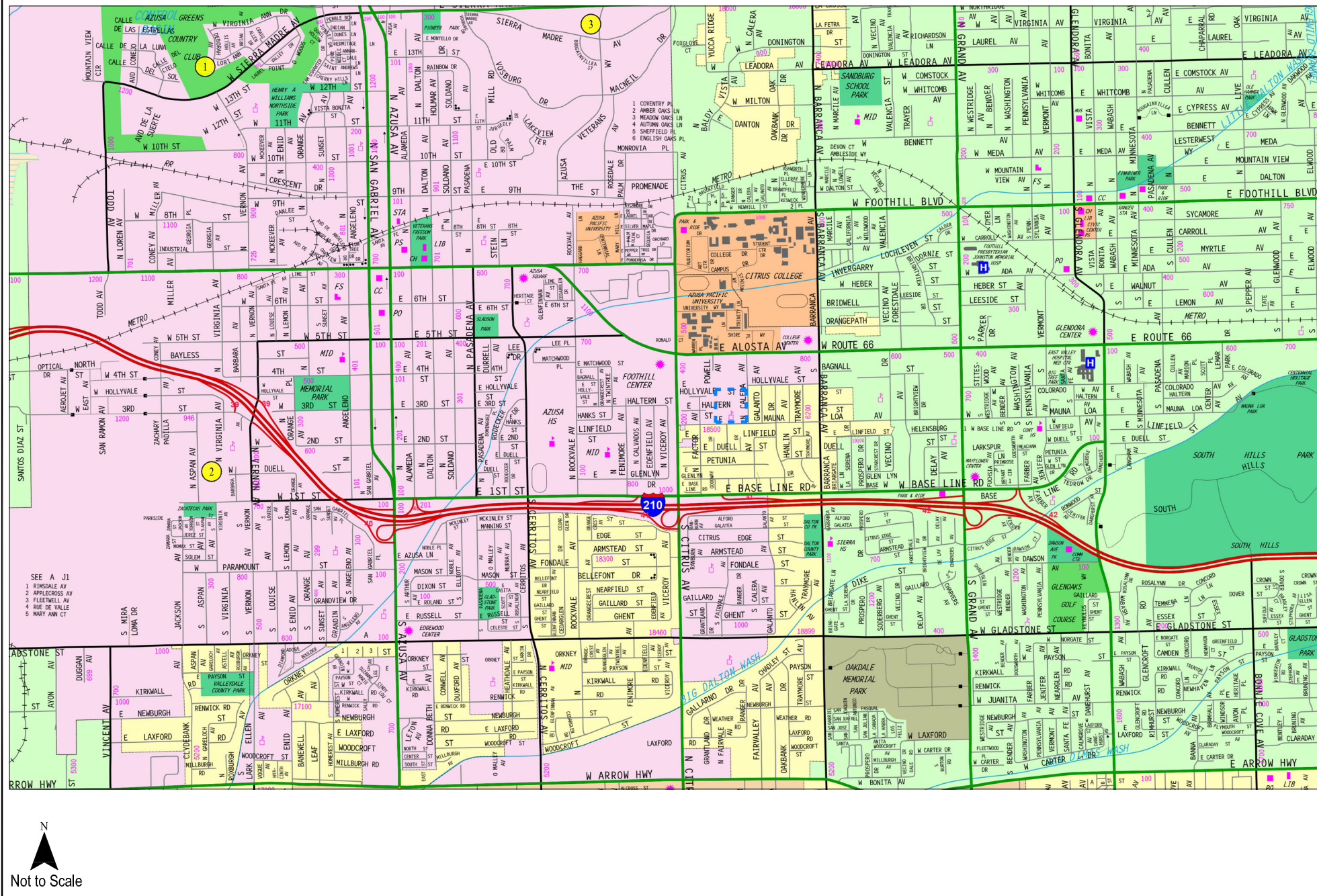
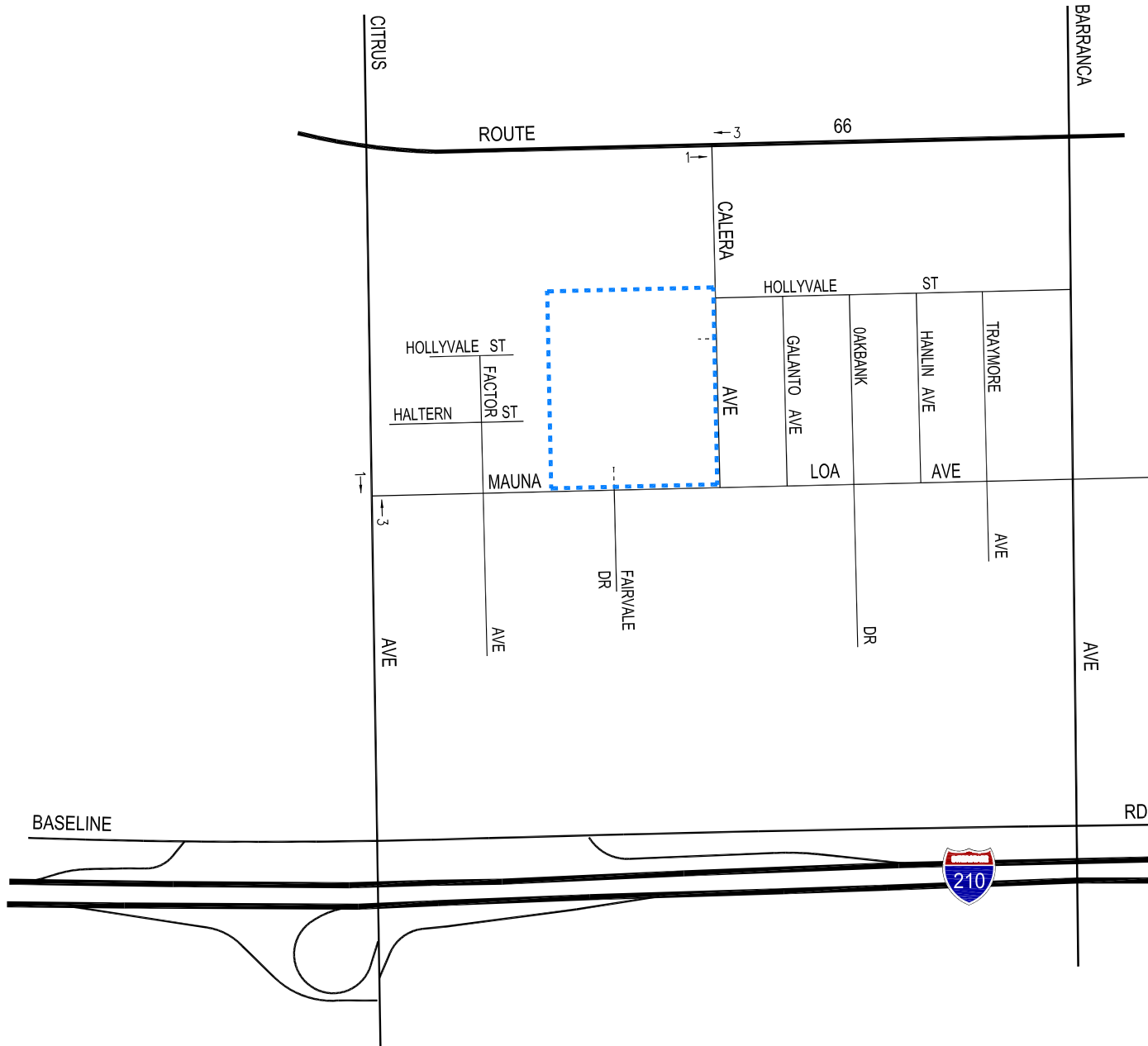


Figure 3-7
Location of Related Projects

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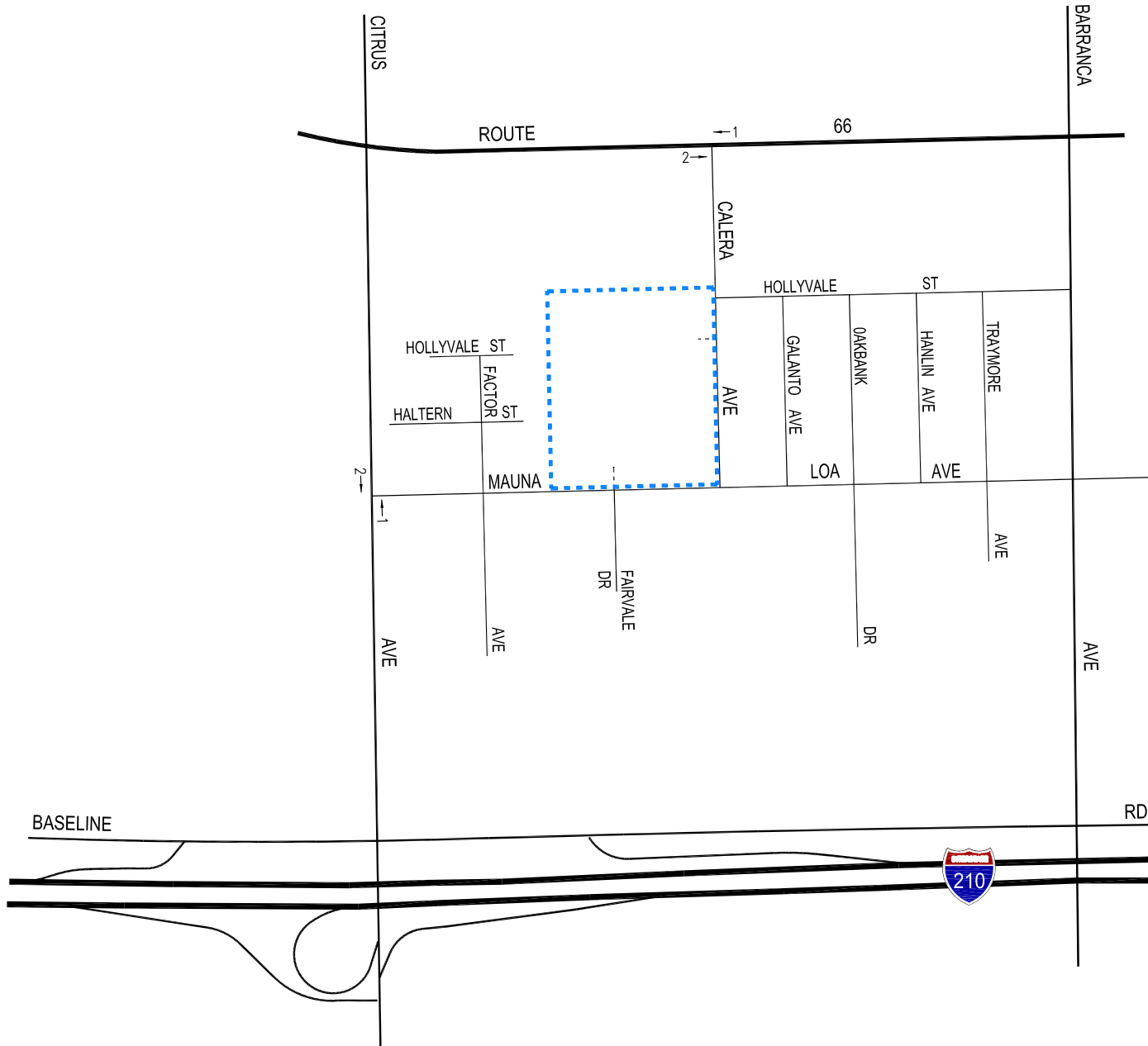


 Project Site



Figure 3-8
Related Projects Traffic Volumes
Weekday AM Peak Hour
Delaney Square Project

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 Project Site



Figure 3-9
Related Projects Traffic Volumes
Weekday PM Peak Hour
Delaney Square Project

of future baseline year 2028 traffic volumes in the Project study area, as incorporation of both (i.e., an ambient traffic growth rate and a detailed list of cumulative development projects) is expected to overstate potential future traffic volumes. The cumulative development projects should already be incorporated as part of the growth rate projection per the adopted local and regional planning documents (i.e., which account for the future population, housing, and employment [socio-economic data] projections).

4.0 CEQA TRANSPORTATION ANALYSIS

The State of California Governor's Office of Planning and Research ("OPR") issued proposed updates to the CEQA guidelines in November 2017 that amends the Appendix G question for transportation impacts to delete reference to vehicle delay and level of service and instead refer to Section 15064.3, subdivision (b)(1) of the CEQA Guidelines asking if the project will result in a substantial increase in VMT. The California Natural Resources Agency certified and adopted the revisions to the CEQA Guidelines in December of 2018, and as of July 1, 2020 the provisions of the new section are in effect statewide. Concurrently, OPR developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which provides non-binding recommendations on the implementation of VMT methodology that have significantly informed the way VMT analyses are conducted in the State. The City of Azusa has not yet adopted transportation assessment guidelines for VMT analyses, therefore, the VMT assessment has been prepared in compliance with the methodology recommended in the *Technical Advisory*.

4.1 VMT Project Screening

Traditionally, public agencies have set certain thresholds to determine whether a project requires detailed transportation analysis or if it can be assumed to have less than significant environmental impacts without additional study. In the *Technical Advisory*, OPR recommends various screening criteria which may be applied to screen proposed projects out of detailed VMT analysis. Proposed projects are not required to satisfy all of the screening criteria in order to screen out of further VMT analysis; satisfaction of one criterion is sufficient for screening purposes. The following sections provide a detailed explanation of each screening criteria as it relates to the Project.

4.1.1 Small Project Screening

In the *Technical Advisory*, OPR recommends that projects which generate less than 110 daily vehicle trips may be presumed to have a less than significant transportation impact. The Project is forecast to generate 863 daily trips and the existing entitled School is forecast to generate 651 daily trips resulting in 212 net new daily vehicle trips (refer to *Section 2.4.1 – Project Trip Generation Forecast*, herein). Comparison of the project trips to the entitled trips indicates that the proposed project is forecast to generate net daily trips greater than 110 daily trips. As such, the project does not satisfy the small project screening criteria⁴.

⁴ In 2025, the California Court of Appeals invalidated San Diego County's reliance on VMT significance thresholds recommended by the state Office and Planning and Research (OPR) in *Cleveland National Forest Foundation v. County of San Diego* (2025) 110 Cal.App.5th 948. In *Cleveland National Forest Foundation*, the Court of Appeals held that each lead agency must ensure that the VMT significance thresholds chosen for purposes of analyzing a project must be supported by substantial evidence. (Id. at 960-61.) In part, the Court of Appeals further held that the County had failed to justify with substantial evidence the use of OPR's "Small Project" thresholds applying to projects producing 110 trips or fewer per day. (Id. at 965-66.) In the absence of any such substantial evidence to support the appropriateness of OPR's "Small Project" thresholds, the City should avoid relying on such a generic, state-wide threshold for purposes of analyzing transportation impacts.

4.1.2 Transit Priority Area Screening

CEQA Guidelines Section 15064.3(b)(1) states in part: “Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact.” OPR recommends additional screening criteria for projects which meet the statutory screening threshold, noting that certain project-specific or location-specific information might indicate that the presumption is not appropriate. OPR states the presumption of a less than significant transportation impact may not be appropriate if:

- The project has a floor area ratio (“FAR”) of less than 0.75;
- The project includes more parking for use by residents, customers, or employees of the project than required by the City;
- The project is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Southern California Association of Governments [“SCAG”]); or
- The project replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The San Gabriel Valley Council of Governments (“SGVCOG”) Vehicle Miles Traveled Evaluation Tool (“VMT Evaluation Tool”), which was developed by Fehr & Peers as part of the SB 743 VMT Implementation Study effort, is available for use in conducting VMT screening and evaluation in the City of Azusa.

The VMT screening worksheets generated by the VMT Evaluation Tool for the Project are provided in **Appendix C**. As shown on Page 1 of the VMT Evaluation Tool screening worksheets, the Project is located within a transit priority area⁵ (“TPA”). However, based on a review of current SCAG TPA and High Quality Transit Corridors Interactive maps, the Project is not located within a TPA. In addition, the Project’s proposed floor area ratio (“FAR”) is less than 0.75. As such, based on the Project’s proximity to transit and the proposed FAR, the Project does not satisfy the transit priority area screening criteria.

4.1.3 Low VMT Area Screening

It is assumed that projects which will be located within areas which currently exhibit low VMT, and that incorporate similar features pertaining to density, land use mix, and transit availability, will tend to exhibit similarly low VMT. In areas where the existing VMT generation already falls below the applicable thresholds, and where projects are likely to generate similar levels of VMT,

⁵ Public Resources Code Section 21099(a)(7): ““Transit priority area” means an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program or applicable regional transportation plan.”

projects may be screened out of preparing detailed VMT analysis. OPR notes that such screening is appropriate for residential and office projects.

Locations within the City of Azusa which qualify for the low VMT area screening may be identified through the VMT Evaluation Tool. The SCAG Travel Demand Forecasting Model was used to establish VMT performance for individual Traffic Analysis Zones (TAZ) in the VMT Evaluation Tool. The VMT values for each TAZ are then compared to the applicable City thresholds (i.e., VMT per capita, per employee, or per service population) to determine if the TAZ can be considered a low VMT area. VMT screening and evaluation worksheets generated by the VMT Evaluation Tool for the proposed project are provided in *Appendix C*.

As reported in the worksheets provided in *Appendix C*, the project is situated within TAZ 22354100, which exhibits 21.01 home-based work VMT per capita. The corresponding threshold is noted as 20.67 VMT per capita. Therefore, the TAZ does not currently exhibit VMT below the applicable threshold and cannot be considered a low VMT area. The proposed project site therefore fails the low VMT area screening.

4.1.4 Summary of Screening Conclusions

The proposed project does not satisfy any of the screening criteria and is not screened out of further analysis. Therefore, a VMT analysis is required in order to determine whether the proposed project will result in any significant transportation impacts.

4.2 Methodology

The *Technical Advisory* recommends that residential projects be evaluated based on home-based VMT. As previously stated, the SGVCOG VMT Evaluation Tool is available for use in conducting VMT evaluations in the City of Azusa. The SGVCOG VMT Evaluation Tool provides an assessment of home-based VMT per capita for residential projects.

4.3 Impact Criteria

The *Technical Advisory* asserts that a reasonable threshold of significance would be a VMT per capita or VMT per employee which is 15% below that of existing development. A residential project between 0% to <15% below existing VMT per capita may indicate a significant transportation impact.

The City's baseline VMT for the SGVCOG subarea utilizes the 2024 Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The Baseline VMT per capita threshold used in the SGVCOG VMT Evaluation Tool is interpolated to be consistent with the year that the transportation study begins, which in this case is year 2025. The baseline VMT for the year 2025 is 24.32 Home-Based VMT per capita. Therefore, a significant transportation impact would result if the project exceeds 20.67 Home-Based VMT per capita. VMT evaluation worksheets generated by the tool for the proposed project are included in *Appendix C*.

4.4 VMT Impact Analysis

4.4.1 Project-Generated VMT Analysis

The proposed project's daily residential VMT per capita was forecast using the SGVCOG VMT Evaluation Tool. Copies of the VMT Evaluation Tool summary worksheets are contained in *Appendix C*. As stated on the summary worksheets, the project is forecast to generate 21.01 VMT per capita, which exceeds the threshold of 20.67 VMT per capita. The proposed project is therefore expected to result in a significant VMT impact.

4.4.2 Cumulative VMT Analysis

A project's cumulative impacts are determined on the basis of whether the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects. A proposed project's direct effects are evaluated in the detailed project-level VMT analysis, while cumulative impacts are determined through consistency with compliance with adopted regional plans, such as the current Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The current RTP/SCS which applies to the City of Azusa is SCAG's 2020-2045 RTP/SCS, which is called Connect SoCal. Connect SoCal is the regional plan that demonstrates compliance with air quality conformity requirements and greenhouse gas reduction targets. As such, projects that are consistent with this plan in terms of development location, density, and intensity are part of the regional solution for meeting air pollution and greenhouse gas goals. Projects that are deemed to be consistent would have a less than significant cumulative impact on VMT. Developments in a location where the RTP/SCS does not specify any development may indicate a significant impact on transportation.

The *Technical Advisory* provides the following additional discussion of cumulative impacts: “[M]etrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice-versa.”

The proposed project has been determined to have a significant project-level impact in comparison to the applicable efficiency-based VMT impact thresholds. Therefore, it is conservatively concluded that the proposed project potentially contributes toward a cumulative VMT impact.

4.5 Transportation Demand Management Measures

The SGVCOG VMT Evaluation Tool estimates the effectiveness of potential VMT reduction strategies in addition to estimating whether a development project exceeds the VMT thresholds. Strategies are built into the SGVCOG VMT Evaluation Tool, covering several categories including parking, transit, education and encouragement, commute trip reductions, shared mobility, bicycle

infrastructure, and neighborhood enhancements. These strategies address the potential VMT reductions available due to certain types of project site modifications, programming, and operational changes which are collectively known as Transportation Demand Management (TDM) strategies. The effectiveness of each strategy is primarily based on research documented in the California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*⁶ (“2024 Update”).

The VMT Estimation Tool utilizes the methodology provided in the CAPCOA document. The TDM strategies provided in the SGVCOG VMT Evaluation Tool were therefore reviewed for applicability to the proposed project based on land use type, location, and feasibility of implementation. The measure which has been applied to reduce the project-generated VMT is described in further detail below.

- **T-23 Provide Community-Based Travel Planning (CBTP)**
This strategy would require outreach that will provide households with customized information, incentives, and support to encourage the use of transportation alternatives in place of single occupancy vehicles.

4.6 VMT Analysis Conclusions

The TDM measure discussed above results in a 2.28 percent (2.28%) reduction in VMT. The Home-Based VMT per capita for the proposed project would subsequently be reduced to 20.53 Home-Based VMT per capita, which is below the calculated City significance threshold of 20.67 Home-Based VMT per capita. Therefore, the TDM measure is expected to reduce the project’s VMT to a less than significant level.

4.7 Active Transportation and Transit Program, Plan, Ordinance, or Policy Analysis

Pursuant to the Appendix G question (a) for transportation impacts, a significant impact may also occur if the proposed project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including the transit, roadway, bicycle, and pedestrian facilities. The following section provides a brief review of the City’s adopted policies, plans, and programs pertaining to active transportation and public transit analysis. As previously noted, vehicle LOS and similar measures of congestion or delay are no longer considered impacts in CEQA. Therefore, the consistency review focuses on programs, plans, ordinances, or policies relevant to active transportation and transit.

⁶ *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities and Advancing Health and Equity*, California Air Pollution Control Officers Association (CAPCOA), 2024 Update.

