# APPENDIX H- TRANSPORTATION IMPACT STUDY

*Linscott Law & Greenspan Engineers - March 22, 2019*

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LINSCOTT LAW & GREENSPAN engineers

# TRANSPORTATION IMPACT STUDY

# 123 W. POMONA PROJECT

**City of Monrovia, California**
**March 22, 2019**

*Prepared for:*

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TRANSPORTATION IMPACT STUDY

# 123 W. POMONA PROJECT

City of Monrovia, California
March 22, 2019

## 1.0 INTRODUCTION

This traffic analysis has been conducted to identify and evaluate the potential traffic impacts of the proposed mixed-use project on the surrounding street system. The proposed project site is located at 123 and 137 West Pomona Avenue, at the southeast corner of the Primrose Avenue/Evergreen Avenue intersection in the City of Monrovia, California. The proposed project site and general vicinity are shown in ***Figure 1-1***.

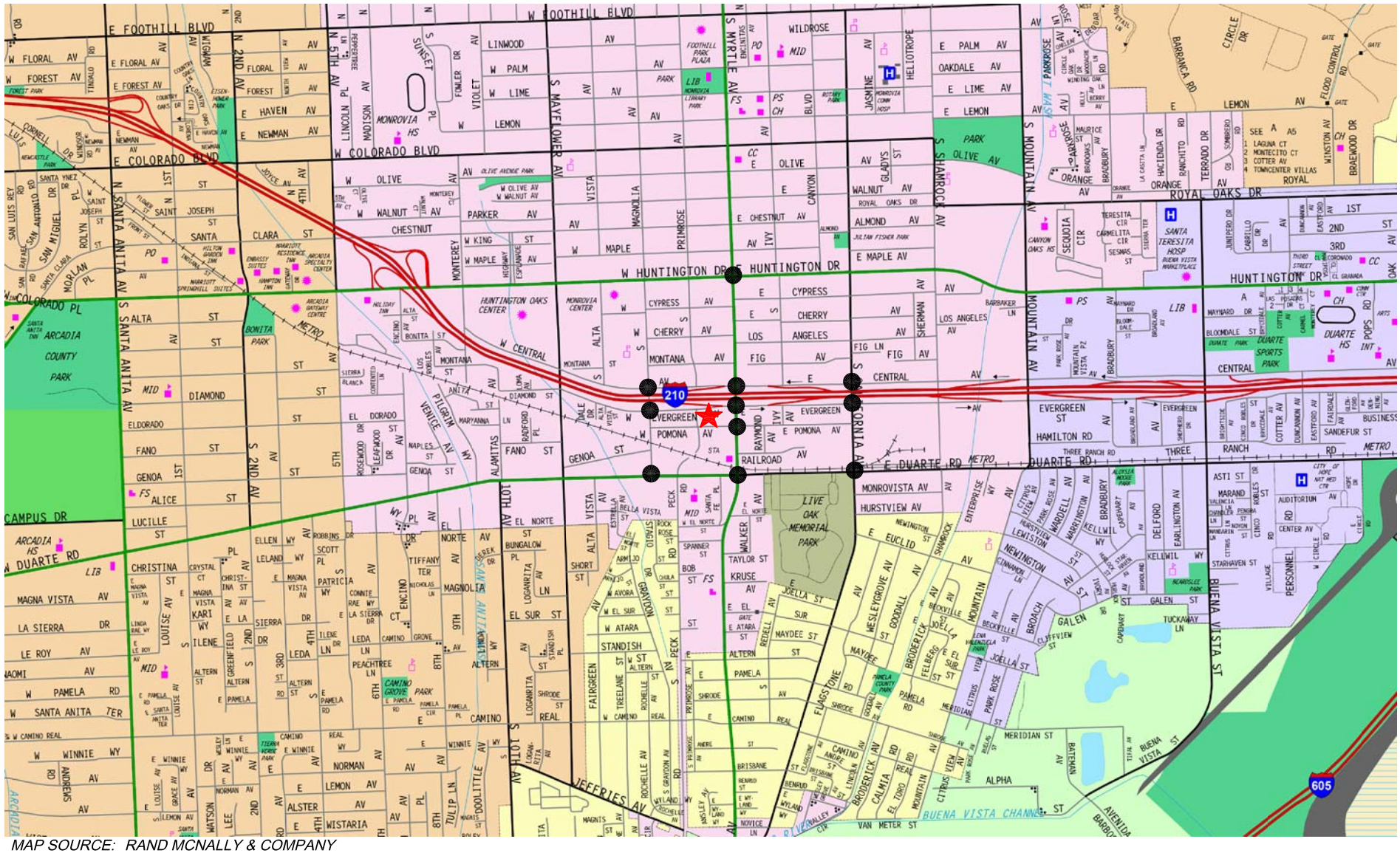
The traffic analysis follows City of Monrovia traffic study guidelines and is consistent with traffic impact assessment guidelines set forth in the *Los Angeles County Congestion Management Program*[1]. This traffic analysis evaluates potential project-related impacts at 11 key intersections in the vicinity of the project site. The study intersections were determined in consultation with City of Monrovia staff. The Intersection Capacity Utilization method was used to determine Volume-to-Capacity ratios and corresponding Levels of Service for the nine signalized study intersections, and the Highway Capacity Manual methodology was utilized for the two stop-sign controlled study intersections. A review also was conducted of Los Angeles County Metropolitan Transportation Authority freeway and intersection monitoring stations to determine if a Congestion Management Program transportation impact assessment analysis is required for the proposed project. In addition, a screening analysis was also completed as it relates to the Caltrans highway system and the ramp intersections under Caltrans jurisdiction were evaluated based on the Highway Capacity Manual (HCM) operational analysis methodologies.

This study (i) presents existing traffic volumes, (ii) includes existing traffic volumes with the forecast traffic volumes from the proposed project, (iii) recommends mitigation measures, where necessary, (iv) forecasts future cumulative baseline traffic volumes, (v) forecasts future traffic volumes with the proposed project, (vi) determines future forecast with project-related impacts, and (vii) recommends mitigation measures, where necessary.

### 1.1 Study Area

Upon coordination with City of Monrovia staff, 11 study intersections have been identified for evaluation during the weekday morning and afternoon peak hours. The 11 study intersections provide local access to the study area and define the extent of the boundaries for this transportation

[1] *2010 Congestion Management Program*, Los Angeles County Metropolitan Transportation Authority, October 2010.




MAP SOURCE: RAND MCNALLY & COMPANY

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PROJECT SITE

STUDY INTERSECTION

# FIGURE 1-1
# VICINITY MAP

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123 W. POMONA PROJECT

impact analysis. Further discussion of the existing street system and study area is provided in Section 4.0.

The general location of the project in relation to the study locations and surrounding street system is presented in *Figure 1-1*. The traffic analysis study area is generally comprised of those locations which have the greatest potential to experience significant traffic impacts due to the proposed project as defined by the Lead Agency. In the traffic engineering practice, the study area generally includes those intersections that are:

a. Immediately adjacent or in close proximity to the project site;

b. In the vicinity of the project site that are documented to have current or projected future adverse operational issues; and

c. In the vicinity of the project site that are forecast to experience a relatively greater percentage of project-related vehicular turning movements (e.g., at freeway ramp intersections).

The locations selected for analysis were based on the above criteria, proposed project peak hour vehicle trip generation, the anticipated distribution of project vehicular trips, and existing intersection/corridor operations.

## 1.2 Overview of Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743 (Steinberg, 2013). Among other things, SB 743 creates a process to change the methodology to analyze transportation impacts under CEQA (Public Resources Code section 21000 and following), which could include analysis based on project vehicle miles traveled (VMT) rather than impacts to intersection Level of Service. On December 30, 2013, the State of California Governor's Office of Planning and Research (OPR) released a preliminary evaluation of alternative methods of transportation analysis. The intent of the original guidance documentation was geared first towards projects located within areas that are designated as transit priority areas, to be followed by other areas of the State. OPR issued other draft discussion documents in March 2015 and January 2016, suggesting some new revisions to the State CEQA Guidelines. In November 2017, OPR submitted the proposed amendments to the CEQA Guidelines to the State's Natural Resources Agency (that include a proposed new Guidelines section 15064.3 which governs how VMT-based analyses of potential traffic impacts should be conducted). On January 26, 2018, the Natural Resources Agency published a Notice of Rulemaking, commencing the formal rulemaking process for the amendments to the CEQA Guidelines. While OPR has now issued final revisions to the state CEQA Guidelines in order to implement the CEQA traffic analysis component of SB 743, Cities, like Monrovia, have until July 1, 2020, to update their transportation analysis guidelines. Therefore, the analysis in this study utilizes existing, long-established protocols in accordance with CEQA and the City's current significance thresholds.