4.7.1 Adopted Programs, Plans, Ordinances, or Policies

The following documents were reviewed to identify policies, plans, and programs pertaining to active transportation and public transit analysis:

Azusa General Plan

The City's current Mobility section of the General Plan sets forth goals, policies, and programs to promote pedestrian, bicycle, and transit facilities and usage throughout the City. Relevant adopted goals, policies, and programs include:

- Goal 3: Provide a connected, balanced, and integrated transportation system that enables Azusans to walk, bike, and take transit, rather than using their car.
 - Policy 3.1: Develop and maintain a citywide pedestrian network of both on-street and off-street walkways. Network shall link new neighborhoods with existing neighborhoods, connect neighborhood centers, schools, parks, commercial centers, and citywide destinations such as Downtown, the San Gabriel River, and Civic Center.
 - Policy 3.3: Provide pedestrian amenities (such as benches, seats, water fountains, shady street trees, etc.) and conditions that enhance the pedestrian experience along the pedestrian network.
 - Policy 3.4: Develop and maintain a citywide bicycle network of both on-street bike lanes and off-street bike paths in accordance with the Bicycle Routes. The network provides for off-street paths along the San Gabriel River, railroad rights-of-way, alongside flood control channels, and within existing and new neighborhoods, where feasible. The network improves connections between residential neighborhoods, schools and commercial centers, as well as providing connections to citywide destinations such as Downtown, the University District, the San Gabriel River, and Civic Center.
- Goal 4: Design/redesign streets to encourage pedestrians and bicycles and to accommodate vehicles. Make city streets more pedestrian-friendly and bicycle-friendly.
 - Policy 4.3: Provide sidewalks on all city streets, as appropriate (see Mobility Policy 3.1).
 - Policy 4.4: Provide bicycle lanes where possible on city streets (see Mobility Policy 3.4).

Mobility Program M8 Sidewalks and Pedestrian Trails:

- Construct on-street sidewalks on all local streets and off-street pedestrian trails, to provide a connected pedestrian system. This includes the construction of:
 - on-street sidewalks on all roadways with a collector or arterial designation; and

- off-street pedestrian trails in existing neighborhoods (in combination with bike paths where feasible and appropriate) to connect to neighborhood centers and citywide destinations.
- Require all new developments to plan for and construct on-street sidewalks and/or off-street paths connecting to surrounding neighborhoods, districts, and destinations.

Mobility Program M11 New Development and Substantially Renovated Development Circulation Requirements:

- Require new developments to include both on-street bike lanes and/or off street bike paths linking the developments to the surrounding neighborhoods, districts, and centers.

As presented above, the Azusa General Plan sets for a variety of specific goals, policies, and programs to promote active transportation and transit usage.

Azusa Walks: City of Azusa Pedestrian Plan⁷

Azusa Walks is the City’s 2022 Pedestrian Master Plan that prioritizes and guides investments to create a safer and more walkable Azusa. The Plan goals are to:

- Transform Azusa into a more livable community
- Educate the community on the benefits of walkable communities
- Address mobility as population and congestion grows
- Increase pedestrian access to key destinations
- Create more walkable communities alongside new transit and economic development investments.

The Plan identifies portions of Citrus Avenue and Historic Route 66 within the study area as priority roadway segments. Priority intersections and segments represent locations and corridors that have the greatest impact towards equity, safety connectivity, and access factors if improved.

Specifically, shade trees are recommended for Citrus Avenue between Clementine Street and Arrow Highway, and dynamic speed feedback signs are recommended for Citrus Avenue between Foothill Boulevard and Arrow Highway. Other recommendations in the Plan include widening the sidewalks, adding shade trees, and including dynamic speed feedback signs along portions of Historic Route 66.

⁷ “Azusa Walks: City of Azusa Pedestrian Plan”, Approved March 7, 2022 per Resolution No. 2022-C18.

4.7.2 Qualitative Impact Conclusions

The Project is not expected to have a significant impact on active transportation or public transit in the vicinity of the Project Site. As described in *Section 2.3.2* herein, the Project will provide sidewalks, curb, and gutter along all of its internal private roadways in order to accommodate pedestrian access to the planned residential dwelling units. The internal sidewalks will connect to the public sidewalks provided along the Project Site's Calera Avenue and Mauna Loa Avenue frontages. Thus, the access locations between the Project Site and the public sidewalks will minimize the extent of pedestrian and bicycle interaction with vehicles at the Project Site and will provide a comfortable, convenient, and safe environment which in turn can encourage use of active transportation modes. Further, as described in *Section 3.1.1* herein, public sidewalks are provided along most roadways within the vicinity of the Project Site, and traditional parallel bar or continental style pedestrian crosswalks with pedestrian signals are provided at the signalized intersections in the vicinity of the Project Site.

Bicycle access to and from the Project Site will also be provided via Calera Avenue and Mauna Loa Avenue and will be accommodated by the Project's internal roadway network. As noted in *Section 3.1.2* herein, the Mobility section of the City's General Plan identifies planned Class III bicycle routes for Citrus Avenue between Foothill Boulevard and Arrow Highway, as well as for Historic Route 66 between Citrus Avenue and Barranca Avenue. Further, the Los Angeles County BMP identifies planned Class II bicycle lanes for Mauna Loa Avenue between Citrus Avenue and La Serena Drive, planned Class IV separated bicycle lanes for Baseline Road between Citrus Avenue and La Serena Drive, and planned bike boulevards for Factor Avenue between Mauna Loa Avenue and Baseline Road as well as for Mauna Loa Avenue between La Serena Drive and Vecino Drive. The Project is not expected to preclude the City from constructing bicycle facilities or from pursuing bicycle network improvements along local roadways within the study area.

The Project is not located adjacent to any roadways currently served by public transit service. However, as described in *Section 3.2* herein, regular public bus transit services are provided along Citrus Avenue to the west of the Project Site and along Historic Route 66 to the north of the Project Site. The Project is not expected to affect access or safety at the existing bus stops, nor is it expected to hinder public transit service along Citrus Avenue and Historic Route 66 in the vicinity of the Project Site.

The Project is not expected to preclude the City from constructing pedestrian, bicycle, or transit improvements along local roadways in the study area, therefore the Project does not conflict with the goals, policies, and programs set forth in the Azusa General Plan.

In addition, the Project Site is not adjacent to any of the priority intersections or priority roadway segments in the Azusa Walks Pedestrian Plan. The Project will not preclude the City from installing any of the infrastructure improvements recommended for the portions of Citrus Avenue and Historic Route 66 within the vicinity of the Project Site. Development of the Project will not preclude the City from enacting any other systemic pedestrian improvements or pursuing effective

roadway safety countermeasures. Therefore, the Project does not conflict with the Azusa Walks Pedestrian Plan.

Since the Project is not found to result in conflicts with adopted policies, plans, or programs, nor is it expected to negatively affect the performance or safety of existing or planned pedestrian, bicycle, or transit facilities, it is determined that the Project will have a less than significant impact on active transportation and public transit in the vicinity of the Project Site.

5.0 NON-CEQA LOCAL TRANSPORTATION ANALYSIS

Pursuant to PRC Section 21099, “automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment.” As a result of SB 743 and the revisions to the CEQA Guidelines, LOS may no longer be used to identify transportation impacts in CEQA. However, the implementation of VMT does not prevent agencies from continuing to analyze delay or LOS outside of CEQA review for other transportation planning or analysis purposes. As part of a project’s discretionary review and approval process, the City has the authority to require additional local transportation network analyses and site access studies. Specifically, the City of Azusa requires an operational analysis of intersections in the vicinity of a proposed project in order to evaluate site access and circulation constraints that may be caused or worsened by project-generated traffic. The following section presents the operational (i.e., Level of Service) analysis prepared for the Project pursuant to this requirement.

5.1 Methodology

Signalized study intersections under the jurisdiction of the City of Azusa have been evaluated using the Intersection Capacity Utilization (“ICU”) method of analysis. The ICU method determines the Volume-to-Capacity (“ v/c ”) ratios on a critical lane basis (i.e., based on the individual v/c ratios for key conflicting traffic movements). The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing. The overall intersection v/c ratio is subsequently assigned a Level of Service (“LOS”) value to describe intersection operations. Level of Service varies from LOS A (free flow conditions) to LOS F (jammed condition). A detailed description of the ICU method and corresponding Levels of Service is provided in *Appendix D*.

Unsignalized intersections under the jurisdiction of the City of Azusa such as two-way stop-controlled (“TWSC”) and all-way stop-controlled (“AWSC”) intersections are analyzed using the Highway Capacity Manual (“HCM”) method of analysis. The HCM methodology determines the average control delay (expressed in seconds per vehicle) at the intersection. Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. For unsignalized intersections, the average control delay includes delay due to deceleration to a stop at the back of the queue from free-flow speed, move-up time within the queue, stopped delay at the front of the queue, and delay due to acceleration back to free-flow speed. It should be noted that the TWSC methodology estimates the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns and determines the LOS for each constrained movement. As no delays are calculated for the uncontrolled major-street approaches, the weighted average of approach delays is not utilized to determine overall intersection delay at TWSC intersections. Instead, the most constrained minor street approach at the intersection is reported in order to determine the intersection LOS. A

detailed description of the HCM method for unsignalized intersections and corresponding Level of Service is also provided in *Appendix D*.

5.2 Analysis Criteria

The relative effect of the forecast project-generated traffic volumes during the weekday AM and PM peak hours was evaluated based on analysis of operating conditions at the study intersections without and with the Project. The previously discussed capacity analysis procedures were utilized to evaluate the future v/c or delay relationships and service level characteristics at each study intersection. The effect of project-generated traffic at each study intersection was compared to the City of Azusa's intersection LOS standards as presented below. The acceptable LOS for most intersections in the City is LOS D or better as established in the City's General Plan. Any intersections operating at a LOS of E or F are considered deficient. Study intersections will require improvement if one of the following conditions is met:

- The addition of project traffic results in the intersection's LOS to change from acceptable operations (LOS D or better) to unacceptable operations (LOS E or F).
- The project-related increase in volume-to-capacity ("V/C") is equal to or greater than 0.020 (2%), or the project-related increase in delay is equal to or greater than 2.0 seconds, at an intersection that is projected to operate at LOS E or F with the addition of project traffic.

5.3 Analysis Scenarios

As determined in coordination with City staff, LOS calculations have been prepared for the following scenarios:

- [a] Existing conditions.
- [b] Future (Opening Year 2028) Without Project Conditions, consisting of condition [a] plus 0.40% per year annual ambient traffic growth through year 2028 and with completion and occupancy of the related projects.
- [c] Future (Opening Year 2028) With Project Conditions, consisting of condition [b] with completion and occupancy of the Project.

The weekday AM and PM peak hour LOS analysis prepared for the study intersections using the ICU and HCM methodology is summarized in **Table 5-1**. The ICU and HCM data worksheets for the analyzed intersections are provided in *Appendix D*.

**Table 5-1
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS**

NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	[1]		[2]		[3]		CHANGE V/C or DELAY [(3)-(2)]	CRITERIA EXCEEDED [b]
				YEAR 2025 EXISTING V/C or DELAY	LOS [a]	YEAR 2028 FUTURE PRE-PROJECT V/C or DELAY	LOS [a]	YEAR 2028 FUTURE W/ PROJECT V/C or DELAY	LOS [a]		
1	N. Citrus Avenue E. Mauna Loa Avenue	Signalized	AM PM	0.430 0.417	A A	0.436 0.421	A A	0.405 0.425	A A	-0.031 0.004	No No
2	N. Fairvale Drive-Project Driveway No. 1 E. Mauna Loa Avenue	Unsignalized	AM PM	9.40 10.27	A B	9.55 10.60	A B	9.72 11.07	A B	0.17 0.47	No No
3	N. Calera Avenue Historic Route 66	Signalized	AM PM	0.289 0.321	A A	0.293 0.326	A A	0.280 0.329	A A	-0.013 0.003	No No
4	N. Calera Avenue E. Mauna Loa Avenue	Unsignalized	AM PM	7.90 8.20	A A	7.90 8.20	A A	7.70 8.20	A A	-0.20 0.00	No No
5	N. Calera Avenue Project Driveway No. 2	Unsignalized	AM PM	- -	- -	- -	- -	9.39 9.77	A A	- -	No No

[a] Level of Service (LOS) is based on the reported ICU value (reported as v/c ratio) for signalized intersections and the delay value (reported as seconds per vehicle) for unsignalized intersections.

Intersection Levels of Service are based on the following criteria:

<u>Equivalent ICU</u>	<u>LOS</u>	<u>Unsignalized Intersection Control Delay (s/veh)</u>	<u>LOS</u>
0.00-0.60	A	<= 10	A
0.61-0.70	B	> 10-15	B
0.71-0.80	C	> 15-25	C
0.81-0.90	D	> 25-35	D
0.91-1.00	E	> 35-50	E
> 1.000	F	> 50	F

[b] Study intersections require improvements if project traffic changes acceptable operations (LOS D or better) to unacceptable conditions (LOS E or F); or if the project-related increase in the v/c ratio is ≥ 0.020 (2%) or the project related increase in delay is ≥ 2.0 seconds for intersections projected to operate at LOS E or F with the addition of project traffic.

5.4 Existing Conditions

As indicated in column [1] of *Table 5-1*, four of the five study intersections are presently operating at LOS B or better during the weekday AM and PM peak hours under existing conditions. It is noted that a LOS value is not reported for the Calera Avenue / Project Driveway No. 2 study intersection for the weekday AM and PM peak hours since the existing northernmost driveway is currently not operational and will only be operational upon completion and occupancy of the Project. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figures 3-5* and *3-6*.

5.5 Future (Opening Year 2028) Conditions

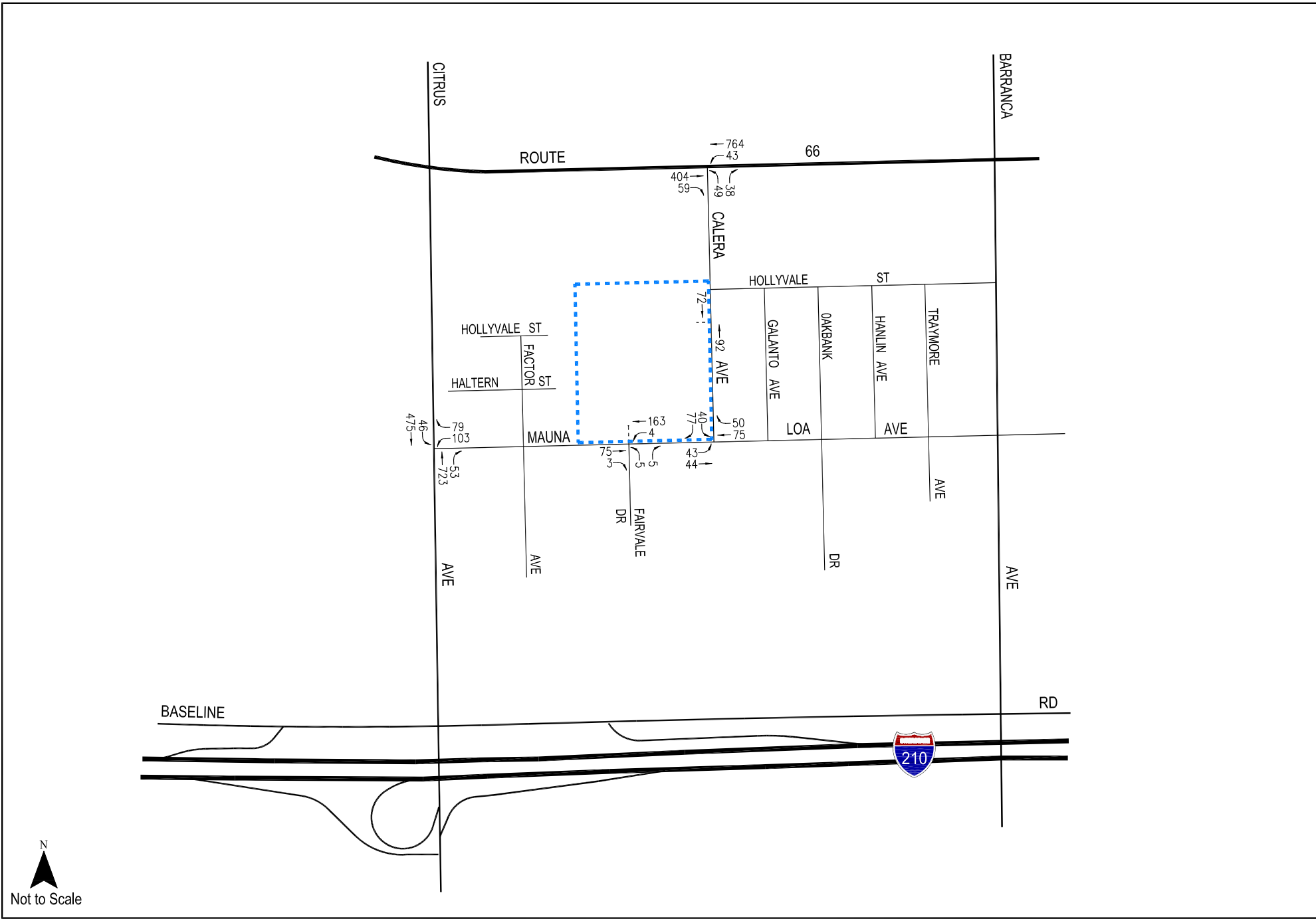
5.5.1 Future Without Project Traffic Conditions

The future without project conditions were forecast based on the addition of traffic generated by the completion and occupancy of the related projects, as well as the growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors (i.e., ambient growth). The v/c ratios or delays at all of the study intersections are incrementally increased with the addition of ambient traffic and traffic generated by the related projects listed in *Table 3-4*. As presented in column [2] of *Table 5-1*, four of the five study intersections are expected to operate at LOS B or better during the weekday AM and PM peak hours with the addition of growth in ambient traffic and related projects traffic under the future without project conditions. It is noted that a LOS value is not reported for the Calera Avenue / Project Driveway No. 2 study intersection for the weekday AM and PM peak hours under the future without project conditions since the driveway will only be operational upon completion and occupancy of the Project. The future without project traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figures 5-1* and *5-2*.

5.5.2 Future With Project Traffic Conditions

In order to determine the future with project conditions, traffic expected to be generated by the Project was added to the future without project traffic conditions. The v/c ratios or delays at the study intersections incrementally change with the addition of project-generated traffic. As shown in column [3] of *Table 5-1*, all of the five study intersections are expected to operate at LOS B or better during the weekday AM and PM peak hours under the future with project conditions. In addition, as shown in *Table 5-1*, the v/c ratios at the signalized study intersections either decrease or incrementally increase with the addition of project-generated traffic, and the delays at the unsignalized study intersections either decrease, remain as is (i.e., no change), or incrementally increase with the addition of project-generated traffic.

Since all of the study intersections are forecast to continue operating at an acceptable level of service, and the incremental changes in v/c ratios or delays do not exceed the City's criteria, no project-specific intersection improvements or project-specific transportation demand management measures are required or proposed. The future with project traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figures 5-3* and *5-4*.



 Project Site

Figure 5-1
Future Without Project Traffic Volumes
Weekday AM Peak Hour
Delaney Square Project

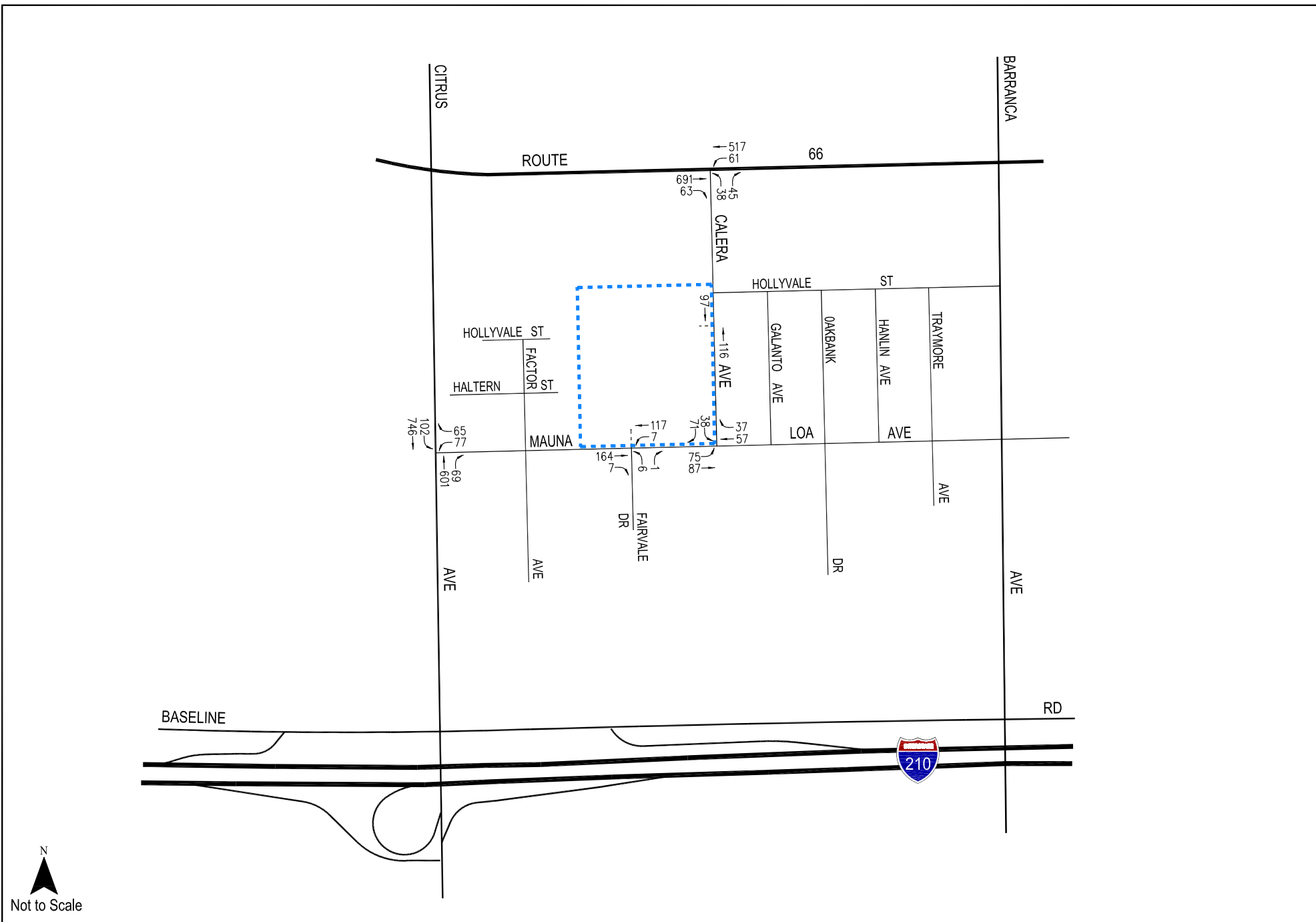


Figure 5-2
Future Without Project Traffic Volumes
Weekday PM Peak Hour
Delaney Square Project

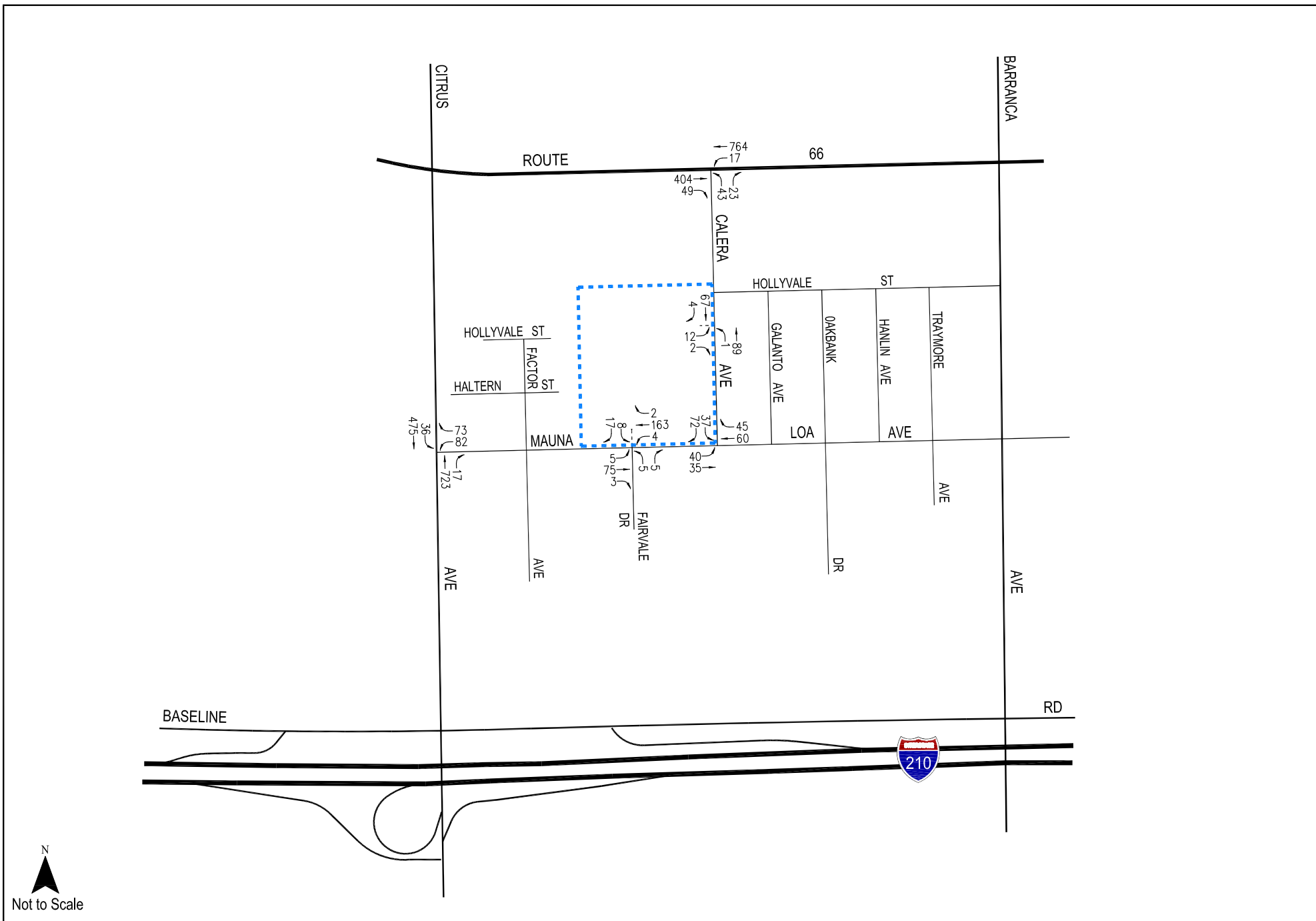


Figure 5-3
Future With Project Traffic Volumes
Weekday AM Peak Hour
Delaney Square Project

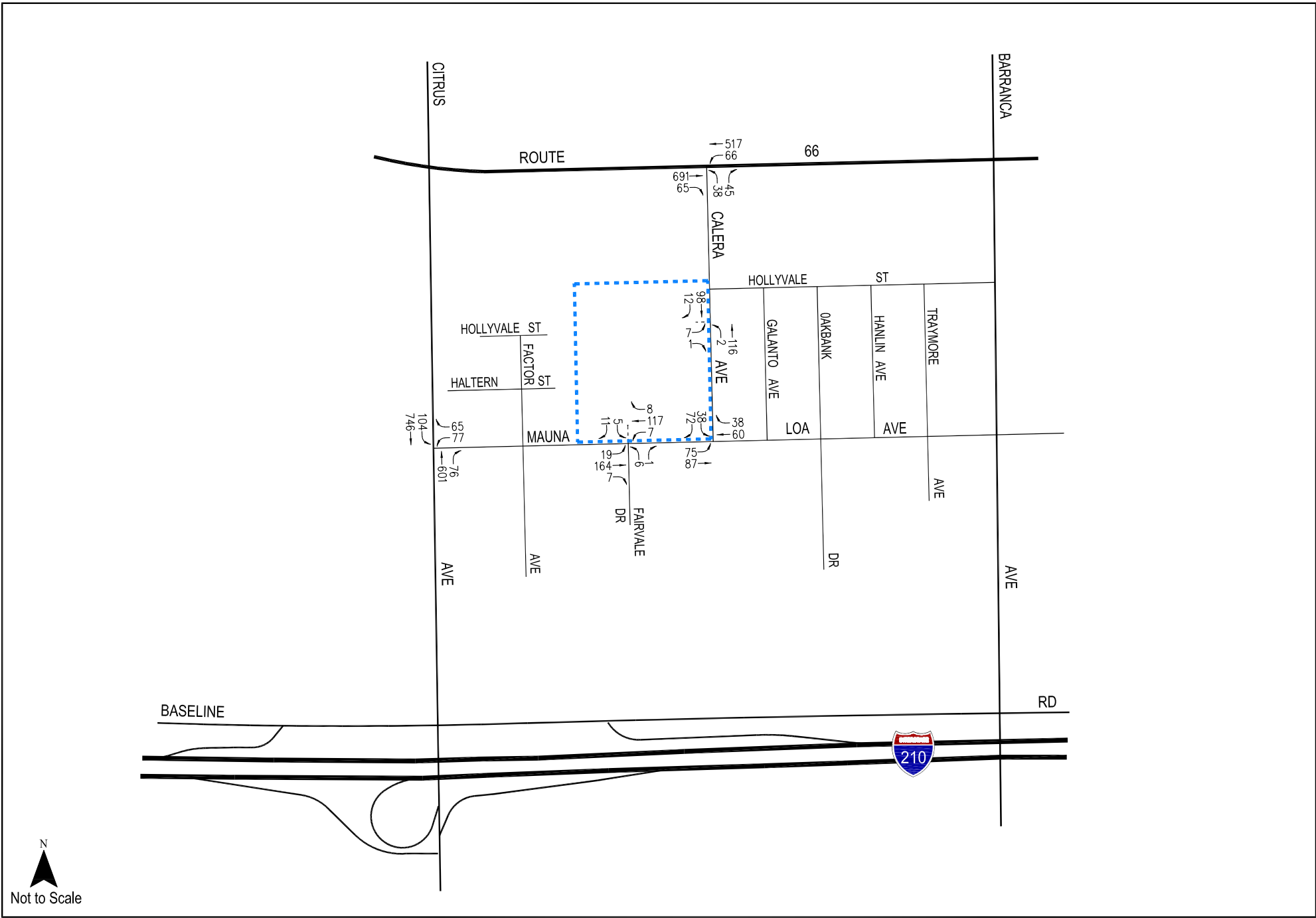


Figure 5-4
Future With Project Traffic Volumes
Weekday PM Peak Hour
Delaney Square Project

6.0 SUMMARY AND CONCLUSIONS

- ***Project Description*** – The Delaney Square project is located on the northwest corner of the intersection of Calera Avenue and Mauna Loa Avenue in the City of Azusa, California. The Project Site is generally bounded by multifamily residential development to the north, Mauna Loa Avenue to the south, Calera Avenue to the east, and single-family homes to the west. The Project proposes to remove the existing improvements on the Project Site to accommodate the construction of a residential development with 65 cluster product residential dwelling units and 63 two-story townhome residential dwelling units, totaling 128 multifamily residential dwelling units. Specifically, the cluster product units will consist of three and four-bedroom units and the townhome units will consist of two and three-bedroom units. The Project proposes to provide 256 covered parking spaces and 70 uncovered parking spaces on-site, totaling 326 parking spaces. Construction and occupancy of the Project is proposed to be completed by the year 2028.
- ***Project Site Access*** – Access to the Project Site will be provided via the existing northernmost driveway along the west side of Calera Avenue and a proposed driveway along the north side of Mauna Loa Avenue at the Fairvale Drive / Mauna Loa Avenue intersection. The proposed driveway along the north side of Mauna Loa Avenue will form the north leg of the Fairvale Drive / Mauna Loa Avenue intersection. Both driveways will accommodate full vehicular access to the Project Site and will not be gated. Pedestrian and bicycle access to and from the Project Site will also be provided via access locations along the Project Site's Calera Avenue and Mauna Loa Avenue frontages and will be accommodated by the Project's internal roadway network.
- ***Project Trip Generation*** – The Project is expected to generate -161 net new vehicle trips (-102 inbound trips and -59 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the Project is expected to generate 19 net new vehicle trips (20 inbound trips and -1 outbound trip). Over a 24-hour period, the Project is forecast to generate 212 daily vehicle trips (approximately 106 inbound trips and 106 outbound trips) on a typical weekday.
- ***Vehicle Miles Traveled (VMT) Analysis*** – The City of Azusa has not yet adopted transportation assessment guidelines for VMT analyses, thus the VMT assessment was prepared in compliance with the screening criteria methodology recommended in the *Technical Advisory*. In the *Technical Advisory*, OPR recommends various screening criteria which may be applied to screen proposed projects out of detailed VMT analysis.

The proposed project does not satisfy any of the screening criteria and a VMT analysis is required in order to determine whether the proposed project will result in any significant transportation impacts. The proposed project's daily residential VMT per capita was forecast using the SGVCOG VMT Evaluation Tool. Based on the VMT analysis, the proposed project is forecast to generate 21.01 Home-Based VMT per capita, which exceeds the threshold of

20.67 VMT per capita. It is concluded that the proposed project is expected to result in a significant VMT impact.

- ***CEQA Mitigation Measures*** – The proposed project is expected to result in a significant VMT impact, and thus the applicant is required to identify mitigation measures to reduce the impact to the greatest extent possible. The VMT mitigation measure to provide Community-Based Travel Planning (CBTP) has been identified for the proposed project. The measure is expected to reduce the project’s VMT to a less than significant level.
- ***Active Transportation and Public Transit Assessment*** – The Project is found to be in alignment with the City of Azusa General Plan and the Azusa Walks Pedestrian Plan goal of providing pedestrian, bicycle, and transit infrastructure. In addition, development of the Project will not prevent the City from completing any proposed transit, bicycle, or pedestrian facilities. It is therefore determined that the Project will have a less than significant impact on active transportation and public transit in the vicinity of the Project Site.
- ***Level of Service (LOS) Analysis*** – A total of five study intersections were reviewed for consistency with the City of Azusa’s adopted LOS standards. The study intersections were evaluated using the City-approved Intersection Capacity Utilization (“ICU”) and Highway Capacity Manual (“HCM”) methodologies to determine the weekday peak hour LOS under existing and future (opening year 2028) without and with project conditions. Based on application of the City’s LOS standards, the Project is not required to identify or construct intersection improvements at any of the study intersections.

APPENDIX A

APPROVED TRANSPORTATION ANALYSIS SCOPE OF WORK

MEMORANDUM



To: Mr. Robert Delgadillo, P.E.
Director of Public Works/City Engineer
City of Azusa

Date: August 19, 2025

From: Daniel A. Kloos, P.E.
Francesca Bravo
Linscott, Law & Greenspan, Engineers

LLG Ref: 1-25-4688-1

Subject: ***Updated Transportation Analysis Scope of Work for the
Mauna Loa Residential Project
Azusa, California***

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San Diego

Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit the following Updated Transportation Analysis Scope of Work for the proposed Mauna Loa Residential Project (“Proposed Project”) located in the City of Azusa, California.

A. Project Location

The proposed project site is located on the northwest corner of the intersection of Caldera Avenue and Manua Loa Avenue in the City of Azusa, California. The project site is currently occupied by the vacant W.R. Powell Elementary School. The existing school had a peak enrollment of 347 students during the 2021-2022 school year and was closed in June 2023. It should be noted that the 347 student enrollment will be utilized for the purposes of establishing the historic CEQA baseline for the study intersections. See the attached Vicinity Map – ***Figure 1-1*** and Existing Site Aerial – ***Figure 2-1***.

B. Project Description

The proposed Project will consist of 128 multi-family dwelling units. Of this total, there will be 65 units deemed as a cluster product and 63 units deemed as a two-story townhome product. Access to the project site will be provided via the intersection of Fairvale Drive at Manua Loa Avenue (i.e. the north leg of the intersection) and via one full access driveway located along Calera Avenue. It should be noted that both project access locations will not be gated. The proposed Project is expected to be completed by the Year 2028. See the attached Proposed Site Plan – ***Figure 2-2***.

C. CEQA Vehicle Miles Traveled (VMT) Screening Analysis

LLG will review the proposed project to determine whether any VMT screening thresholds are met. It is understood that the City of Azusa has established screening criteria pertaining to proximity to Transit Priority areas, low VMT-generating areas, project trip generation forecasts and land use types (i.e. local serving retail, affordable housing, etc.). Based on this screening review, determine whether the project screens out or if a full VMT analysis is required for the project. The results of the VMT screening assessment will be submitted for review and approval by City of Azusa staff prior to finalization. If it is determined that a full VMT analysis is required for the Project, the scope for the analysis will be coordinated with City of Azusa staff.

D. Active Transportation Analysis

A qualitative review will be conducted to evaluate whether the project is consistent with the City's adopted policies, plans, and programs regarding public transit, bicycle, and pedestrian facilities. This review will focus on the Mobility Element of the City's current General Plan (April 2004) and the City of Azusa Pedestrian Plan (March 2022).

E. Traffic Counts

The AM peak hour and PM peak hour traffic counts for the key study intersections will either be conducted in May 2025 or early June 2025 when local area schools are in session. It should be noted that the existing traffic counts for the key study intersections will be manually adjusted to account for the W.R. Powell Elementary School's peak enrollment of 347 students that occurred during the 2021-2022 school year for the purposes of establishing the historic CEQA baseline for the study intersections. The existing AM peak hour and PM peak hour school trips shown in row B of **Table 1** (i.e. 257 AM peak hour trips and 56 PM peak hour trips) will be distributed to the key study intersections based on the Existing Site Trip Distribution pattern shown in **Figure 2-3**.

F. Project Trip Generation Forecast

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the Eleventh Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2021]. **Table 1** summarizes the trip generation rates and associated forecast for the existing entitled land use (i.e. 347 students) and the proposed Project for a typical weekday. As shown in the upper portion of **Table 1**, the trip generation potential of the existing entitled land use was estimated based on ITE Land Use 520: Elementary School trip rates. The trip generation potential of the proposed Project was estimated based on ITE Land Use 221: Multi-Family Housing – Low Rise trip rates.

A review of the middle portion of **Table 1** indicates that the proposed Project is forecast to generate approximately 863 daily trips, with 51 trips (12 inbound, 39 outbound) produced in the AM peak hour and 65 trips (41 inbound, 24 outbound) produced in the PM peak hour on a "typical" weekday. Further review of the middle portion of **Table 1** indicates that the existing entitled land use (i.e. 347 students) is forecast to generate approximately 788 daily trips, with 257 trips (139 inbound, 118 outbound) produced in the AM peak hour and 56 trips (26 inbound, 30 outbound) produced in the PM peak hour on a "typical" weekday. As shown at the bottom of **Table 1**, comparison of the trips generated by the existing entitled land use to the trips generated by the proposed Project shows that the proposed Project will generate 75 greater net daily trips, 206 fewer net AM

peak hour trips, and 9 greater net PM peak hour trips. These net trips will be evaluated as part of the Non-CEQA Level of Service (LOS) Analysis for the proposed Project.

G. Project Trip Distribution

The trips expected to be generated by the proposed Project will be assigned to the study intersections based on the distribution pattern presented in **Figure 2-4**. The trip distribution pattern was developed based on the following considerations:

- the site's proximity to major traffic carriers (i.e. Route 66, N. Citrus Avenue, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals, and
- ingress/egress availability at the project site.

H. Future Traffic Volume Forecasts

The future baseline Year 2028 traffic volumes will be forecast based on the forecast traffic generated by cumulative or related projects as well as an annual compounding growth factor of 0.40% per year (based on the forecast annual growth between years 2025 and 2030 for RSA 26 in the 2010 Los Angeles County Congestion Management Program). It is assumed that City staff will assist in providing a current list of related development projects in the City of Azusa.

I. Non-CEQA Level of Service (LOS) Analysis

LLG will prepare an AM peak hour and PM peak hour LOS analysis to determine the proposed Project's effects on local roadway operations. The following three (3) key study intersections and two (2) project driveways have been selected for evaluation, subject to concurrence by City of Azusa Public Works Department staff.

- 1) N. Calera Avenue at Route 66
- 2) N. Citrus Avenue at E. Mauna Loa Avenue
- 3) N. Fairvale Drive/Project Driveway No. 1 at E. Mauna Loa Avenue
- 4) N. Calera Avenue at E. Mauna Loa Avenue
- 5) N. Calera Avenue at Project Driveway No. 2

Analysis Methodology

The LOS calculations will be prepared using the Intersection Capacity Utilization (ICU) methodology for signalized intersections and the Highway Capacity Manual (HCM) methodology for unsignalized intersections. The analysis will include existing year (2025) historic CEQA baseline, opening year (2028), and opening year with project scenarios.

Transportation Network Effects

The acceptable LOS for most intersections in the City is LOS D or better as established in the City's General Plan. Any intersection operating at LOS E or LOS F are considered deficient. Signalized intersections will require improvement if one of the following conditions is met:

- The addition of project traffic results in the intersection to change from acceptable operations (LOS D or better) to unacceptable operations (LOS E or LOS F).
- The project-related increase in volume-to-capacity (V/C) is equal to or greater than 0.020 (2%), or the project related increase in delay is equal to or greater than 2.0 seconds, at an intersection that is projected to operate at LOS E or LOS F with the addition of project traffic.

J. Transportation Impact Study

LLG will prepare a transportation impact study summarizing the above-mentioned items including our analysis, findings, and conclusions. The study will be suitably documented with tables, figures, and appendix materials.

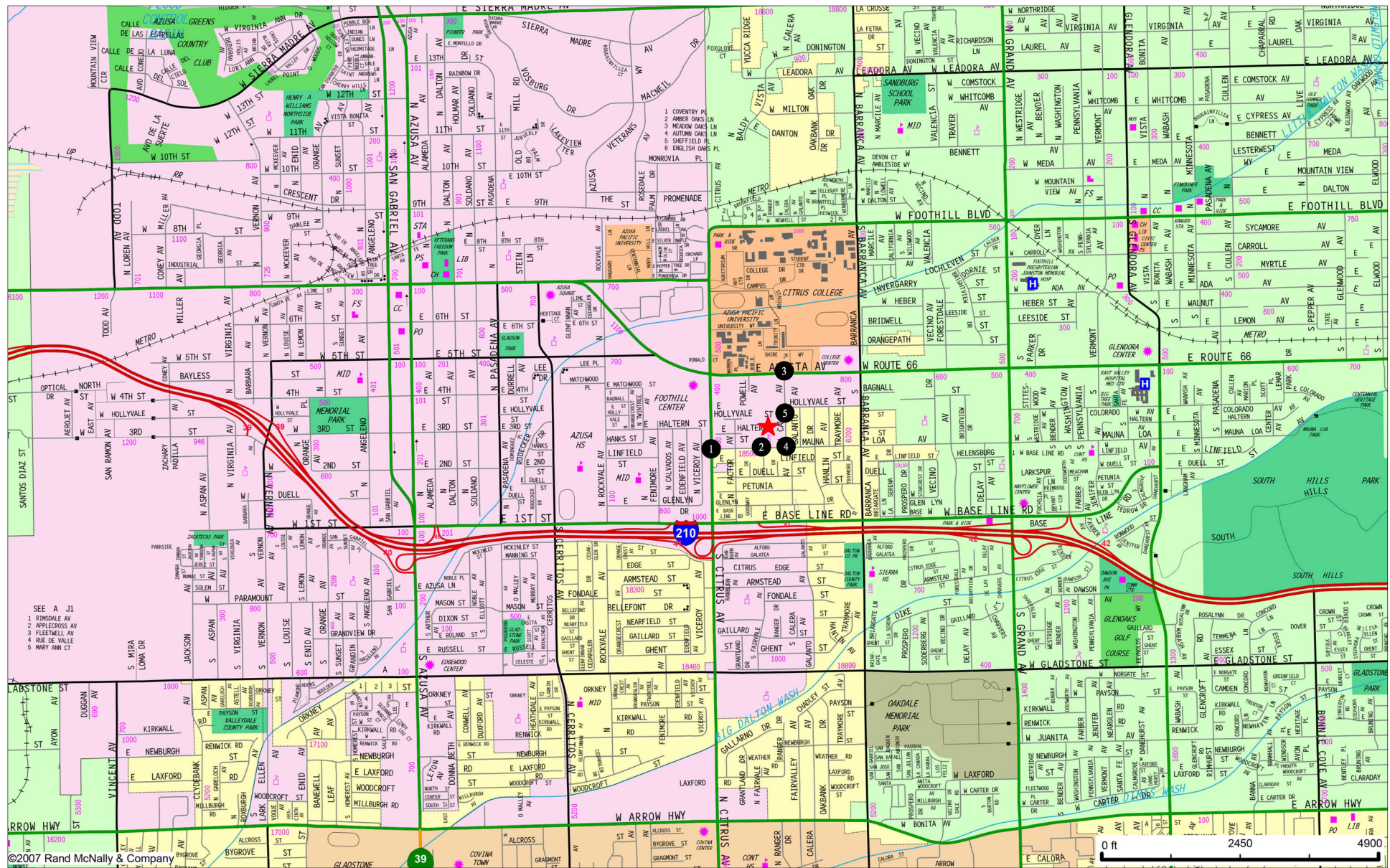
We appreciate the opportunity to provide this Transportation Analysis Scope of Work scope of work. Should you have any questions, please call us at (626) 796-2322. Thank you.