# 2.0 PROJECT DESCRIPTION

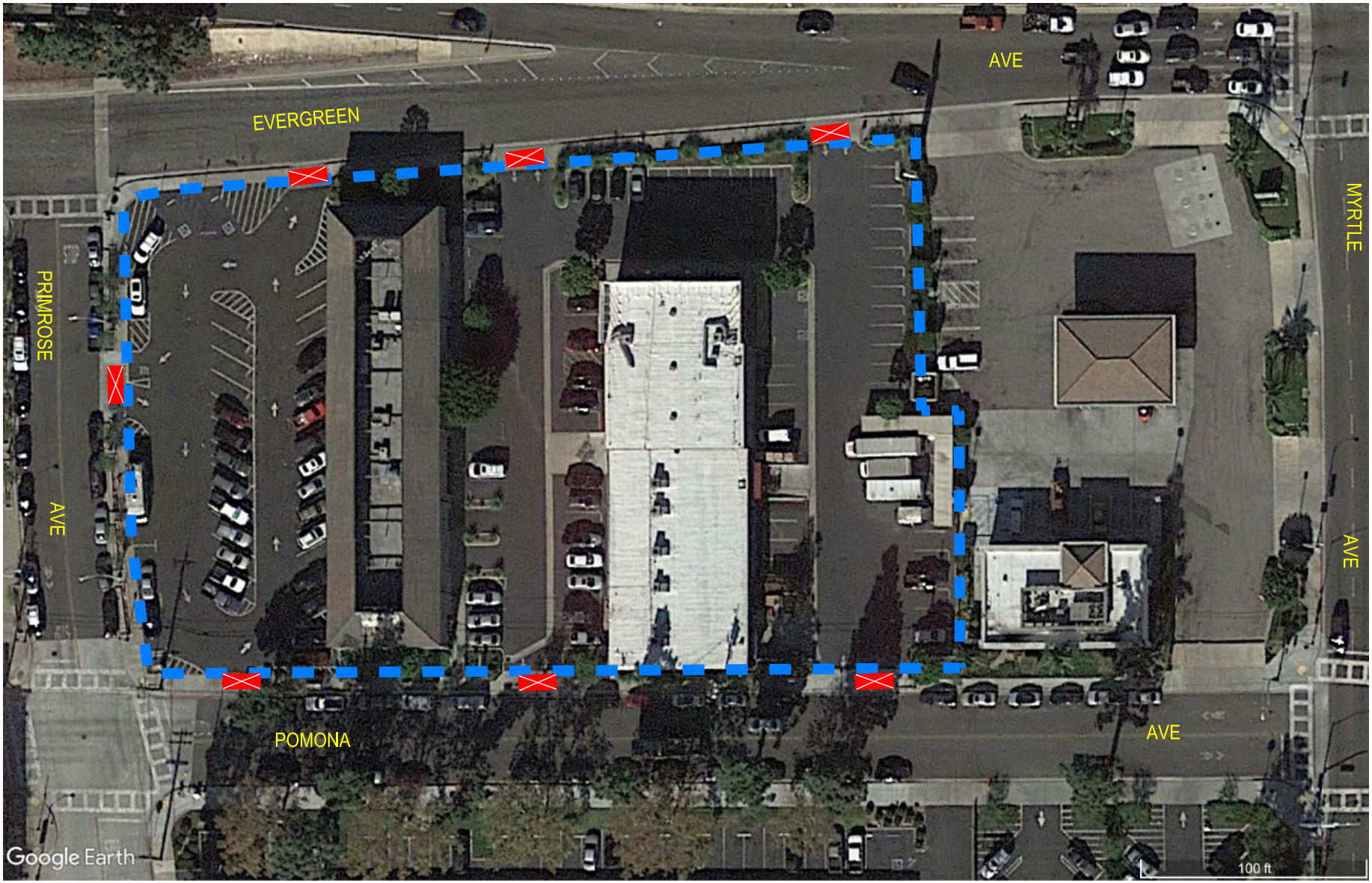
## 2.1 Existing Project Site

The project site is located at 123 and 137 West Pomona Avenue and is generally bordered by Evergreen Avenue to the north, Pomona Avenue to the south, an existing gas station to the east, and Primrose Avenue to the west. Comprised of approximately 1.83 acres, the site is located within the Residential and Industrial neighborhoods of the Station Square Transit Village Planned Development area of the City of Monrovia, California. The project site is currently occupied by light industrial warehousing uses and associated surface parking areas. An aerial photograph of the existing project site is contained in ***Figure 2-1***.