Approved by:

City of Azusa

Date

c:\job_files\4688 - mauna loa residential\dwg\11-1.dwg 07/16/2025 11:33:49 WU -----



©2007 Rand McNally & Company

MAP SOURCE: RAND MCNALLY & COMPANY



- ★ Project Site
- xx Study Locations



Figure 1-1
Vicinity Map



w:\posaderna\4688 - mauna loa project, azusa\dwg\4688 f2-1.dwg LDP 11:41:47 05-20-2025 agular



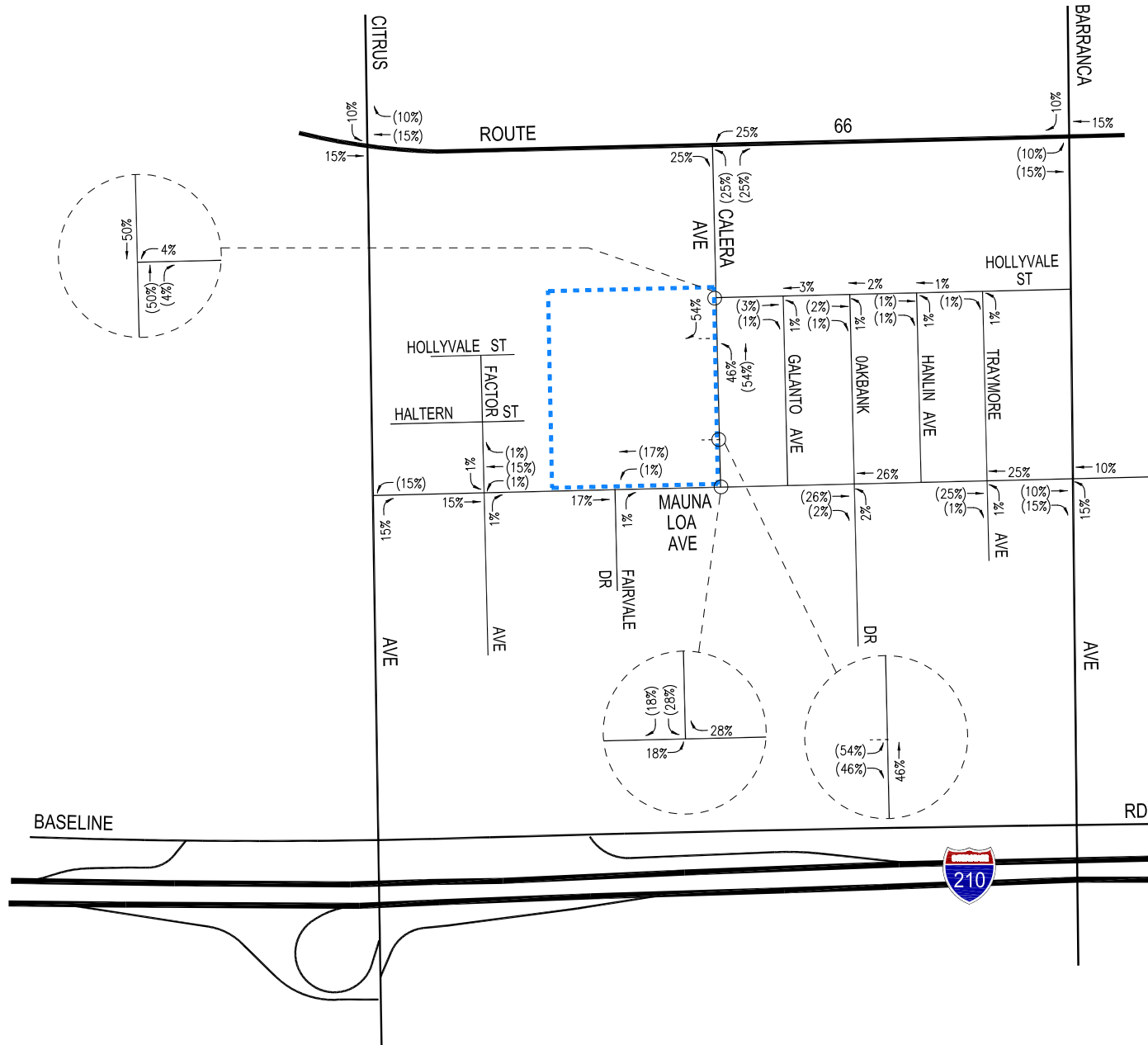
SOURCE: NEAR MAPS

KEY

 = PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL
MAUNA LOA RESIDENTIAL PROJECT, AZUSA



 Project Site

XX = Inbound Percentages

(XX) = Outbound Percentages



Figure 2-3
Existing Site Trip Distribution

TABLE 1
PROJECT TRAFFIC GENERATION FORECAST¹
MAUNA LOA RESIDENTIAL PROJECT, AZUSA

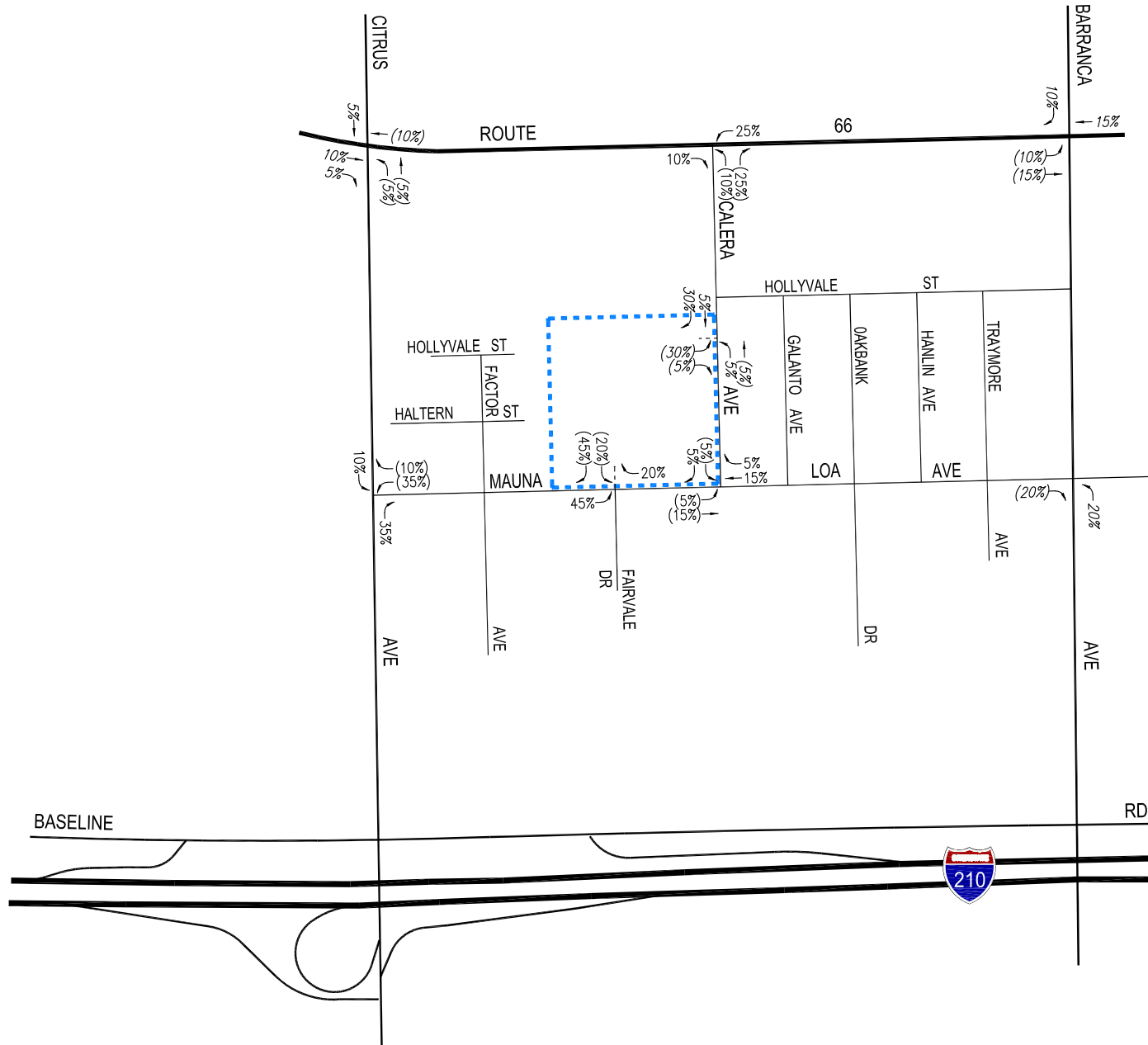
ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<u>Generation Rates:</u>							
▪ 220: Multi-Family Housing – Low Rise (TE/DU)	6.74	24%	76%	0.40	63%	37%	0.51
▪ 520: Elementary School (TE/Student)	2.27	54%	46%	0.74	46%	54%	0.16
<u>Proposed Project Generation Forecast:</u>							
[A] – Mauna Loa Residential Project (128 DU)	863	12	39	51	41	24	65
<u>Existing Entitled Land Use Generation Forecast:</u>							
[B] – W.R. Powell Elementary School (347 Students)	788	139	118	257	26	30	56
Total Net Trip Generation Forecast [A] – [B]	+75	-127	-79	-206	+15	-6	+9

Notes:

- TE/DU = Trip End per Dwelling Unit
- TE/Student = Trip End per Student

¹ Source: *Trip Generation, 11th Edition*, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2021)].

c:\job_files\4688 - mauna loa residential\dwg\2-4.dwg 08/11/2025 14:11:06 lee ----



Project Site

XX = Inbound Percentages

((XX)) = Outbound Percentages



Figure 2-4
Project Trip Distribution

APPENDIX B

VEHICLE, PEDESTRIAN, AND BICYCLE COUNT DATA

CITY TRAFFIC COUNTERS
WWW.CTCOUNTERS.COM

File Name : CitrusAve_MaunaLoaAve
 Site Code : 00000000
 Start Date : 6/3/2025
 Page No : 1

Groups Printed- Vehicles

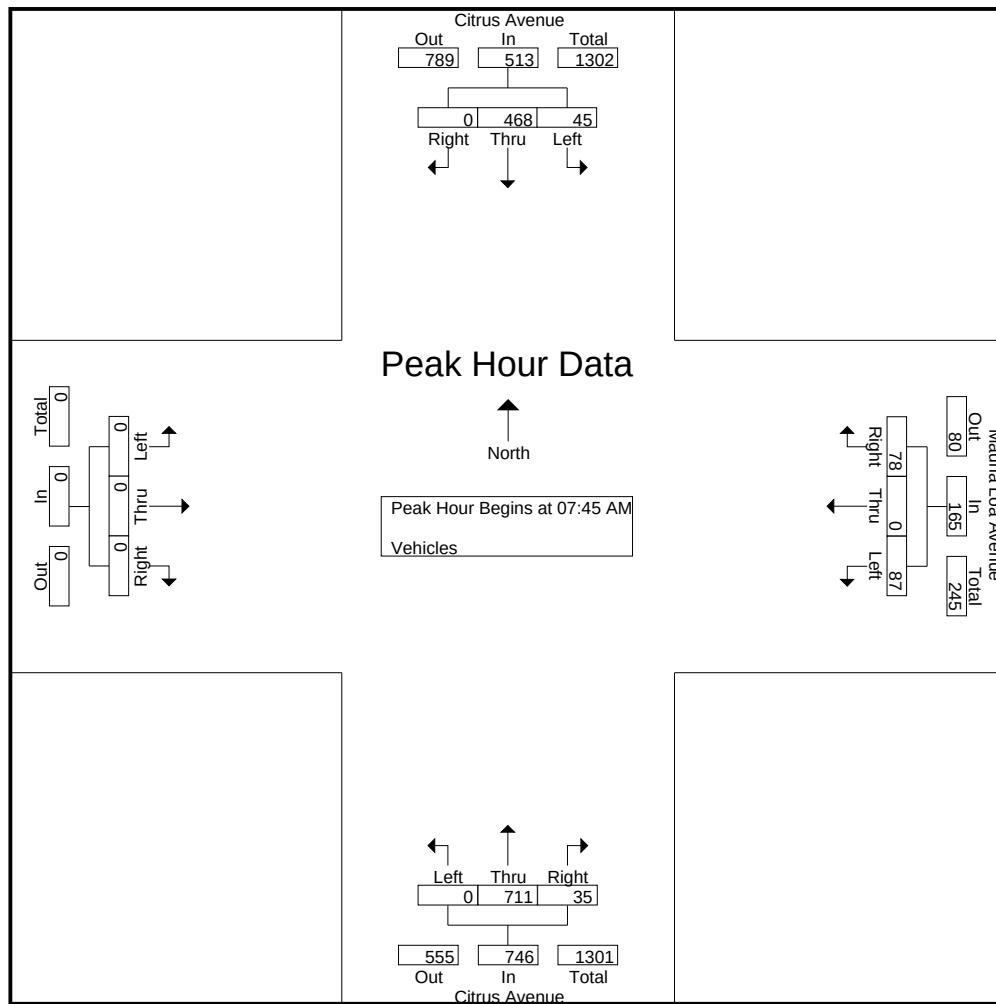
	Citrus Avenue Southbound			Mauna Loa Avenue Westbound			Citrus Avenue Northbound			Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	4	73	0	20	0	10	0	67	7	0	0	0	181
07:15 AM	6	76	0	21	0	22	0	92	13	0	0	0	230
07:30 AM	1	104	0	29	0	15	0	133	3	0	0	0	285
07:45 AM	5	106	0	34	0	18	0	179	8	0	0	0	350
Total	16	359	0	104	0	65	0	471	31	0	0	0	1046
08:00 AM	14	132	0	22	0	23	0	196	12	0	0	0	399
08:15 AM	14	116	0	18	0	24	0	188	8	0	0	0	368
08:30 AM	12	114	0	13	0	13	0	148	7	0	0	0	307
08:45 AM	5	94	0	12	0	17	0	133	13	0	0	0	274
Total	45	456	0	65	0	77	0	665	40	0	0	0	1348
04:00 PM	34	172	0	16	0	21	0	126	15	0	0	0	384
04:15 PM	19	136	0	15	0	14	0	144	17	0	0	0	345
04:30 PM	27	190	0	13	0	15	0	139	17	0	0	0	401
04:45 PM	23	141	0	17	0	21	0	154	15	0	0	0	371
Total	103	639	0	61	0	71	0	563	64	0	0	0	1501
05:00 PM	22	212	0	23	0	12	0	150	11	0	0	0	430
05:15 PM	29	192	0	19	0	16	0	150	22	0	0	0	428
05:30 PM	19	159	0	13	0	10	0	144	13	0	0	0	358
05:45 PM	23	150	0	20	0	12	0	159	16	0	0	0	380
Total	93	713	0	75	0	50	0	603	62	0	0	0	1596
Grand Total	257	2167	0	305	0	263	0	2302	197	0	0	0	5491
Apprch %	10.6	89.4	0	53.7	0	46.3	0	92.1	7.9	0	0	0	
Total %	4.7	39.5	0	5.6	0	4.8	0	41.9	3.6	0	0	0	

CITY TRAFFIC COUNTERS

WWW.CTCOUNTERS.COM

File Name : CitrusAve_MaunaLoaAve
 Site Code : 00000000
 Start Date : 6/3/2025
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	Citrus Avenue Southbound				Mauna Loa Avenue Westbound				Citrus Avenue Northbound				Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	5	106	0	111	34	0	18	52	0	179	8	187	0	0	0	0	350
08:00 AM	14	132	0	146	22	0	23	45	0	196	12	208	0	0	0	0	399
08:15 AM	14	116	0	130	18	0	24	42	0	188	8	196	0	0	0	0	368
08:30 AM	12	114	0	126	13	0	13	26	0	148	7	155	0	0	0	0	307
Total Volume	45	468	0	513	87	0	78	165	0	711	35	746	0	0	0	0	1424
% App. Total	8.8	91.2	0		52.7	0	47.3		0	95.3	4.7		0	0	0		
PHF	.804	.886	.000	.878	.640	.000	.813	.793	.000	.907	.729	.897	.000	.000	.000	.000	.892

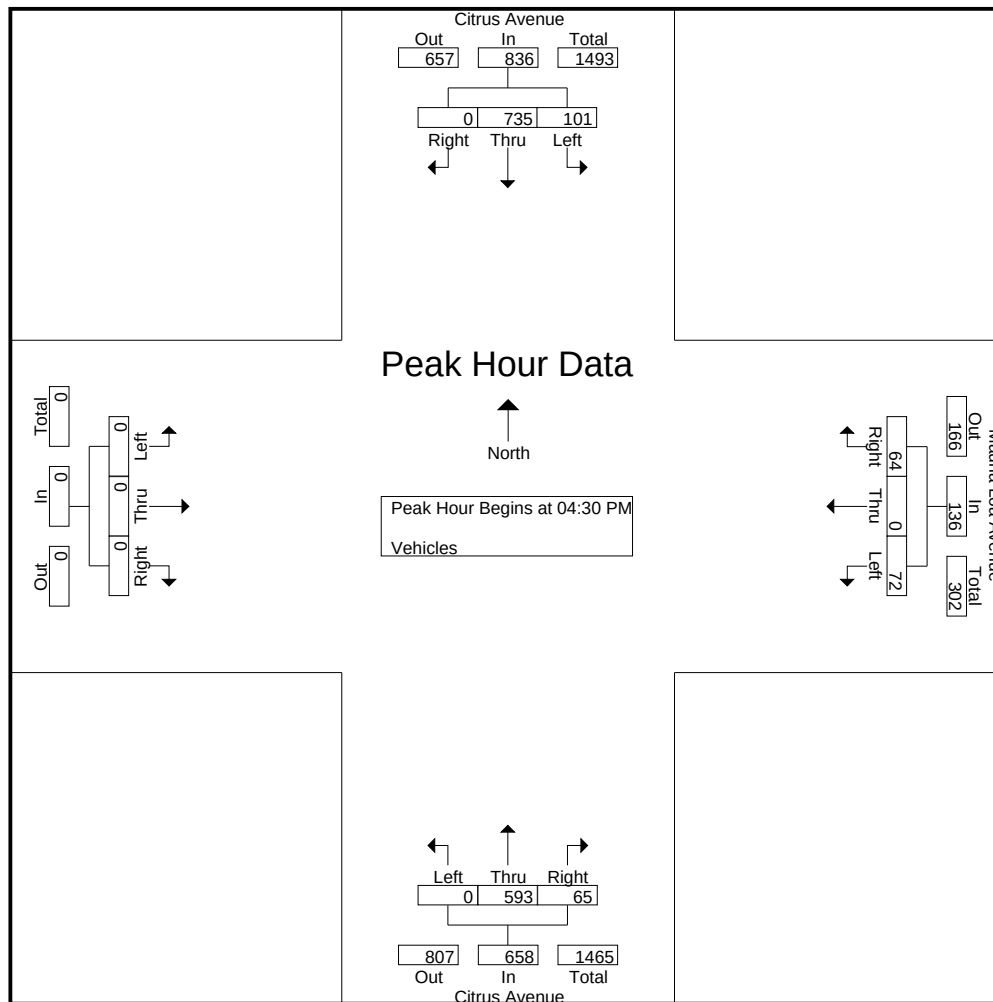


CITY TRAFFIC COUNTERS

WWW.CTCOUNTERS.COM

File Name : CitrusAve_MaunaLoaAve
 Site Code : 00000000
 Start Date : 6/3/2025
 Page No : 3

	Citrus Avenue Southbound				Mauna Loa Avenue Westbound				Citrus Avenue Northbound				Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	27	190	0	217	13	0	15	28	0	139	17	156	0	0	0	0	401
04:45 PM	23	141	0	164	17	0	21	38	0	154	15	169	0	0	0	0	371
05:00 PM	22	212	0	234	23	0	12	35	0	150	11	161	0	0	0	0	430
05:15 PM	29	192	0	221	19	0	16	35	0	150	22	172	0	0	0	0	428
Total Volume	101	735	0	836	72	0	64	136	0	593	65	658	0	0	0	0	1630
% App. Total	12.1	87.9	0		52.9	0	47.1		0	90.1	9.9		0	0	0		
PHF	.871	.867	.000	.893	.783	.000	.762	.895	.000	.963	.739	.956	.000	.000	.000	.000	.948



CITY TRAFFIC COUNTERS
WWW.CTCOUNTERS.COM

File Name : CitrusAve_MaunaLoaAve_BP
 Site Code : 00000000
 Start Date : 6/3/2025
 Page No : 1

Groups Printed- Pedestrians and Bikes

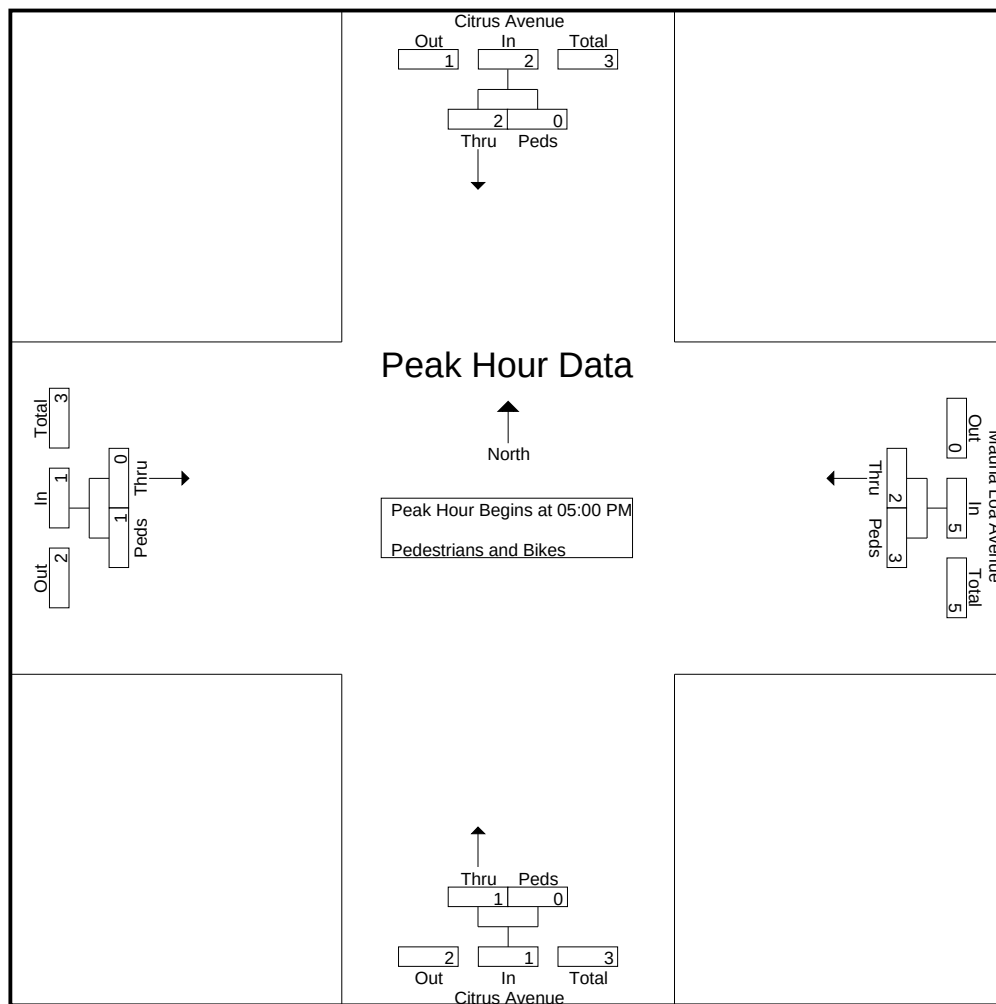
	Citrus Avenue North Leg		Mauna Loa Avenue East Leg		Citrus Avenue South Leg		West Leg		
Start Time	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	Int. Total
07:00 AM	0	1	1	0	0	0	0	0	2
07:30 AM	1	0	0	1	0	0	0	0	2
07:45 AM	0	1	1	2	0	1	0	0	5
Total	1	2	2	3	0	1	0	0	9
08:00 AM	0	1	0	0	0	0	0	0	1
08:15 AM	0	2	1	1	0	0	0	0	4
08:30 AM	0	0	1	1	0	1	0	0	3
08:45 AM	0	1	0	0	0	2	0	0	3
Total	0	4	2	2	0	3	0	0	11
04:15 PM	0	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	2
05:15 PM	1	0	1	0	1	0	0	1	4
05:30 PM	1	0	0	2	0	0	0	0	3
05:45 PM	0	0	1	1	0	0	0	0	2
Total	2	0	2	3	1	0	0	1	9
Grand Total	3	7	6	9	1	4	0	1	31
Apprch %	30	70	40	60	20	80	0	100	
Total %	9.7	22.6	19.4	29	3.2	12.9	0	3.2	