## 2.2 Proposed Project Description

The proposed project consists of the construction of a mixed-use, transit-oriented development with 310 residential apartment units and two retail tenant spaces totaling 10,000 square feet. The residential component is planned to comprise of 67 studio units, 182 one-bedroom units, and 61 two-bedroom units. A portion of the residential units (i.e., 25 units) will be reserved as affordable housing units. The retail tenant spaces are situated with one fronting Primrose Avenue and another fronting Pomona Avenue. Other site amenities include the main plaza area, the residential entry plaza, fitness/yoga center, sky deck area, and pool/spa area. Completion of the building construction and occupancy of the proposed project is anticipated by the year 2022. The conceptual site plan for the proposed project is illustrated in ***Figure 2-2***.

Vehicular access to the project is proposed to be provided via two access driveways: one full access driveway on Primrose Avenue for the residential ingress/egress and one full access driveway on Pomona Avenue for the retail and loading ingress/egress. Further discussion of the project's site access and circulation scheme is provided in Section 3.0.

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MAP SOURCE: GOOGLE EARTH

PROJECT SITE

EXISTING DRIVEWAY

# FIGURE 2-1
# AERIAL PHOTOGRAPH OF EXISTING PROJECT SITE

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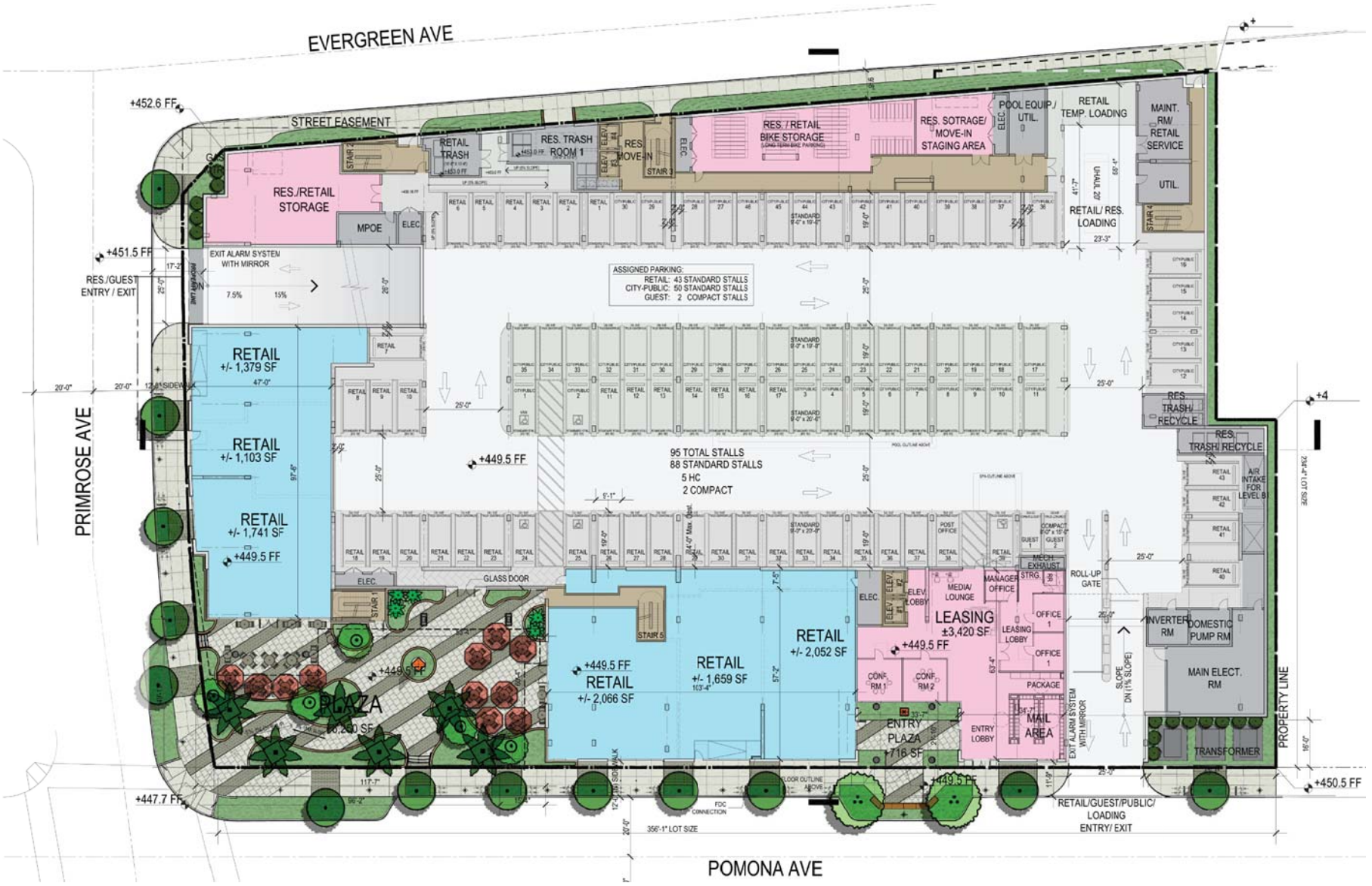
123 W. POMONA PROJECT




SOURCE: HUMPHREYS & PARTNERS ARCHITECTS

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# FIGURE 2-2
# GROUND FLOOR SITE PLAN

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123 W. POMONA PROJECT

# 3.0 SITE ACCESS AND CIRCULATION

Descriptions of the existing and proposed project site access and circulation schemes are provided in the following subsections.

## 3.1 Existing Site Access

Vehicular access to the existing site is currently provided via a total of seven existing curb cuts along the existing site frontages: with three driveways on Evergreen Avenue, three driveways on Pomona Avenue and one driveway on Primrose Avenue. An aerial photograph of the existing project site and the adjacent roadways is presented in *Figure 2-1*.

## 3.2 Proposed Project Site Access

The proposed site access scheme for the 123 W. Pomona project is displayed in *Figure 2-2*. Vehicular movements into and out of the project site will be provided via two access driveways: one full access driveway on Primrose Avenue for the residential ingress/egress and one full access driveway on Pomona Avenue for the retail and loading ingress/egress. In order to improve visibility at the site driveways between exiting motorists and on-coming pedestrians along the sidewalk, mirrors (i.e., 18" in diameter) are planned to be installed at both driveway access locations along with a pedestrian warning system consisting of a combination of visual and audible signals (i.e., with flashing lights and an integrated sound/buzzer). Furthermore, any landscaping, signage, or objects (i.e., be less than 36 inches in height) and any and all lower level tree branches must be removed so as to maintain a clear line of sight between exiting motorists and oncoming motorists. No direct site access is provided via Evergreen Avenue. A description of the project site driveways is provided in the following paragraphs.

- *Primrose Avenue Driveway:*

  This new project driveway is planned to be located on the east side of Primrose Avenue along the westerly property frontage just south of Evergreen Avenue. The Primrose Avenue project driveway is planned to be gate-controlled for resident-only access to and from the subterranean parking. The project driveway will provide a connection to the subterranean parking levels (i.e., Levels B1 and B2). Full access is planned to be provided (i.e., right-turn and left-turn ingress and egress movements) at the Primrose Avenue project driveway. The Primrose Avenue project driveway will be constructed to City of Monrovia design standards. The number of vehicles forecast with development of the project site is discussed later in Section 7.0.

- *Pomona Avenue Driveway:*

  This new project driveway is planned to be located on the north side of Pomona Avenue along the southerly property frontage at the southeast portion of the project site. The Pomona Avenue project driveway is planned to provide access to retail parking on the ground floor and ingress/egress for loading vehicles. Full access is planned to be provided (i.e., right-turn

and left-turn ingress and egress movements) at the Pomona Avenue project driveway. Loading services for retail, trash pick-up, and move-in are provided near the northeast corner of the ground level parking. The service vehicles are anticipated to enter via the Pomona Avenue driveway, proceed northerly to the loading area to conduct loading operations and then exit also via the Pomona Avenue driveway. The Pomona Avenue driveway will be constructed to City of Monrovia design standards.