CITY TRAFFIC COUNTERS

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File Name : CitrusAve_MaunaLoaAve_BP
 Site Code : 00000000
 Start Date : 6/3/2025
 Page No : 3

	Citrus Avenue North Leg			Mauna Loa Avenue East Leg			Citrus Avenue South Leg			West Leg			
Start Time	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	0	1	1	0	1	1	0	1	0	1	1	4
05:30 PM	1	0	1	0	2	2	0	0	0	0	0	0	3
05:45 PM	0	0	0	1	1	2	0	0	0	0	0	0	2
Total Volume	2	0	2	2	3	5	1	0	1	0	1	1	9
% App. Total	100	0		40	60		100	0		0	100		
PHF	.500	.000	.500	.500	.375	.625	.250	.000	.250	.000	.250	.250	.563



CITY TRAFFIC COUNTERS
WWW.CTCOUNTERS.COM

File Name : FairvaleDr_MaunaLoaAve
Site Code : 00000000
Start Date : 6/3/2025
Page No : 1

Groups Printed- Vehicles

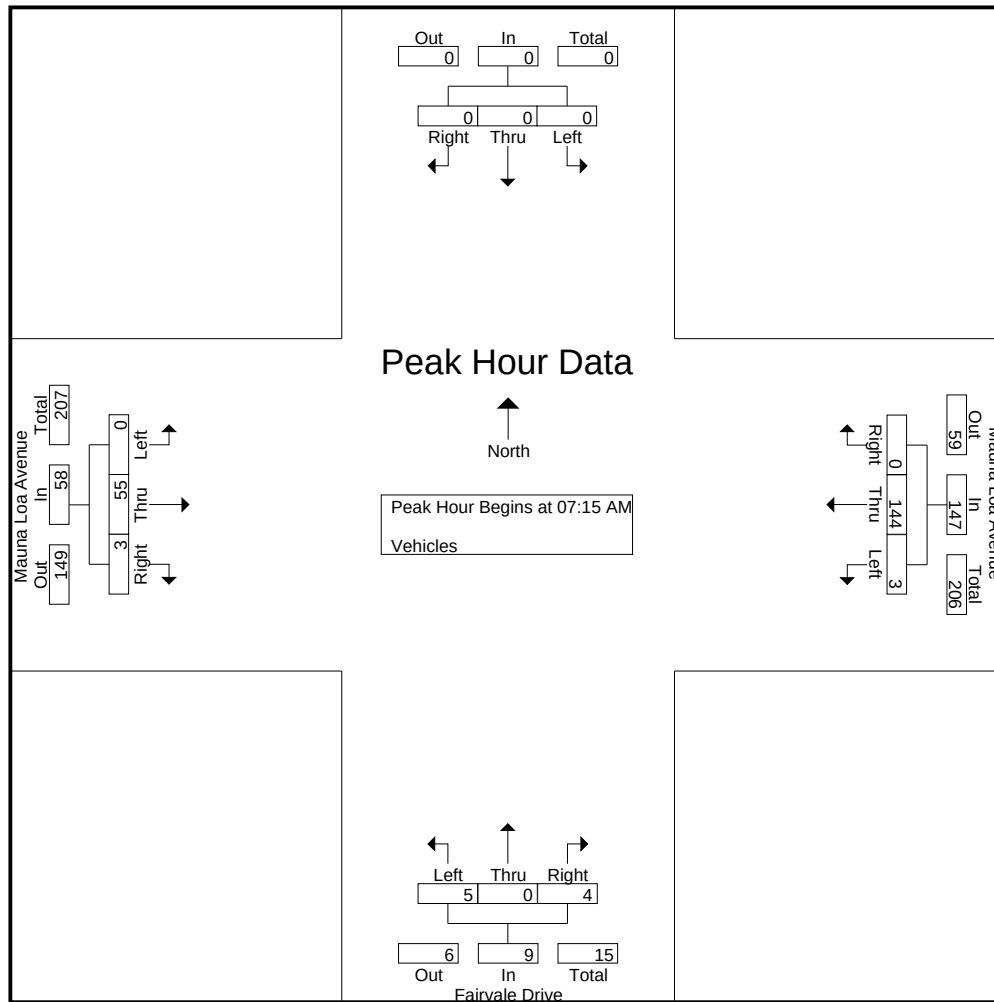
	Southbound			Mauna Loa Avenue Westbound			Fairvale Drive Northbound			Mauna Loa Avenue Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	0	23	0	0	0	2	0	10	2	37
07:15 AM	0	0	0	1	37	0	0	0	2	0	16	0	56
07:30 AM	0	0	0	1	36	0	2	0	1	0	5	0	45
07:45 AM	0	0	0	1	42	0	1	0	0	0	12	0	56
Total	0	0	0	3	138	0	3	0	5	0	43	2	194
08:00 AM	0	0	0	0	29	0	2	0	1	0	22	3	57
08:15 AM	0	0	0	0	36	0	1	0	0	0	17	0	54
08:30 AM	0	0	0	1	27	0	0	0	1	0	16	0	45
08:45 AM	0	0	0	0	22	0	2	0	3	0	16	1	44
Total	0	0	0	1	114	0	5	0	5	0	71	4	200
04:00 PM	0	0	0	3	32	0	1	0	0	0	36	2	74
04:15 PM	0	0	0	0	23	0	0	0	3	0	41	0	67
04:30 PM	0	0	0	6	19	0	1	0	0	0	35	1	62
04:45 PM	0	0	0	2	26	0	1	0	0	0	37	2	68
Total	0	0	0	11	100	0	3	0	3	0	149	5	271
05:00 PM	0	0	0	0	33	0	2	0	0	0	38	3	76
05:15 PM	0	0	0	3	29	0	1	0	0	0	44	1	78
05:30 PM	0	0	0	1	21	0	0	0	1	0	30	1	54
05:45 PM	0	0	0	3	29	0	3	0	0	0	46	2	83
Total	0	0	0	7	112	0	6	0	1	0	158	7	291
Grand Total	0	0	0	22	464	0	17	0	14	0	421	18	956
Apprch %	0	0	0	4.5	95.5	0	54.8	0	45.2	0	95.9	4.1	
Total %	0	0	0	2.3	48.5	0	1.8	0	1.5	0	44	1.9	

CITY TRAFFIC COUNTERS

WWW.CTCOUNTERS.COM

File Name : FairvaleDr_MaunaLoaAve
 Site Code : 00000000
 Start Date : 6/3/2025
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	Southbound				Mauna Loa Avenue Westbound				Fairvale Drive Northbound				Mauna Loa Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	1	37	0	38	0	0	2	2	0	16	0	16	56
07:30 AM	0	0	0	0	1	36	0	37	2	0	1	3	0	5	0	5	45
07:45 AM	0	0	0	0	1	42	0	43	1	0	0	1	0	12	0	12	56
08:00 AM	0	0	0	0	0	29	0	29	2	0	1	3	0	22	3	25	57
Total Volume	0	0	0	0	3	144	0	147	5	0	4	9	0	55	3	58	214
% App. Total	0	0	0	0	2	98	0		55.6	0	44.4		0	94.8	5.2		
PHF	.000	.000	.000	.000	.750	.857	.000	.855	.625	.000	.500	.750	.000	.625	.250	.580	.939

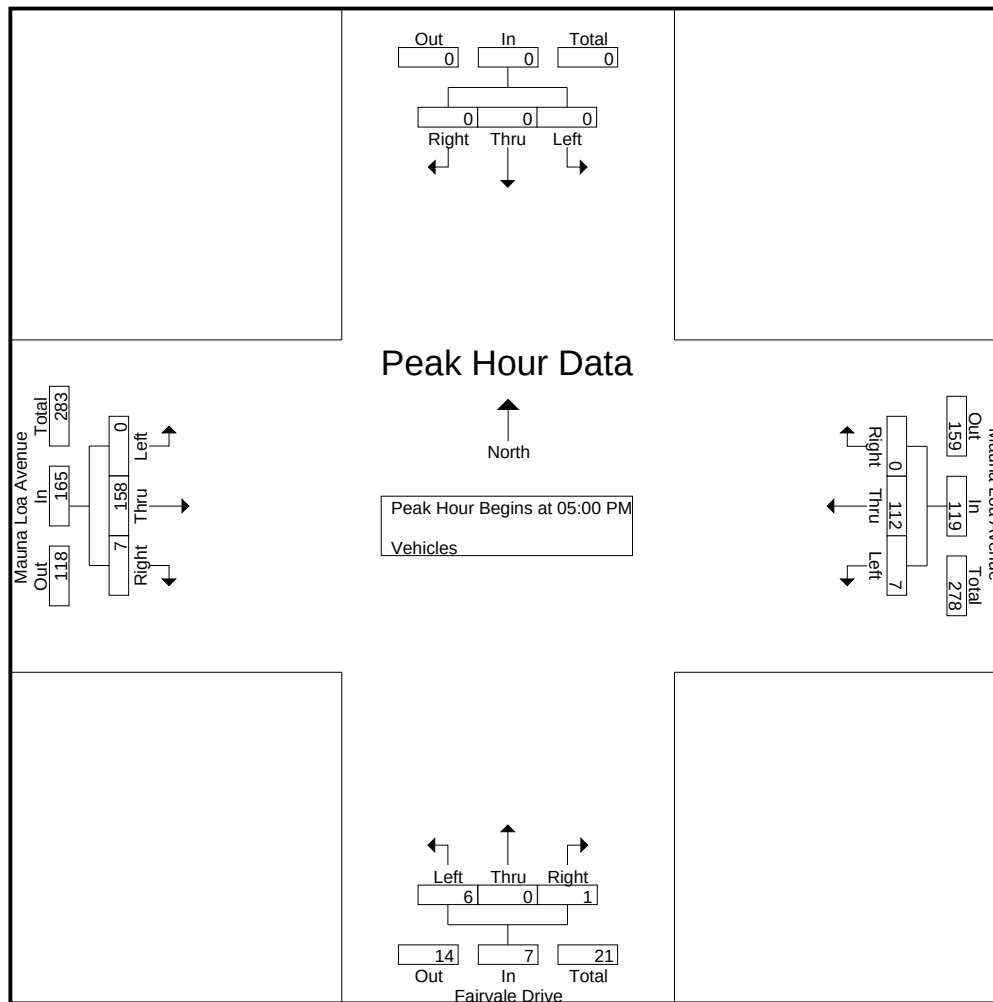


CITY TRAFFIC COUNTERS

WWW.CTCOUNTERS.COM

File Name : FairvaleDr_MaunaLoaAve
 Site Code : 00000000
 Start Date : 6/3/2025
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	Southbound				Mauna Loa Avenue Westbound				Fairvale Drive Northbound				Mauna Loa Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	33	0	33	2	0	0	2	0	38	3	41	76
05:15 PM	0	0	0	0	3	29	0	32	1	0	0	1	0	44	1	45	78
05:30 PM	0	0	0	0	1	21	0	22	0	0	1	1	0	30	1	31	54
05:45 PM	0	0	0	0	3	29	0	32	3	0	0	3	0	46	2	48	83
Total Volume	0	0	0	0	7	112	0	119	6	0	1	7	0	158	7	165	291
% App. Total	0	0	0		5.9	94.1	0		85.7	0	14.3		0	95.8	4.2		
PHF	.000	.000	.000	.000	.583	.848	.000	.902	.500	.000	.250	.583	.000	.859	.583	.859	.877



CITY TRAFFIC COUNTERS
WWW.CTCOUNTERS.COM

File Name : FairvaleDr_MaunaLoaAve_BP
Site Code : 00000000
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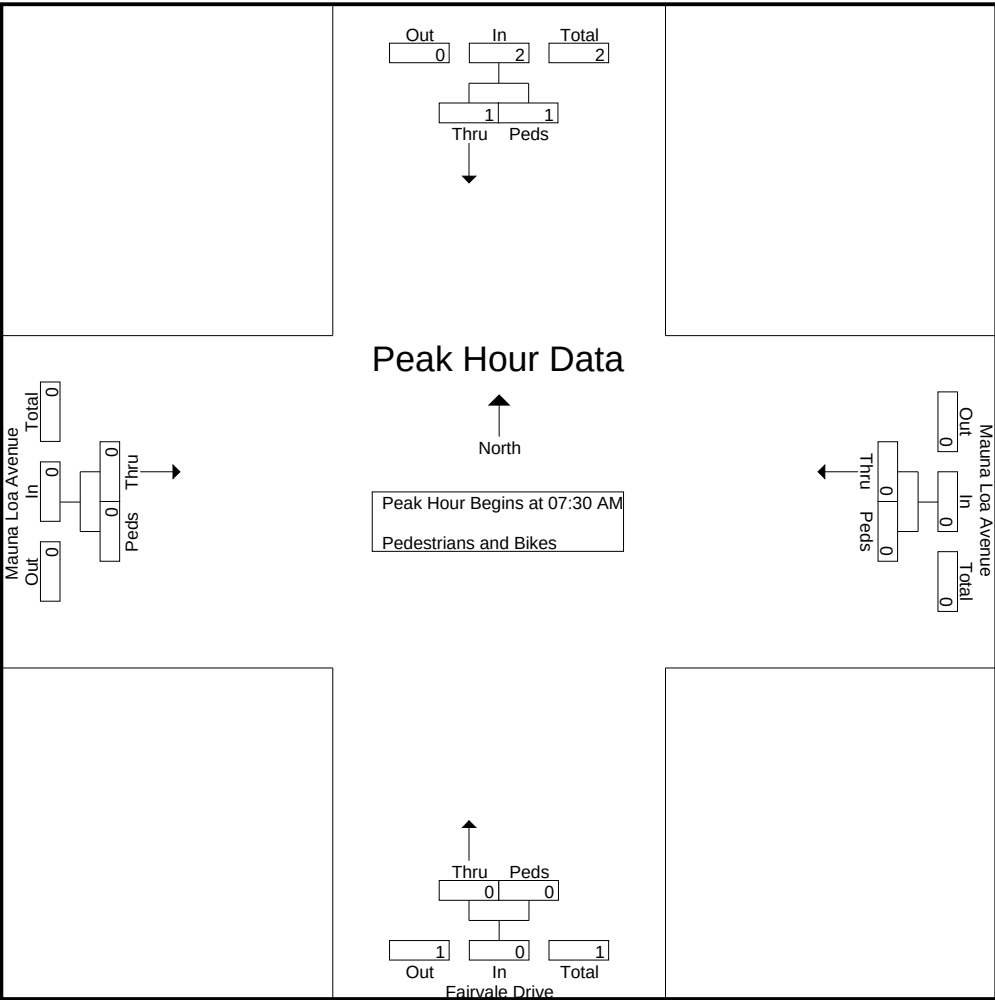
Groups Printed- Pedestrians and Bikes

Start Time	North Leg		Mauna Loa Avenue East Leg		Fairvale Drive South Leg		Mauna Loa Avenue West Leg		Int. Total
	Thru	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
08:15 AM	1	1	0	0	0	0	0	0	2
Total	1	1	0	0	0	0	0	0	2
05:15 PM	1	1	0	0	1	1	0	0	4
05:45 PM	0	0	0	0	1	1	0	0	2
Total	1	1	0	0	2	2	0	0	6
Grand Total	2	2	0	0	2	2	0	0	8
Apprch %	50	50	0	0	50	50	0	0	
Total %	25	25	0	0	25	25	0	0	

CITY TRAFFIC COUNTERS
WWW.CTCOUNTERS.COM

File Name : FairvaleDr_MaunaLoaAve_BP
Site Code : 00000000
Start Date : 6/3/2025
Page No : 2

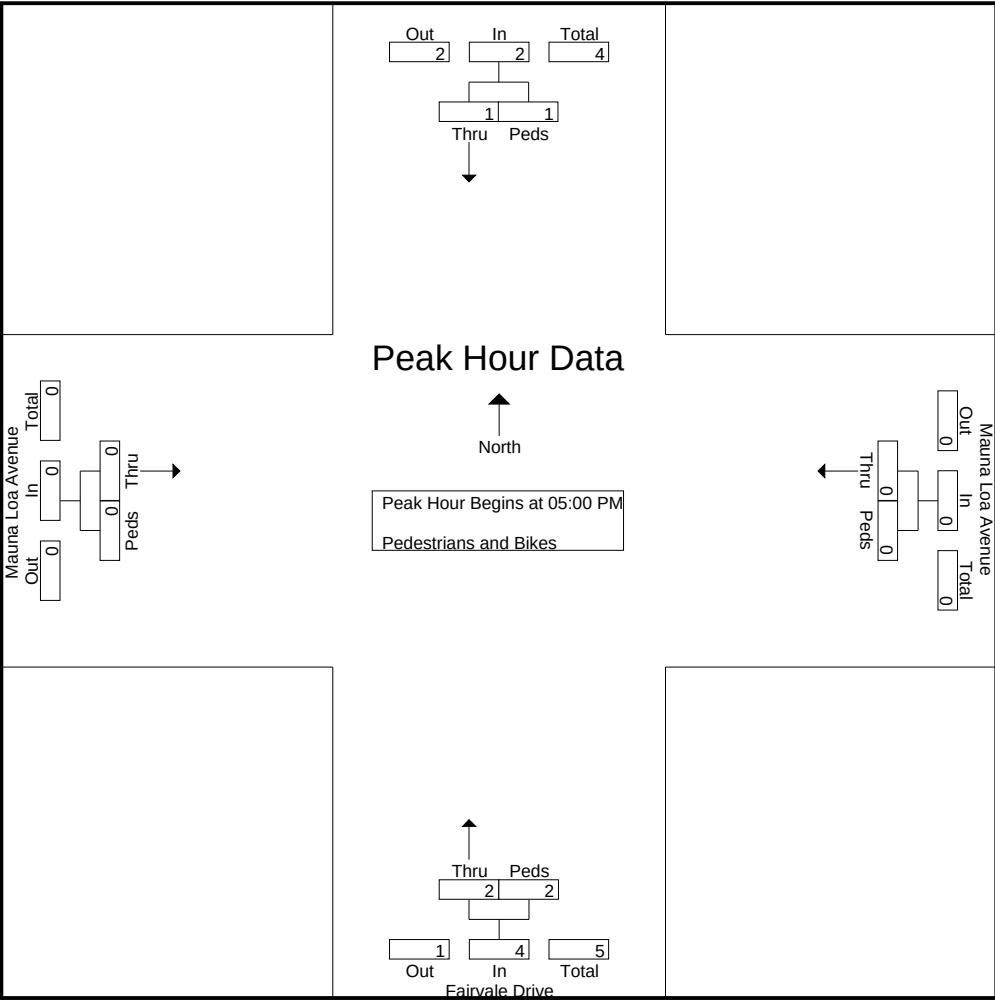
	North Leg			Mauna Loa Avenue East Leg			Fairvale Drive South Leg			Mauna Loa Avenue West Leg			
Start Time	Thru	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	1	2	0	0	0	0	0	0	0	0	0	2
Total Volume	1	1	2	0	0	0	0	0	0	0	0	0	2
% App. Total	50	50		0	0		0	0		0	0		
PHF	.250	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



CITY TRAFFIC COUNTERS
WWW.CTCOUNTERS.COM

File Name : FairvaleDr_MaunaLoaAve_BP
Site Code : 00000000
Start Date : 6/3/2025
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	North Leg			Mauna Loa Avenue East Leg			Fairvale Drive South Leg			Mauna Loa Avenue West Leg			
Start Time	Thru	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	1	2	0	0	0	1	1	2	0	0	0	4
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	1	1	2	0	0	0	2
Total Volume	1	1	2	0	0	0	2	2	4	0	0	0	6
% App. Total	50	50		0	0		50	50		0	0		
PHF	.250	.250	.250	.000	.000	.000	.500	.500	.500	.000	.000	.000	.375



CITY TRAFFIC COUNTERS
WWW.CTCOUNTERS.COM

File Name : CaleraAve_Route66
 Site Code : 00000000
 Start Date : 6/3/2025
 Page No : 1

Groups Printed- Vehicles

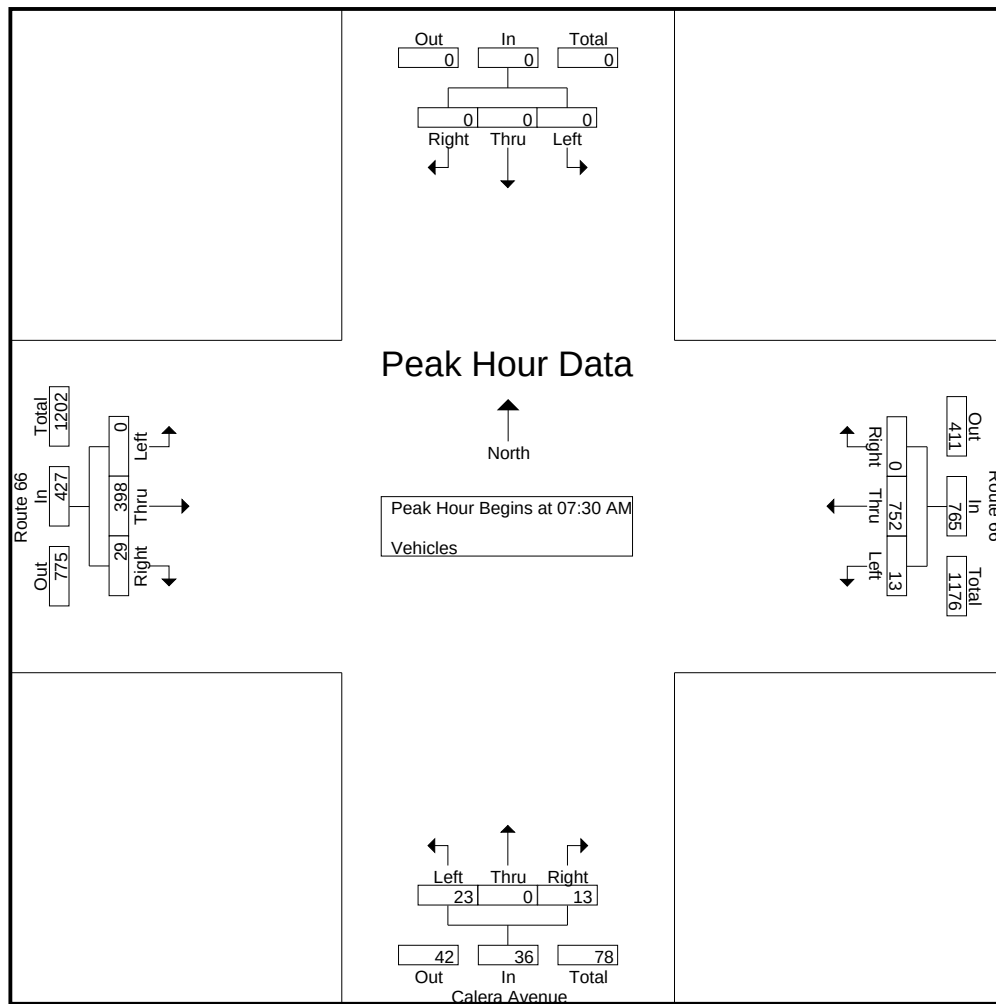
	Southbound			Route 66 Westbound			Calera Avenue Northbound			Route 66 Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	2	169	0	7	0	2	0	40	1	221
07:15 AM	0	0	0	1	200	0	4	0	1	0	51	2	259
07:30 AM	0	0	0	1	209	0	5	0	3	0	70	3	291
07:45 AM	0	0	0	5	201	0	8	0	1	0	92	9	316
Total	0	0	0	9	779	0	24	0	7	0	253	15	1087
08:00 AM	0	0	0	2	170	0	5	0	3	0	109	9	298
08:15 AM	0	0	0	5	172	0	5	0	6	0	127	8	323
08:30 AM	0	0	0	5	131	0	5	0	2	0	111	6	260
08:45 AM	0	0	0	3	130	0	2	0	7	0	115	4	261
Total	0	0	0	15	603	0	17	0	18	0	462	27	1142
04:00 PM	0	0	0	10	135	0	6	0	8	0	131	9	299
04:15 PM	0	0	0	6	123	0	5	0	7	0	149	10	300
04:30 PM	0	0	0	17	146	0	5	0	6	0	170	12	356
04:45 PM	0	0	0	11	124	0	6	0	11	0	160	16	328
Total	0	0	0	44	528	0	22	0	32	0	610	47	1283
05:00 PM	0	0	0	13	132	0	10	0	10	0	161	13	339
05:15 PM	0	0	0	14	108	0	11	0	11	0	190	16	350
05:30 PM	0	0	0	13	116	0	12	1	15	0	172	10	339
05:45 PM	0	0	0	6	105	0	15	0	8	0	127	12	273
Total	0	0	0	46	461	0	48	1	44	0	650	51	1301
Grand Total	0	0	0	114	2371	0	111	1	101	0	1975	140	4813
Apprch %	0	0	0	4.6	95.4	0	52.1	0.5	47.4	0	93.4	6.6	
Total %	0	0	0	2.4	49.3	0	2.3	0	2.1	0	41	2.9	