An analysis of the truck turning maneuvers at the Pomona Avenue driveway has been prepared using the AutoTURN software package. ***Appendix A*** provides an illustration of the inbound and outbound truck turning maneuvers based on the specifications as outlined according to AASHTO (American Association of State Highway and Transportation Officials) for the design vehicle type (i.e., 30-foot single unit truck).

## 3.3 Pedestrian Access

The project will be designed to encourage pedestrian activity and walking as a transportation mode.[2] As indicated in *Figure 2-2*, the proposed project will include site enhancements to promote walkability. Walkability is a term for the extent to which walking is readily available as a safe, connected, accessible and pleasant mode of transport. There are several criteria that are widely accepted as key aspects of the walkability of urban areas that should be satisfied. The underlying principle is that pedestrians should not be delayed, diverted, or placed in danger. The widely accepted characteristics of walkability are as follows:

- Connectivity: People can walk from one place to another without encountering major obstacles, obstructions, or loss of connectivity.

- Convivial: Pedestrian routes are friendly and attractive, and are perceived as such by pedestrians.

- Conspicuous: Suitable levels of lighting, visibility and surveillance over its entire length, with high quality delineation and signage.

- Comfortable: High quality and well-maintained footpaths of suitable widths, attractive landscaping and architecture, shelter and rest spaces.

- Convenient: Walking is a realistic travel choice, partly because of the impact of the other criteria set forth above, but also because walking routes are of a suitable length as a result of land use planning with minimal delays.

[2] For example, refer to http://www.walkscore.com/, which generates a walkability score of approximately 63 (Somewhat Walkable) out of 100 for the project site. Walk Score calculates the walkability of an address by locating nearby stores, restaurants, schools, parks, etc. Walk Score measures how easy it is to live a car-lite lifestyle—not how pretty the area is for walking.

A review of the project site location and pedestrian walkway network indicates that these five primary characteristics are accommodated as part of the proposed project. The project site is accessible from nearby public bus transit and to rail transit via bus transit transfers as well as other amenities along nearby major corridors. The majority of pedestrian access to the project site is envisioned to occur via existing public sidewalks along streets in the study area. In addition, the site's internal pedestrian walkways and adjacent sidewalks will be appropriately landscaped and adorned to provide a friendly walking environment.