CITY TRAFFIC COUNTERS

WWW.CTCOUNTERS.COM

File Name : CaleraAve_Route66
 Site Code : 00000000
 Start Date : 6/3/2025
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	Southbound				Route 66 Westbound				Calera Avenue Northbound				Route 66 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	1	209	0	210	5	0	3	8	0	70	3	73	291
07:45 AM	0	0	0	0	5	201	0	206	8	0	1	9	0	92	9	101	316
08:00 AM	0	0	0	0	2	170	0	172	5	0	3	8	0	109	9	118	298
08:15 AM	0	0	0	0	5	172	0	177	5	0	6	11	0	127	8	135	323
Total Volume	0	0	0	0	13	752	0	765	23	0	13	36	0	398	29	427	1228
% App. Total	0	0	0	0	1.7	98.3	0		63.9	0	36.1		0	93.2	6.8		
PHF	.000	.000	.000	.000	.650	.900	.000	.911	.719	.000	.542	.818	.000	.783	.806	.791	.950

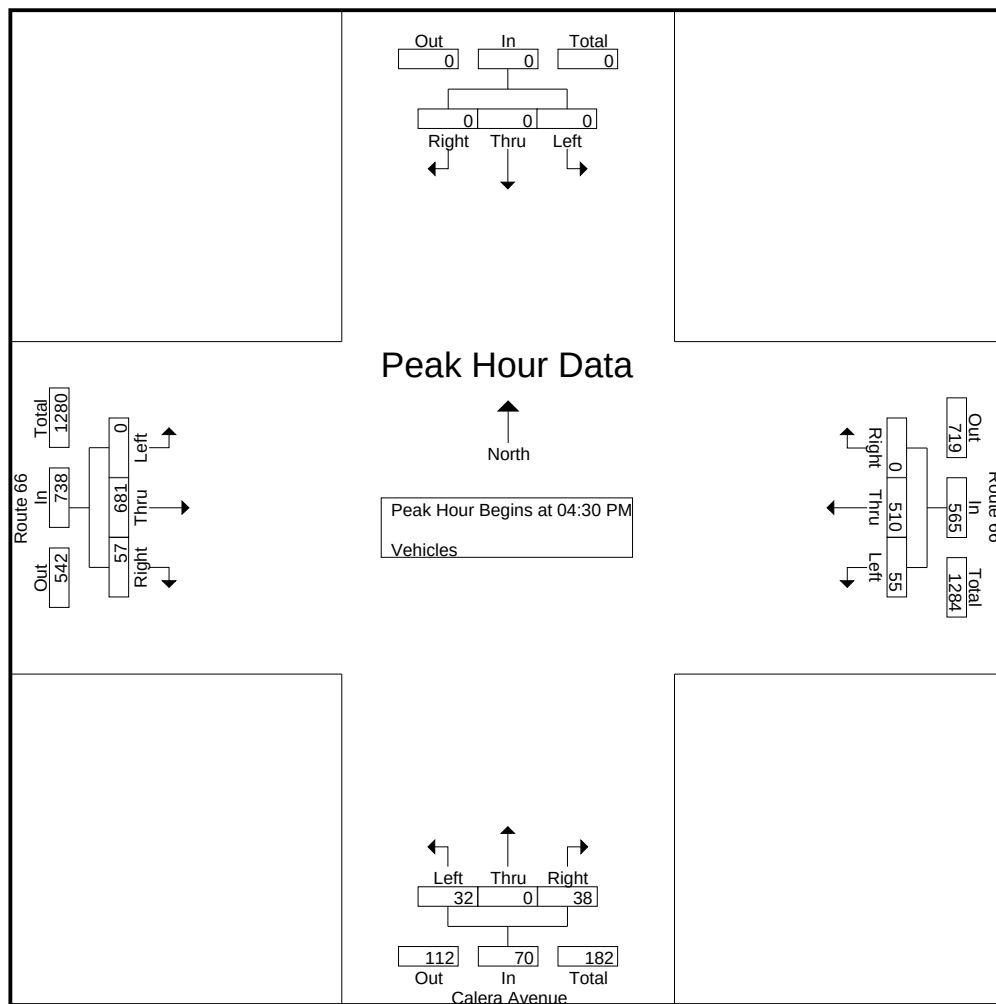


CITY TRAFFIC COUNTERS

WWW.CTCOUNTERS.COM

File Name : CaleraAve_Route66
 Site Code : 00000000
 Start Date : 6/3/2025
 Page No : 3

	Southbound				Route 66 Westbound				Calera Avenue Northbound				Route 66 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	17	146	0	163	5	0	6	11	0	170	12	182	356
04:45 PM	0	0	0	0	11	124	0	135	6	0	11	17	0	160	16	176	328
05:00 PM	0	0	0	0	13	132	0	145	10	0	10	20	0	161	13	174	339
05:15 PM	0	0	0	0	14	108	0	122	11	0	11	22	0	190	16	206	350
Total Volume	0	0	0	0	55	510	0	565	32	0	38	70	0	681	57	738	1373
% App. Total	0	0	0	0	9.7	90.3	0		45.7	0	54.3		0	92.3	7.7		
PHF	.000	.000	.000	.000	.809	.873	.000	.867	.727	.000	.864	.795	.000	.896	.891	.896	.964



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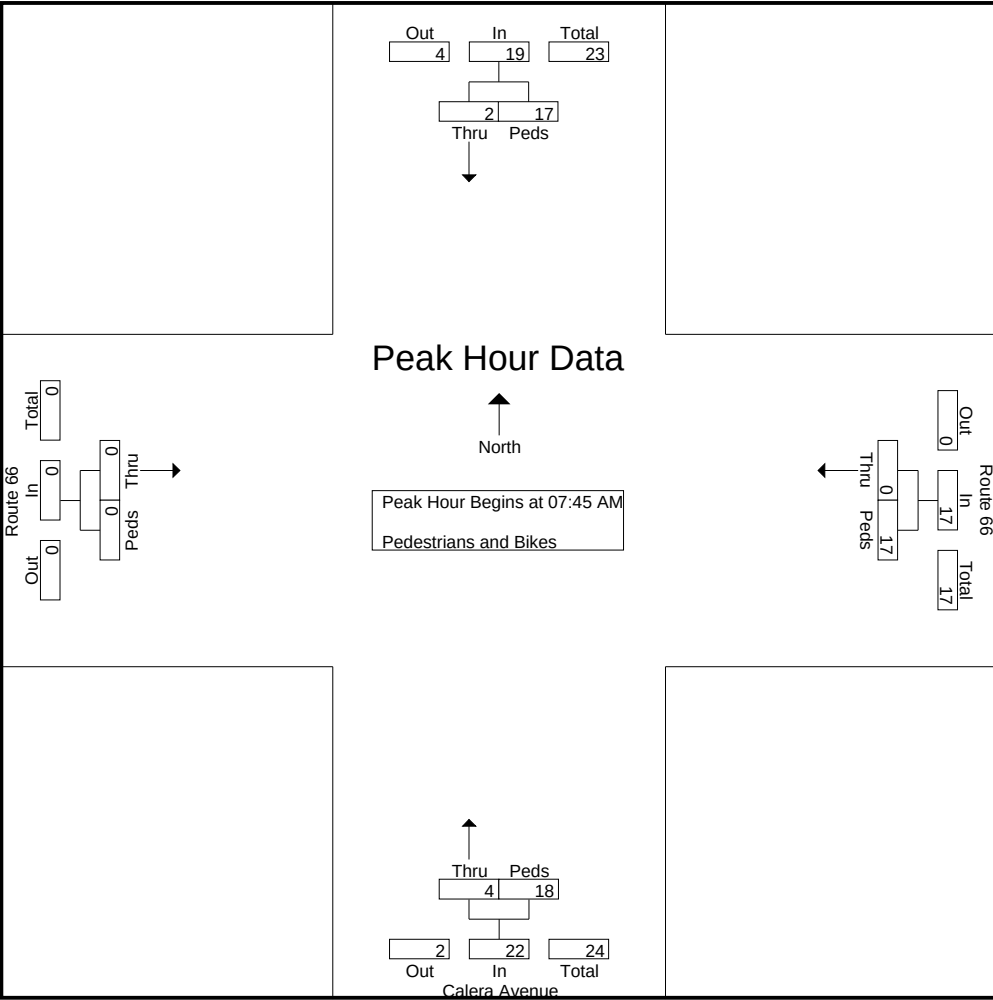
Groups Printed- Pedestrians and Bikes

	North Leg		Route 66 East Leg		Calera Avenue South Leg		Route 66 West Leg		
Start Time	Thru	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	Int. Total
07:00 AM	0	1	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	3	0	0	3
07:30 AM	0	3	0	0	1	2	0	0	6
07:45 AM	0	6	0	8	0	4	0	0	18
Total	0	10	0	8	1	9	0	0	28
08:00 AM	0	4	0	5	2	6	0	0	17
08:15 AM	2	2	0	1	1	6	0	0	12
08:30 AM	0	5	0	3	1	2	0	0	11
08:45 AM	2	3	0	2	0	3	1	0	11
Total	4	14	0	11	4	17	1	0	51
04:00 PM	2	1	1	2	1	3	0	0	10
04:15 PM	1	0	0	2	0	2	0	0	5
04:30 PM	1	3	0	3	0	0	0	0	7
04:45 PM	2	5	1	0	0	19	0	0	27
Total	6	9	2	7	1	24	0	0	49
05:00 PM	1	1	1	2	0	20	0	0	25
05:15 PM	1	2	0	0	1	3	0	0	7
05:30 PM	2	3	0	1	1	3	0	0	10
05:45 PM	1	3	1	1	1	2	0	0	9
Total	5	9	2	4	3	28	0	0	51
Grand Total	15	42	4	30	9	78	1	0	179
Apprch %	26.3	73.7	11.8	88.2	10.3	89.7	100	0	
Total %	8.4	23.5	2.2	16.8	5	43.6	0.6	0	

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	North Leg			Route 66 East Leg			Calera Avenue South Leg			Route 66 West Leg			
Start Time	Thru	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	0	6	6	0	8	8	0	4	4	0	0	0	18
08:00 AM	0	4	4	0	5	5	2	6	8	0	0	0	17
08:15 AM	2	2	4	0	1	1	1	6	7	0	0	0	12
08:30 AM	0	5	5	0	3	3	1	2	3	0	0	0	11
Total Volume	2	17	19	0	17	17	4	18	22	0	0	0	58
% App. Total	10.5	89.5		0	100		18.2	81.8		0	0		
PHF	.250	.708	.792	.000	.531	.531	.500	.750	.688	.000	.000	.000	.806

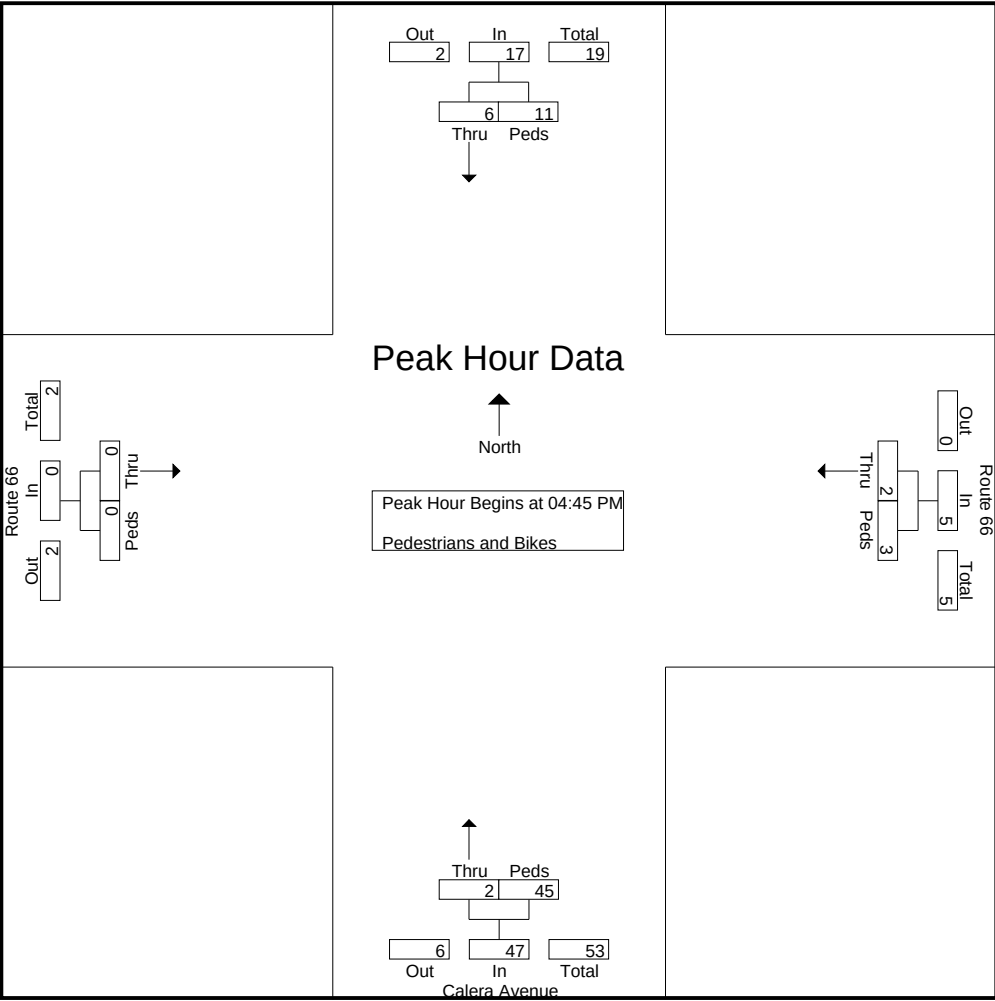


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	North Leg			Route 66 East Leg			Calera Avenue South Leg			Route 66 West Leg			
Start Time	Thru	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	2	5	7	1	0	1	0	19	19	0	0	0	27
05:00 PM	1	1	2	1	2	3	0	20	20	0	0	0	25
05:15 PM	1	2	3	0	0	0	1	3	4	0	0	0	7
05:30 PM	2	3	5	0	1	1	1	3	4	0	0	0	10
Total Volume	6	11	17	2	3	5	2	45	47	0	0	0	69
% App. Total	35.3	64.7		40	60		4.3	95.7		0	0		
PHF	.750	.550	.607	.500	.375	.417	.500	.563	.588	.000	.000	.000	.639



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Groups Printed- Vehicles

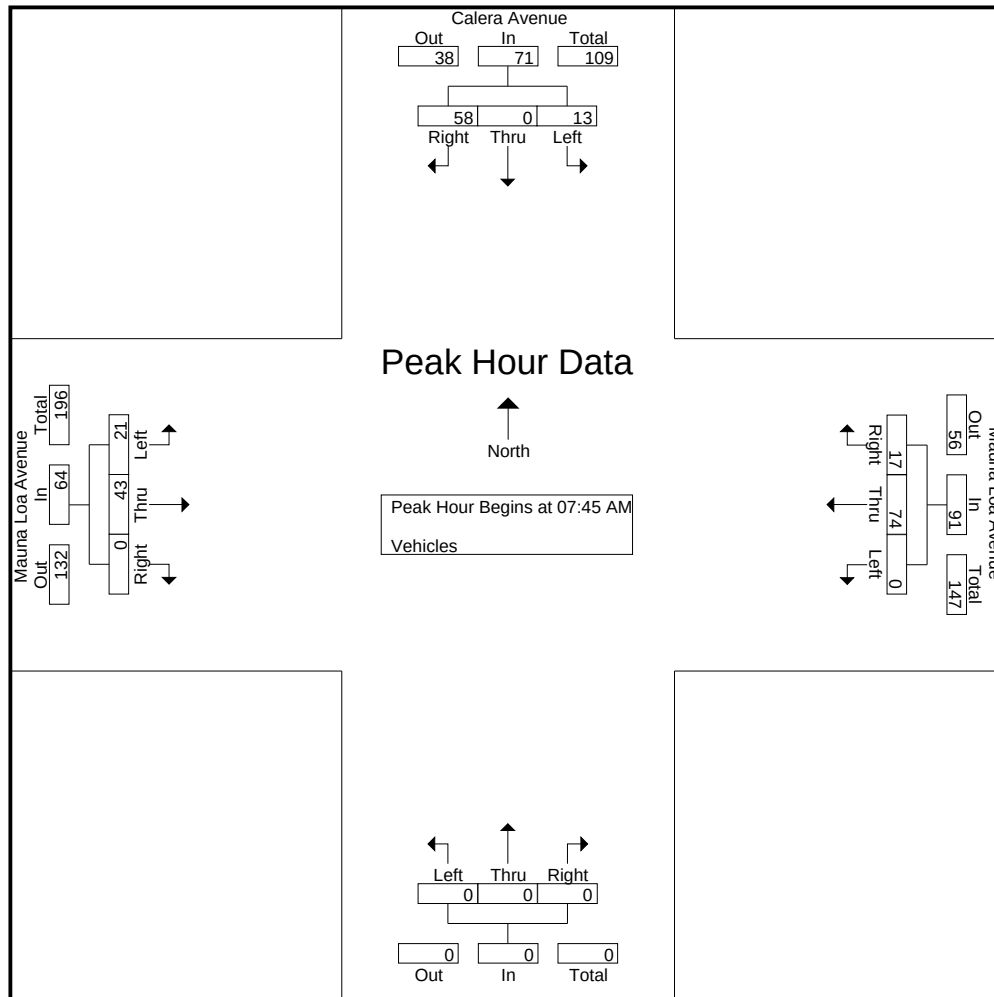
	Calera Avenue Southbound			Mauna Loa Avenue Westbound			Northbound			Mauna Loa Avenue Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	2	0	7	0	15	1	0	0	0	4	9	0	38
07:15 AM	0	0	17	0	23	1	0	0	0	9	7	0	57
07:30 AM	2	0	20	0	12	4	0	0	0	2	4	0	44
07:45 AM	2	0	18	0	22	4	0	0	0	5	7	0	58
Total	6	0	62	0	72	10	0	0	0	20	27	0	197
08:00 AM	3	0	13	0	16	4	0	0	0	6	15	0	57
08:15 AM	5	0	15	0	21	4	0	0	0	5	8	0	58
08:30 AM	3	0	12	0	15	5	0	0	0	5	13	0	53
08:45 AM	2	0	4	0	17	3	0	0	0	11	8	0	45
Total	13	0	44	0	69	16	0	0	0	27	44	0	213
04:00 PM	2	0	16	0	19	9	0	0	0	10	29	0	85
04:15 PM	8	0	15	0	7	7	0	0	0	17	21	0	75
04:30 PM	5	0	15	0	10	5	0	0	0	20	16	0	71
04:45 PM	7	0	18	0	17	6	0	0	0	14	20	0	82
Total	22	0	64	0	53	27	0	0	0	61	86	0	313
05:00 PM	11	0	16	0	16	12	0	0	0	15	23	0	93
05:15 PM	5	0	19	0	15	6	0	0	0	21	23	0	89
05:30 PM	8	0	11	0	14	6	0	0	0	16	13	0	68
05:45 PM	7	0	19	0	11	7	0	0	0	18	27	0	89
Total	31	0	65	0	56	31	0	0	0	70	86	0	339
Grand Total	72	0	235	0	250	84	0	0	0	178	243	0	1062
Apprch %	23.5	0	76.5	0	74.9	25.1	0	0	0	42.3	57.7	0	
Total %	6.8	0	22.1	0	23.5	7.9	0	0	0	16.8	22.9	0	

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	Calera Avenue Southbound				Mauna Loa Avenue Westbound				Northbound				Mauna Loa Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	0	18	20	0	22	4	26	0	0	0	0	5	7	0	12	58
08:00 AM	3	0	13	16	0	16	4	20	0	0	0	0	6	15	0	21	57
08:15 AM	5	0	15	20	0	21	4	25	0	0	0	0	5	8	0	13	58
08:30 AM	3	0	12	15	0	15	5	20	0	0	0	0	5	13	0	18	53
Total Volume	13	0	58	71	0	74	17	91	0	0	0	0	21	43	0	64	226
% App. Total	18.3	0	81.7		0	81.3	18.7		0	0	0		32.8	67.2	0		
PHF	.650	.000	.806	.888	.000	.841	.850	.875	.000	.000	.000	.000	.875	.717	.000	.762	.974

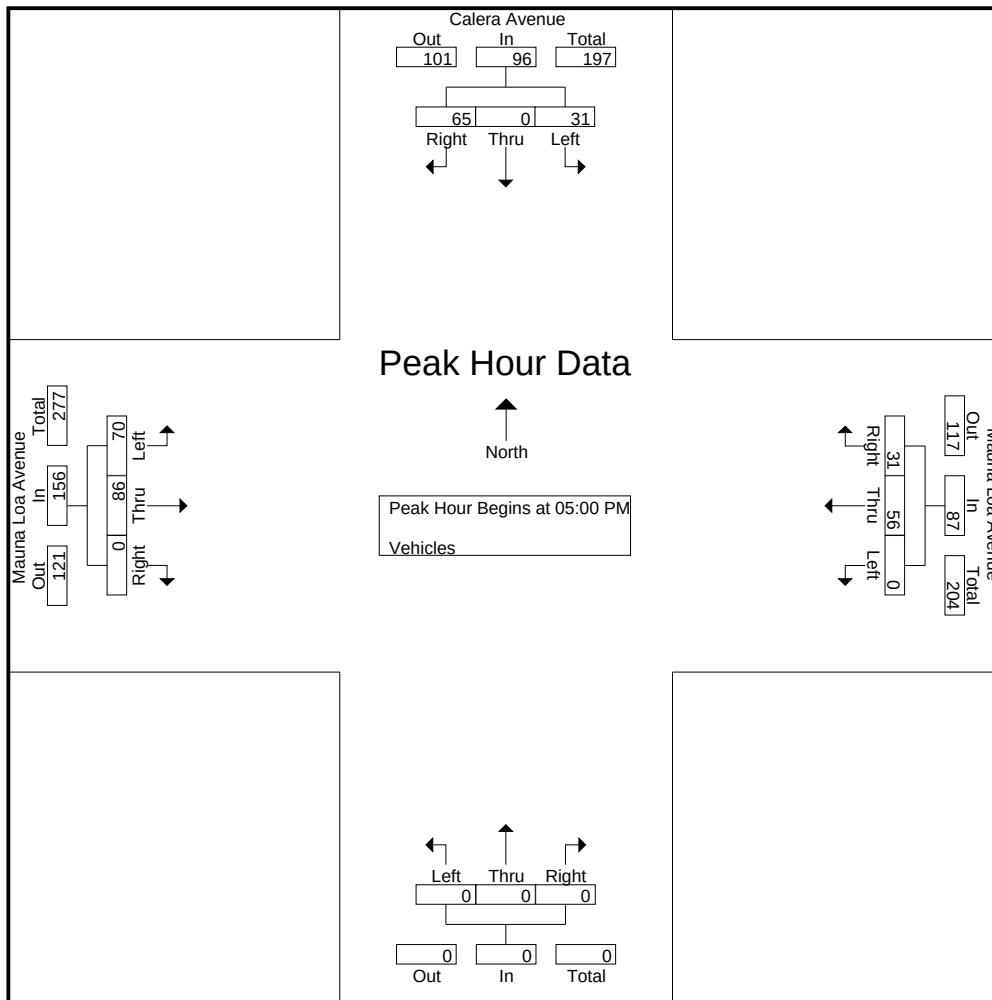


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	Calera Avenue Southbound				Mauna Loa Avenue Westbound				Northbound				Mauna Loa Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	11	0	16	27	0	16	12	28	0	0	0	0	15	23	0	38	93
05:15 PM	5	0	19	24	0	15	6	21	0	0	0	0	21	23	0	44	89
05:30 PM	8	0	11	19	0	14	6	20	0	0	0	0	16	13	0	29	68
05:45 PM	7	0	19	26	0	11	7	18	0	0	0	0	18	27	0	45	89
Total Volume	31	0	65	96	0	56	31	87	0	0	0	0	70	86	0	156	339
% App. Total	32.3	0	67.7		0	64.4	35.6		0	0	0		44.9	55.1	0		
PHF	.705	.000	.855	.889	.000	.875	.646	.777	.000	.000	.000	.000	.833	.796	.000	.867	.911



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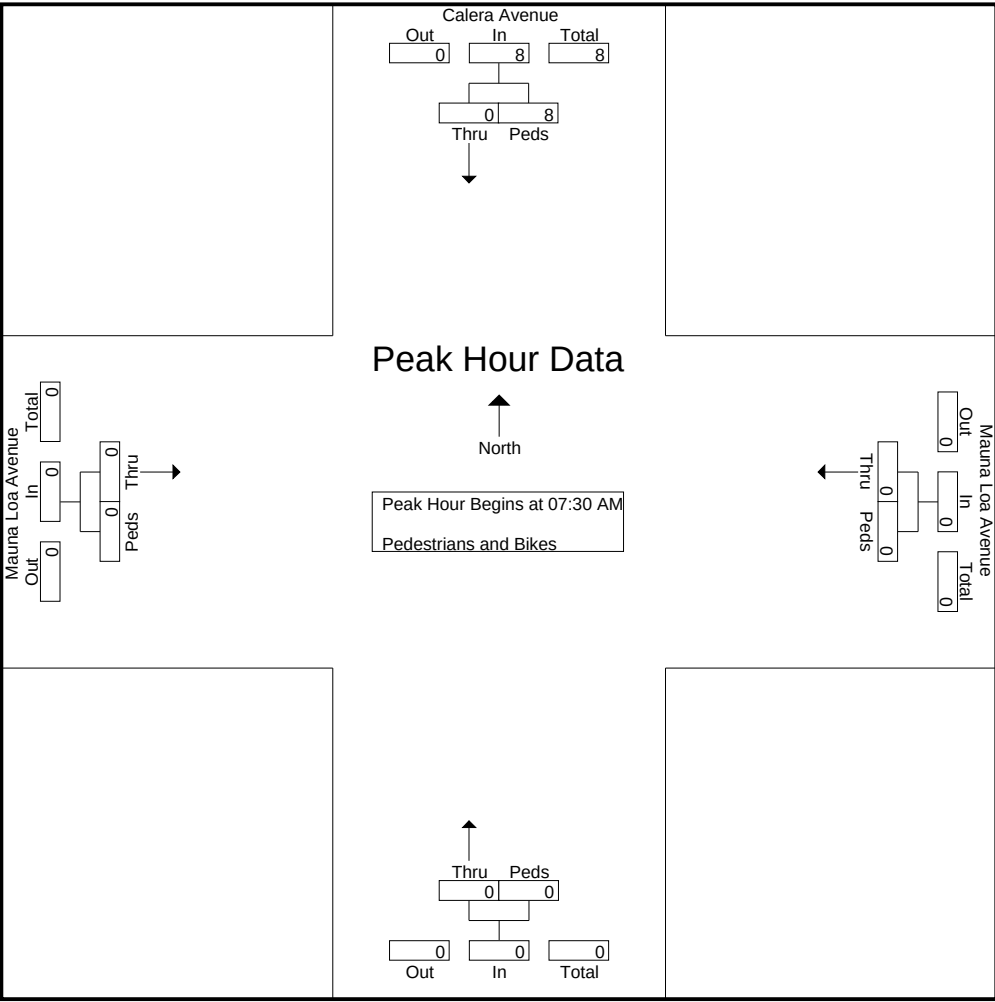
Groups Printed- Pedestrians and Bikes

	Calera Avenue North Leg		Mauna Loa Avenue East Leg		South Leg		Mauna Loa Avenue West Leg		
Start Time	Bikes	Peds	Bikes	Peds	Thru	Peds	Bikes	Peds	Int. Total
07:15 AM	0	1	0	0	0	0	0	0	1
07:30 AM	0	5	0	0	0	0	0	0	5
07:45 AM	0	1	0	0	0	0	0	0	1
Total	0	7	0	0	0	0	0	0	7
08:15 AM	0	2	0	0	0	0	0	0	2
Total	0	2	0	0	0	0	0	0	2
04:30 PM	1	1	0	0	0	0	0	0	2
Total	1	1	0	0	0	0	0	0	2
05:15 PM	1	1	0	0	0	0	0	0	2
05:30 PM	0	1	0	0	0	0	0	0	1
05:45 PM	0	2	0	0	0	0	0	0	2
Total	1	4	0	0	0	0	0	0	5
Grand Total	2	14	0	0	0	0	0	0	16
Apprch %	12.5	87.5	0	0	0	0	0	0	
Total %	12.5	87.5	0	0	0	0	0	0	

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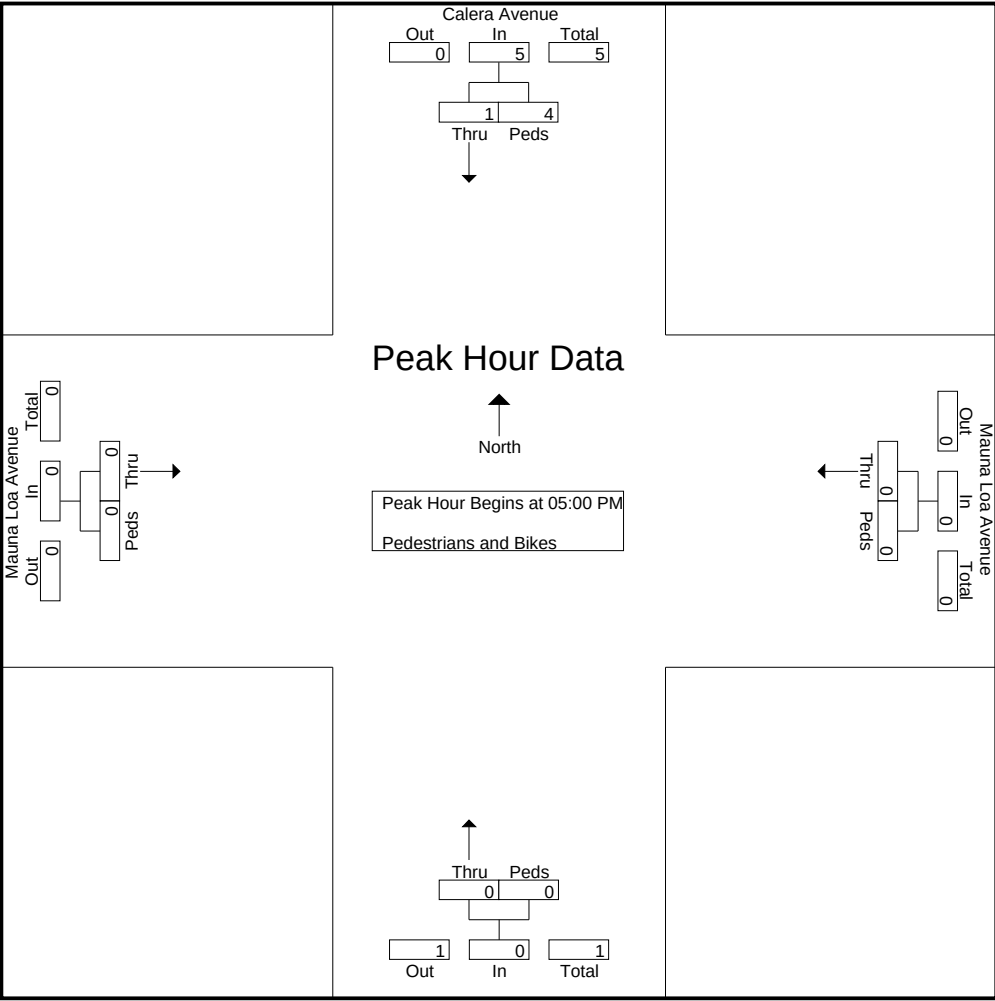
	Calera Avenue North Leg			Mauna Loa Avenue East Leg			South Leg			Mauna Loa Avenue West Leg			
Start Time	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Thru	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	5	5	0	0	0	0	0	0	0	0	0	5
07:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	2	2	0	0	0	0	0	0	0	0	0	2
Total Volume	0	8	8	0	0	0	0	0	0	0	0	0	8
% App. Total	0	100		0	0		0	0		0	0		
PHF	.000	.400	.400	.000	.000	.000	.000	.000	.000	.000	.000	.000	.400



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	Calera Avenue North Leg			Mauna Loa Avenue East Leg			South Leg			Mauna Loa Avenue West Leg			
Start Time	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Thru	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	1	2	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	2	2	0	0	0	0	0	0	0	0	0	2
Total Volume	1	4	5	0	0	0	0	0	0	0	0	0	5
% App. Total	20	80		0	0		0	0		0	0		
PHF	.250	.500	.625	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625



APPENDIX C

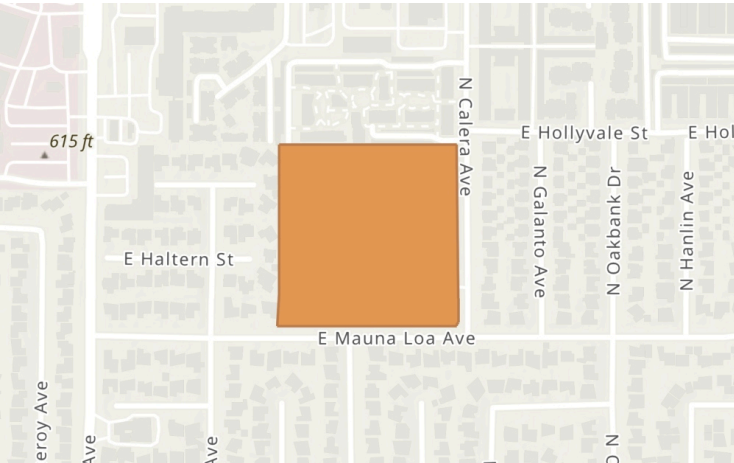
SGVCOG VMT EVALUATION TOOL WORKSHEETS

Project Details

Timestamp of Analysis	February 26, 2026, 09:32:53 AM
Project Name	Delaney Square
Project Description	128 DU

Project Location Map

jurisdiction:	APN	TAZ
Azusa	8628004900	22354100



Analysis Details

Data Version	SCAG Regional Travel Demand Model 2024
Analysis Methodology	TAZ
Target Baseline Year	2025

Project Land Use

Residential:	
Single Family DU:	0
Multifamily DU:	128
Total DUs:	128

Non-Residential:	
Office KSF:	0
Industrial KSF:	0
Local Serving Retail KSF:	0

Residential Affordability (percent of all units):	
Low Income:	0 %

Parking:	
Motor Vehicle Parking:	326
Bicycle Parking:	0

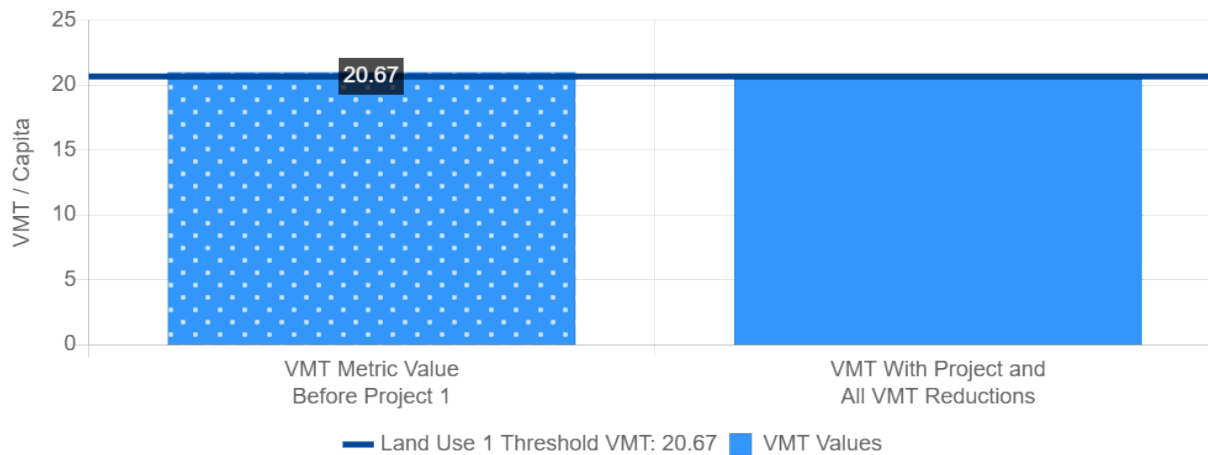
Proximity Transit Screening

Inside a transit priority area?	Yes
---------------------------------	-----

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type	Residential
VMT Metric	Home-Based VMT per Capita
VMT Baseline Description	Northeast
VMT Baseline Value	24.32
VMT Threshold Description / Threshold Value	-15% / 20.67

Summary	Project Without TDM Reduction	Project With TDM Reduction
Project Generated Vehicle Miles Traveled (VMT) Rate	21.01	20.53
Screening Results	Yes (Pass)	Yes (Pass)



SGVCOG VMT Evaluation Tool Report



INDIVIDUAL MEASURE REDUCTION RESULTS	VMT REDUCTION
LAND USE	
T-01 Increase Residential Density (P/S)	Not Selected
Residential density of project development (du/acre)	-
T-02 Increase Job Density (P/S)	Not Selected
Job density of project development (jobs/acre)	-
T-03 Provide Transit-Oriented Development (P/S)	Not Selected
T-04 Integrate Affordable and Below Market Rate Housing (P/S)	Not Selected
Percent of multifamily units permanently dedicated as affordable (%)	-
T-17 Improve Street Connectivity (P/C)	Not Selected
Intersection density in project site with measure (int/sq mile)	-

SGVCOG VMT Evaluation Tool Report



INDIVIDUAL MEASURE REDUCTION RESULTS	VMT REDUCTION
TRIP REDUCTION PROGRAM	
T-05 Implement Commute Trip Reduction Program - voluntary (P/S)	Not Selected
Percent of employees eligible for program (%)	-
T-06 Implement Commute Trip Reduction Program - mandatory (P/S)	Not Selected
Percent of employees eligible for program (%)	-
T-07 Implement Commute Trip Reduction Marketing - Employment Project (P/S)	Not Selected
Percent of employees eligible for program (%)	-
T-08 Provide Ride-Sharing Program - Employment Project (P/S)	Not Selected
Percent of employees eligible for program (%)	-
T-09 Implement Subsidized or Discounted Transit Program - Employment Project (P/S)	Not Selected
Average transit fare without subsidy (\$)	-
Subsidy amount (\$)	-
Percent of employees eligible for subsidy (%)	-
Percent of project-generated VMT from employees (%)	-
T-10 Provide End-of-Trip Bicycle Facilities (P/S)	Not Selected
Project provides shower, lockers, and bike parking	-
T-11 Provide Employer-Sponsored Vanpool (P/S)	Not Selected
T-12 Price Workplace Parking (P/S)	Not Selected
Proposed parking price per day (\$)	-
Baseline parking price per day (\$)	-
Share of employees paying for parking (%)	-
T-13 Implement Employee Parking Cashout (P/S)	Not Selected
Percent of employees eligible (%)	-
T-23 Provide Community-Based Travel Planning - Employment Project (P/S or P/C)	Not Selected
Scale of application	-
Employees in Project/Site or Plan/Community	-

Employees in Project/Site or Plan/Community targeted for CBTP	-
T-07 Implement Commute Trip Reduction Marketing - Residential Project (P/S)	Not Selected
Percent of residents eligible for program (%)	-
T-08 Provide Ride-Sharing Program - Residential Project (P/S)	Not Selected
Percent of residents eligible for program (%)	-
T-09 Implement Subsidized or Discounted Transit Program - Residential Project (P/S)	Not Selected
Average transit fare without subsidy (\$)	-
Subsidy amount (\$)	-
Percent of residents eligible for subsidy (%)	-
Percent of project-generated VMT from residents (%)	-
T-23 Provide Community-Based Travel Planning - Residential Project (P/S or P/C)	2.28%
Scale of application	Project/Site
Residences in Project/Site or Plan/Community	128
Residences in Project/Site or Plan/Community targeted for CBTP	128

SGVCOG VMT Evaluation Tool Report



INDIVIDUAL MEASURE REDUCTION RESULTS	VMT REDUCTION
PARKING OR ROAD PRICING MANAGEMENT	
T-15 Limit Residential Parking Supply (P/S)	Not Selected
Residential parking demand (parking space)	-
Project residential parking supply (parking space)	-
Percentage of project VMT generated by residents (%)	-
T-16 Unbundle Residential Parking Costs from Property Cost (P/S)	Not Selected
Annual Parking cost per space (\$/year)	-
T-24 Implement Market Price Public Parking - On-Street (P/C)	Not Selected
VMT in priced area without measure (VMT/day)	-
VMT in plan/community without measure (VMT/day)	-
Proposed parking price (\$)	-
Initial parking price (\$)	-
Default percentage of trips parking on street (%)	-

SGVCOG VMT Evaluation Tool Report



INDIVIDUAL MEASURE REDUCTION RESULTS	VMT REDUCTION
NEIGHBORHOOD DESIGN	
T-18 Provide Pedestrian Network Improvement (P/S or P/C)	Not Selected
Existing sidewalk length in study area (miles)	-
Sidewalk length in study area with measure (miles)	-
T-19A Construct or Improve Bike Facility (P/S or P/C)	Not Selected
Percent of Plan/Community VMT on parallel roadway (%)	-
Average Daily Traffic on parallel roadway (vehicle trips per day)	-
One-way facility length (mile)	-
Adjustment factor for population (Population greater or less than 250k, Identified as university town (UT) or non-university town (NUT))	-
Number of key destinations within 0.5 mile	-
Facility type	-
T-19B Construct or Improve Bike Boulevard (P/S or P/C)	Not Selected
Percent of plan/community vmt on roadway to have bicycle boulevard (%)	-
T-20 Expand Bikeway Network	Not Selected
Existing bikeway miles in plan/community (miles)	-
Bikeway miles in plan/community with measure (miles)	-
T-21A Implement Conventional Carshare Program (P/C)	Not Selected
Number of vehicles deployed in plan/community	-
VMT in plan/community without measure (VMT per day)	-
T-21B Implement Electric Carshare Program (P/C)	Not Selected
Number of vehicles deployed in plan/community	-
VMT in plan/community without measure (VMT per day)	-
T-22A Implement Pedal (Non-electric) Bikeshare Program (P/C)	Not Selected
Percent of residence with access to bikeshare without measure (%)	-
Percent of residence with access to bikeshare with measure (%)	-
T-22B Implement (Electric) Bikeshare Program (P/C)	Not Selected
Percent of residence with access to electric bikeshare without measure (%)	-

Percent of residence with access to electric bikeshare with measure (%)	-
T-22C Implement Scootershare Program (P/S)	Not Selected
Percent of residence with access to scootershare without measure (%)	-
Percent of residence with access to scootershare with measure (%)	-

SGVCOG VMT Evaluation Tool Report



INDIVIDUAL MEASURE REDUCTION RESULTS	VMT REDUCTION
TRANSIT	
T-25 Extend Transit Network Coverage or Hours (P/S)	Not Selected
Transit miles before expansion (miles)	-
Transit miles after expansion (miles)	-
T-26 Increase Transit Service Frequency (P/C)	Not Selected
Percent increase in transit frequency (%)	-
Total daily person trips in corridor (trips/day)	-
Vehicle trip length (miles/trip)	-
Bus frequency without measure (round trips/hour)	-
Bus frequency with measure (round trips/hour)	-
Bus hours of operation (hour)	-
Bus route one-way length (miles/route)	-
T-27 Implement Transit-Supportive Roadway Treatment (P/C)	Not Selected
Percent of plan/community transit routes that receive treatment (%)	-
T-28 Provide Bus Rapid Transit (P/C)	Not Selected
Percent increase in transit frequency due to BRT (%)	-
Percent change in transit travel time due to BRT (%)	-
Total daily person trips in corridor (trips/day)	-
Vehicle trip length (miles/trip)	-
Bus frequency without measure (round trips/hour)	-
Bus frequency with measure (round trips/hour)	-
BRT hours of operation (hours/day)	-
BRT route one-way length (miles)	-
T-29 Reduce Transit Fare (P/C)	Not Selected
Percent reduction in transit fare with measure (%)	-
Percent of Plan/Community transit routes that receive reduced fare (%)	-

APPENDIX D

ICU AND HCM LEVELS OF SERVICE EXPLANATION LOS CALCULATION WORKSHEETS – WEEKDAY AM AND PM PEAK HOURS

INTERSECTION CAPACITY UTILIZATION (ICU) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Levels of Service concept denotes any one of a number of differing combinations of operating conditions which may occur as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*, published by the Transportation Research Board. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

The Intersection Capacity Utilization (ICU) method of intersection capacity analysis has been used in our studies. It directly relates traffic demand and available capacity for key intersection movements, regardless of present signal timing. The capacity per hour of green time for each approach is calculated based on the methods of the *Highway Capacity Manual*. The proportion of total signal time needed by each key movement is determined and compared to the total time available (100 percent of the hour). The result of summing the requirements of the conflicting key movements plus an allowance for clearance times is expressed as a decimal fraction. Conflicting key traffic movements are those opposing movements whose combined green time requirements are greatest.

The resulting ICU represents the proportion of the total hour required to accommodate intersection demand volumes if the key conflicting traffic movements are operating at capacity. Other movements may be operating near capacity, or may be operating at significantly better levels. The ICU may be translated to a Level of Service as tabulated below.

The Levels of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding ICU and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Intersection Capacity Utilization Characteristics		
Level of Service	Load Factor	Equivalent ICU
A	0.0	0.00 - 0.60
B	0.0 - 0.1	0.61 - 0.70
C	0.1 - 0.3	0.71 - 0.80
D	0.3 - 0.7	0.81 - 0.90
E	0.7 - 1.0	0.91 - 1.00
F	Not Applicable	Not Applicable

SERVICE LEVEL A

There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

SERVICE LEVEL B

This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

SERVICE LEVEL C

At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more than one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

SERVICE LEVEL D

This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

SERVICE LEVEL E

This represents near capacity and capacity operation. At capacity (ICU = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

SERVICE LEVEL F

Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)*, published by the Transportation Research Board, 2000, level of service for unsignalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, in the absence of incidents, control, traffic, or geometric delay. Only the portion of total delay attributed to the traffic control measures, either traffic signals or stop signs, is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for unsignalized intersections are stated in terms of the average control delay per vehicle. The level of service is determined by the computed or measured control delay and is defined for each minor movement. Average control delay for any particular minor movement is a function of the service time for the approach and the degree of utilization. (Level of service is not defined for the intersection as a whole for two-way stop controlled intersections.)

Level of Service Criteria for TWSC/AWSC Intersections	
Level of Service	Average Control Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

LOS A describes operations with very low control delay, up to 10 seconds per vehicle.

LOS B describes operations with control delay greater than 10 and up to 15 seconds per vehicle.

LOS C describes operations with control delay greater than 15 and up to 25 seconds per vehicle.

LOS D describes operations with control delay greater than 25 and up to 35 seconds per vehicle.

LOS E describes operations with control delay greater than 35 and up to 50 seconds per vehicle.

LOS F describes operations with control delay in excess of 50 seconds per vehicle. For two-way stop controlled intersections, LOS F exists when there are insufficient gaps of suitable size to allow side-street demand to safely cross through a major-street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches.

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INTERSECTION CAPACITY UTILIZATION

N. Citrus Avenue @ E. Mauna Loa Avenue
 Peak hr: AM
 Annual Growth: 0.40%
 Applied Growth: 1.20%

Date: 5/22/2026
 Existing Year: 2025
 Projection Year: 2028

N-S St: N. Citrus Avenue
 E-W St: E. Mauna Loa Avenue
 Project: Delaney Square Project\1-25-4688-1
 File: ICU1

Signalized

2025 EXISTING TRAFFIC				2028 FUTURE PRE-PROJECT					2028 FUTURE WITH PROJECT			
Movement	1	2	V/C	Added	Added	Total	2	V/C	Added	Total	2	V/C
	Volume	Capacity	Ratio	Amb. Grow.	Rel. Proj.		Capacity	Ratio			Capacity	Ratio
NB Left	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
NB Thru	711	3200	0.238 *	9	3	723	3200	0.243 *	0	723	3200	0.231 *
NB Right	52	0	0.000	1	0	53	0	0.000	-36	17	0	0.000
SB Left	45	1600	0.028 *	1	0	46	1600	0.029 *	-10	36	1600	0.023 *
SB Thru	468	3200	0.146	6	1	475	3200	0.148	0	475	3200	0.148
SB Right	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Thru	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Right	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
WB Left	102	1600	0.064	1	0	103	1600	0.064	-21	82	1600	0.051
WB Thru	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
WB Right	78	1600	0.049	1	0	79	1600	0.049	-6	73	1600	0.046
Yellow Allowance			0.100 *									0.100 *
ICU			0.430									0.436
LOS			A									0.405
												A

* Key conflicting movement as a part of ICU
 1 Counts conducted by: City Traffic Counters
 2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N. Citrus Avenue @ E. Mauna Loa Avenue
 Peak hr: PM
 Annual Growth: 0.40%
 Applied Growth: 1.20%

Date: 5/22/2026
 Existing Year: 2025
 Projection Year: 2028

N-S St: N. Citrus Avenue
 E-W St: E. Mauna Loa Avenue
 Project: Delaney Square Project\1-25-4688-1
 File: ICU1

Signalized

2025 EXISTING TRAFFIC				2028 FUTURE PRE-PROJECT					2028 FUTURE WITH PROJECT			
Movement	1	2	V/C	Added	Added	Total	2	V/C	Added	Total	2	V/C
	Volume	Capacity	Ratio	Amb. Grow.	Rel. Proj.		Capacity	Ratio	Volume	Volume	Capacity	Ratio
NB Left	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
NB Thru	593	3200	0.207 *	7	1	601	3200	0.209 *	0	601	3200	0.212 *
NB Right	68	0	0.000	1	0	69	0	0.000	7	76	0	0.000
SB Left	101	1600	0.063 *	1	0	102	1600	0.064 *	2	104	1600	0.065 *
SB Thru	735	3200	0.230	9	2	746	3200	0.233	0	746	3200	0.233
SB Right	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Thru	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Right	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
WB Left	76	1600	0.048	1	0	77	1600	0.048	0	77	1600	0.048
WB Thru	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
WB Right	64	1600	0.040	1	0	65	1600	0.041	0	65	1600	0.041
Yellow Allowance			0.100 *	0.100 *					0.100 *			
ICU			0.417	0.421					0.425			
LOS			A	A					A			

* Key conflicting movement as a part of ICU
 1 Counts conducted by: City Traffic Counters
 2 Capacity expressed in veh/hour of green

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	74	3	4	161	5	5
Future Vol, veh/h	74	3	4	161	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	3	4	175	5	5
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	84	0	266	82
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	184	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1513	-	723	978
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	848	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1513	-	721	978
Mov Cap-2 Maneuver	-	-	-	-	721	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	845	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.18		9.4	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	830	-	-	44	-	
HCM Lane V/C Ratio	0.013	-	-	0.003	-	
HCM Control Delay (s/veh)	9.4	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	162	7	7	116	6	1
Future Vol, veh/h	162	7	7	116	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	176	8	8	126	7	1
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	184	0	321	180
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1391	-	672	863
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1391	-	668	863
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	880	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.43		10.27	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	691	-	-	102	-	
HCM Lane V/C Ratio	0.011	-	-	0.005	-	
HCM Control Delay (s/veh)	10.3	-	-	7.6	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	75	3	4	163	0	5	0	5	0	0	0
Future Vol, veh/h	0	75	3	4	163	0	5	0	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	82	3	4	177	0	5	0	5	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	177	0	0	85	0	0	269	269	83	267	271	177
Stage 1	-	-	-	-	-	-	83	83	-	186	186	-
Stage 2	-	-	-	-	-	-	186	186	-	82	85	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1399	-	-	1512	-	-	684	637	976	685	636	866
Stage 1	-	-	-	-	-	-	925	826	-	816	746	-
Stage 2	-	-	-	-	-	-	816	746	-	927	825	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1399	-	-	1512	-	-	681	635	976	679	634	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	681	635	-	679	634	-
Stage 1	-	-	-	-	-	-	925	826	-	813	744	-
Stage 2	-	-	-	-	-	-	813	744	-	922	825	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.18	9.55	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	803	1399	-	-	43	-	-	-
HCM Lane V/C Ratio	0.014	-	-	-	0.003	-	-	-
HCM Control Delay (s/veh)	9.5	0	-	-	7.4	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	164	7	7	117	0	6	0	1	0	0	0
Future Vol, veh/h	0	164	7	7	117	0	6	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	178	8	8	127	0	7	0	1	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	127	0	0	186	0	0	324	324	182	321	328	127
Stage 1	-	-	-	-	-	-	182	182	-	142	142	-
Stage 2	-	-	-	-	-	-	142	142	-	178	186	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1459	-	-	1389	-	-	629	593	860	632	591	923
Stage 1	-	-	-	-	-	-	820	749	-	860	779	-
Stage 2	-	-	-	-	-	-	860	779	-	824	746	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1459	-	-	1389	-	-	625	590	860	628	587	923
Mov Cap-2 Maneuver	-	-	-	-	-	-	625	590	-	628	587	-
Stage 1	-	-	-	-	-	-	820	749	-	855	774	-
Stage 2	-	-	-	-	-	-	855	774	-	822	746	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0.43			10.6			0		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	650	1459	-	-	102	-	-	-				
HCM Lane V/C Ratio	0.012	-	-	-	0.005	-	-	-				
HCM Control Delay (s/veh)	10.6	0	-	-	7.6	0	-	0				
HCM Lane LOS	B	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-				

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	75	3	4	163	2	5	0	5	8	0	18
Future Vol, veh/h	5	75	3	4	163	2	5	0	5	8	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	82	3	4	177	2	5	0	5	9	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	179	0	0	85	0	0	280	282	83	279	283	178
Stage 1	-	-	-	-	-	-	94	94	-	187	187	-
Stage 2	-	-	-	-	-	-	186	188	-	92	96	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1396	-	-	1512	-	-	672	627	976	673	626	865
Stage 1	-	-	-	-	-	-	913	817	-	815	745	-
Stage 2	-	-	-	-	-	-	816	744	-	915	816	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1396	-	-	1512	-	-	652	622	976	664	622	865
Mov Cap-2 Maneuver	-	-	-	-	-	-	652	622	-	664	622	-
Stage 1	-	-	-	-	-	-	909	814	-	812	743	-
Stage 2	-	-	-	-	-	-	795	742	-	906	812	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 0.46		0.17	9.67	9.72
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	782	108	-	-	43	-	-	791
HCM Lane V/C Ratio	0.014	0.004	-	-	0.003	-	-	0.036
HCM Control Delay (s/veh)	9.7	7.6	0	-	7.4	0	-	9.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	164	7	7	117	8	6	0	1	5	0	11
Future Vol, veh/h	18	164	7	7	117	8	6	0	1	5	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	178	8	8	127	9	7	0	1	5	0	12
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	136	0	0	186	0	0	364	372	182	364	372	132
Stage 1	-	-	-	-	-	-	221	221	-	147	147	-
Stage 2	-	-	-	-	-	-	142	151	-	217	225	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1448	-	-	1389	-	-	592	558	860	592	558	918
Stage 1	-	-	-	-	-	-	781	720	-	856	776	-
Stage 2	-	-	-	-	-	-	860	772	-	785	718	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1448	-	-	1389	-	-	572	546	860	579	547	918
Mov Cap-2 Maneuver	-	-	-	-	-	-	572	546	-	579	547	-
Stage 1	-	-	-	-	-	-	769	709	-	851	771	-
Stage 2	-	-	-	-	-	-	844	768	-	772	707	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v 0.72				0.4			11.07			9.75		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	601	170	-	-	94	-	-	776				
HCM Lane V/C Ratio	0.013	0.014	-	-	0.005	-	-	0.022				
HCM Control Delay (s/veh)	11.1	7.5	0	-	7.6	0	-	9.7				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1				

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INTERSECTION CAPACITY UTILIZATION

N. Calera Avenue @ Historic Rte 66

Peak hr: AM
 Annual Growth: 0.40%
 Applied Growth: 1.20%

Date: 5/22/2026
 Existing Year: 2025
 Projection Year: 2028

N-S St: N. Calera Avenue
 E-W St: Historic Rte 66
 Project: Delaney Square Project\1-25-4688-1
 File: ICU3

Signalized

2025 EXISTING TRAFFIC				2028 FUTURE PRE-PROJECT					2028 FUTURE WITH PROJECT			
Movement	1	2	V/C	Added	Added	Total	2	V/C	Added	Total	2	V/C
	Volume	Capacity	Ratio	Amb. Grow.	Rel. Proj.		Capacity	Ratio	Volume	Volume	Capacity	Ratio
NB Left	48	0	0.030	1	0	49	0	0.031	-6	43	0	0.027
NB Thru	0	1600	0.054 *	0	0	0	1600	0.054 *	0	0	1600	0.041 *
NB Right	38	0	0.000	0	0	38	0	0.000	-15	23	0	0.000
SB Left	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *
SB Thru	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
SB Right	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *
EB Thru	398	3200	0.143	5	1	404	3200	0.145	0	404	3200	0.142
EB Right	58	0	0.000	1	0	59	0	0.000	-10	49	0	0.000
WB Left	42	1600	0.026	1	0	43	1600	0.027	-26	17	1600	0.011
WB Thru	752	3200	0.235 *	9	3	764	3200	0.239 *	0	764	3200	0.239 *
WB Right	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.000 *	0.000 *					0.000 *			
ICU			0.289	0.293					0.280			
LOS			A	A					A			

* Key conflicting movement as a part of ICU
 1 Counts conducted by: City Traffic Counters
 2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N. Calera Avenue @ Historic Rte 66

Peak hr: PM

Annual Growth: 0.40%

Applied Growth: 1.20%

Date: 5/22/2026

Existing Year: 2025

Projection Year: 2028

N-S St: N. Calera Avenue
 E-W St: Historic Rte 66
 Project: Delaney Square Project\1-25-4688-1
 File: ICU3

Signalized

2025 EXISTING TRAFFIC				2028 FUTURE PRE-PROJECT					2028 FUTURE WITH PROJECT			
Movement	1	2	V/C	Added	Added	Total	2	V/C	Added	Total	2	V/C
	Volume	Capacity	Ratio	Amb. Grow. Volume	Rel. Proj. Volume		Capacity	Ratio	Volume	Volume	Capacity	Ratio
NB Left	38	0	0.024	0	0	38	0	0.024	0	38	0	0.024
NB Thru	0	1600	0.051 *	0	0	0	1600	0.052 *	0	0	1600	0.052 *
NB Right	44	0	0.000	1	0	45	0	0.000	0	45	0	0.000
SB Left	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *
SB Thru	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
SB Right	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
EB Thru	681	3200	0.232 *	8	2	691	3200	0.236 *	0	691	3200	0.236 *
EB Right	62	0	0.000	1	0	63	0	0.000	2	65	0	0.000
WB Left	60	1600	0.038 *	1	0	61	1600	0.038 *	5	66	1600	0.041 *
WB Thru	510	3200	0.159	6	1	517	3200	0.162	0	517	3200	0.162
WB Right	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.000 *	0.000 *					0.000 *			
ICU			0.321	0.326					0.329			
LOS			A	A					A			

* Key conflicting movement as a part of ICU

1 Counts conducted by: City Traffic Counters

2 Capacity expressed in veh/hour of green

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	43	74	49	40	76
Future Vol, veh/h	42	43	74	49	40	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	47	80	53	43	83
Number of Lanes	0	1	1	0	1	0
Approach	EB	WB		SB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left	SB			WB		
Conflicting Lanes Left	1	0		1		
Conflicting Approach Right		SB		EB		
Conflicting Lanes Right	0	1		1		
HCM Control Delay, s/veh	8	7.8		7.8		
HCM LOS	A	A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	49%	0%	34%
Vol Thru, %	51%	60%	0%
Vol Right, %	0%	40%	66%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	85	123	116
LT Vol	42	0	40
Through Vol	43	74	0
RT Vol	0	49	76
Lane Flow Rate	92	134	126
Geometry Grp	1	1	1
Degree of Util (X)	0.112	0.148	0.144
Departure Headway (Hd)	4.359	3.987	4.105
Convergence, Y/N	Yes	Yes	Yes
Cap	810	885	879
Service Time	2.45	2.078	2.105
HCM Lane V/C Ratio	0.114	0.151	0.143
HCM Control Delay, s/veh	8	7.8	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.5	0.5

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	74	86	56	37	38	70
Future Vol, veh/h	74	86	56	37	38	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	93	61	40	41	76
Number of Lanes	0	1	1	0	1	0
Approach	EB	WB		SB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left	SB			WB		
Conflicting Lanes Left	1	0		1		
Conflicting Approach Right		SB		EB		
Conflicting Lanes Right	0	1		1		
HCM Control Delay, s/veh	8.6	7.7		7.9		
HCM LOS	A	A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	0%	35%
Vol Thru, %	54%	60%	0%
Vol Right, %	0%	40%	65%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	160	93	108
LT Vol	74	0	38
Through Vol	86	56	0
RT Vol	0	37	70
Lane Flow Rate	174	101	117
Geometry Grp	1	1	1
Degree of Util (X)	0.208	0.116	0.138
Departure Headway (Hd)	4.311	4.142	4.225
Convergence, Y/N	Yes	Yes	Yes
Cap	821	868	852
Service Time	2.403	2.152	2.23
HCM Lane V/C Ratio	0.212	0.116	0.137
HCM Control Delay, s/veh	8.6	7.7	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.4	0.5

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	44	75	50	40	77
Future Vol, veh/h	43	44	75	50	40	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	48	82	54	43	84
Number of Lanes	0	1	1	0	1	0
Approach	EB	WB		SB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left	SB			WB		
Conflicting Lanes Left	1	0		1		
Conflicting Approach Right		SB		EB		
Conflicting Lanes Right	0	1		1		
HCM Control Delay, s/veh	8	7.8		7.8		
HCM LOS	A	A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	49%	0%	34%
Vol Thru, %	51%	60%	0%
Vol Right, %	0%	40%	66%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	87	125	117
LT Vol	43	0	40
Through Vol	44	75	0
RT Vol	0	50	77
Lane Flow Rate	95	136	127
Geometry Grp	1	1	1
Degree of Util (X)	0.115	0.151	0.145
Departure Headway (Hd)	4.363	3.99	4.114
Convergence, Y/N	Yes	Yes	Yes
Cap	809	885	877
Service Time	2.454	2.082	2.114
HCM Lane V/C Ratio	0.117	0.154	0.145
HCM Control Delay, s/veh	8	7.8	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.5	0.5

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	75	87	57	37	38	71
Future Vol, veh/h	75	87	57	37	38	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	95	62	40	41	77
Number of Lanes	0	1	1	0	1	0
Approach	EB	WB		SB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left	SB			WB		
Conflicting Lanes Left	1	0		1		
Conflicting Approach Right		SB		EB		
Conflicting Lanes Right	0	1		1		
HCM Control Delay, s/veh	8.6	7.7		7.9		
HCM LOS	A	A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	0%	35%
Vol Thru, %	54%	61%	0%
Vol Right, %	0%	39%	65%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	162	94	109
LT Vol	75	0	38
Through Vol	87	57	0
RT Vol	0	37	71
Lane Flow Rate	176	102	118
Geometry Grp	1	1	1
Degree of Util (X)	0.211	0.118	0.139
Departure Headway (Hd)	4.314	4.149	4.232
Convergence, Y/N	Yes	Yes	Yes
Cap	821	867	852
Service Time	2.406	2.159	2.237
HCM Lane V/C Ratio	0.214	0.118	0.138
HCM Control Delay, s/veh	8.6	7.7	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.4	0.5

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	35	60	45	37	72
Future Vol, veh/h	40	35	60	45	37	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	38	65	49	40	78
Number of Lanes	0	1	1	0	1	0
Approach	EB	WB		SB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left	SB			WB		
Conflicting Lanes Left	1	0		1		
Conflicting Approach Right		SB		EB		
Conflicting Lanes Right	0	1		1		
HCM Control Delay, s/veh	7.9	7.6		7.6		
HCM LOS	A	A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	53%	0%	34%
Vol Thru, %	47%	57%	0%
Vol Right, %	0%	43%	66%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	75	105	109
LT Vol	40	0	37
Through Vol	35	60	0
RT Vol	0	45	72
Lane Flow Rate	82	114	118
Geometry Grp	1	1	1
Degree of Util (X)	0.098	0.125	0.13
Departure Headway (Hd)	4.337	3.947	3.938
Convergence, Y/N	Yes	Yes	Yes
Cap	818	897	895
Service Time	2.409	2.019	2.032
HCM Lane V/C Ratio	0.1	0.127	0.132
HCM Control Delay, s/veh	7.9	7.6	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.4	0.4

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	75	87	60	38	38	72
Future Vol, veh/h	75	87	60	38	38	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	95	65	41	41	78
Number of Lanes	0	1	1	0	1	0
Approach	EB	WB		SB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left	SB			WB		
Conflicting Lanes Left	1	0		1		
Conflicting Approach Right		SB		EB		
Conflicting Lanes Right	0	1		1		
HCM Control Delay, s/veh	8.6	7.8		7.9		
HCM LOS	A	A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	0%	35%
Vol Thru, %	54%	61%	0%
Vol Right, %	0%	39%	65%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	162	98	110
LT Vol	75	0	38
Through Vol	87	60	0
RT Vol	0	38	72
Lane Flow Rate	176	107	120
Geometry Grp	1	1	1
Degree of Util (X)	0.211	0.123	0.141
Departure Headway (Hd)	4.319	4.157	4.238
Convergence, Y/N	Yes	Yes	Yes
Cap	819	866	850
Service Time	2.415	2.167	2.243
HCM Lane V/C Ratio	0.215	0.124	0.141
HCM Control Delay, s/veh	8.6	7.8	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.4	0.5

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	2	1	89	67	4
Future Vol, veh/h	12	2	1	89	67	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	2	1	97	73	4
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	174	75	77	0	-	0
Stage 1	75	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	816	986	1521	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	815	986	1521	-	-	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.39	0.08		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	20	-	836	-	-	
HCM Lane V/C Ratio	0.001	-	0.018	-	-	
HCM Control Delay (s/veh)	7.4	0	9.4	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	1	2	116	98	12
Future Vol, veh/h	7	1	2	116	98	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	1	2	126	107	13
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	243	113	120	0	-	0
Stage 1	113	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	745	940	1468	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	744	940	1468	-	-	-
Mov Cap-2 Maneuver	744	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.77	0.13		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	31	-	764	-	-	
HCM Lane V/C Ratio	0.001	-	0.011	-	-	
HCM Control Delay (s/veh)	7.5	0	9.8	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	