## 3.4 Bicycle Access

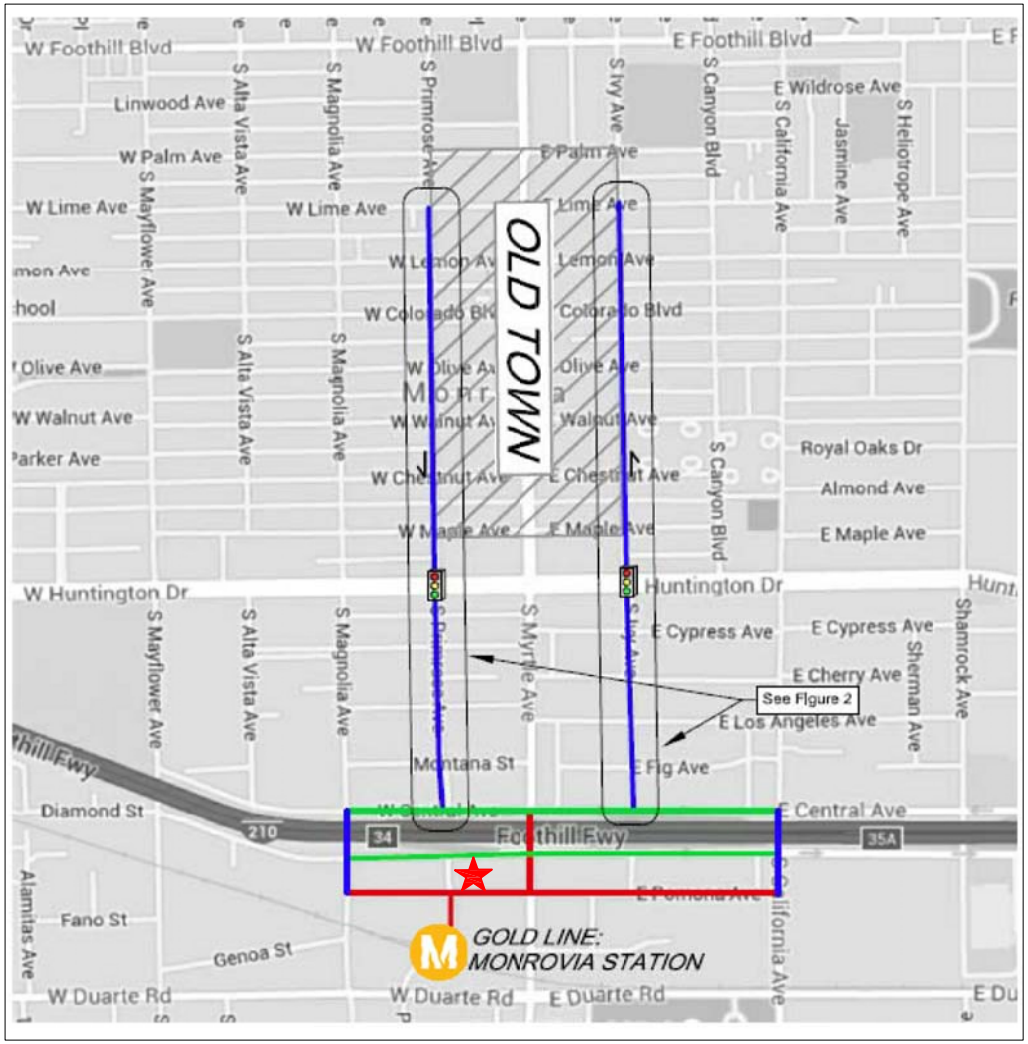
Bicycle access to the project site is facilitated by the City of Monrovia bicycle roadway network. Existing or proposed bicycle facilities (e.g., Class I Bicycle Path, Class II Bicycle Lanes, Class III Bicycle Routes, etc.) shown as part of the Active Community Travel Vinculum (ACTV) Monrovia are located within an approximate one-mile radius from the project site. The existing and proposed bikeway system in close proximity to the project site and in the surrounding area is illustrated in ***Figure 3-1***.

The Federal and State transportation system recognizes three primary bikeway facilities: Bicycle Paths (Class I), Bicycle Lanes (Class II), and Bicycle Routes (Class III). 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.

The existing bicycle facilities in the City's bicycle network are located within an approximate one-mile radius from the project site:

- <u>East-West Routes</u>
  - Evergreen Avenue: Class II Bike Lane
  - Pomona Avenue: Class III Bike Route
  - Duarte Road: Class III Bike Route
- <u>North-South Routes</u>
  - Magnolia Avenue: Class III Bike Route
  - California Avenue: Class III Bike Route

Use of bicycles as a transportation mode to and from the project site should be encouraged by the provision of ample and safe parking.




MAP SOURCE: ACTV MONROVIA, JUNE 2018

LEGEND

- CLASS I – TWO-WAY PROTECTED BIKE/PEDESTRIAN ZONE
- CLASS III – SHARED ROAD ROUTE
- CLASS IV – ONE-WAY BIKE LANES

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# FIGURE 3-1
# EXISTING & PLANNED BIKEWAY NETWORK

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# 4.0 EXISTING STREET SYSTEM

## 4.1 Local Street System

Immediate access to the 123 W. Pomona project will be provided via Pomona Avenue and Primrose Avenue. The following 11 study intersections were selected for analysis in consultation with City staff in order to determine potential impacts related to the proposed project:

1. Magnolia Avenue/Central Avenue (stop-sign controlled)
2. Magnolia Avenue/Evergreen Avenue (stop-sign controlled)
3. Magnolia Avenue/Duarte Road (signalized)
4. Myrtle Avenue/Huntington Drive (signalized)
5. Myrtle Avenue/Central Avenue (signalized)
6. Myrtle Avenue/Evergreen Avenue (signalized)
7. Myrtle Avenue/Pomona Avenue (signalized)
8. Myrtle Avenue/Duarte Road (signalized)
9. California Avenue/Central Avenue (signalized)
10. California Avenue/Evergreen Avenue (signalized)
11. California Avenue/Duarte Road (signalized)

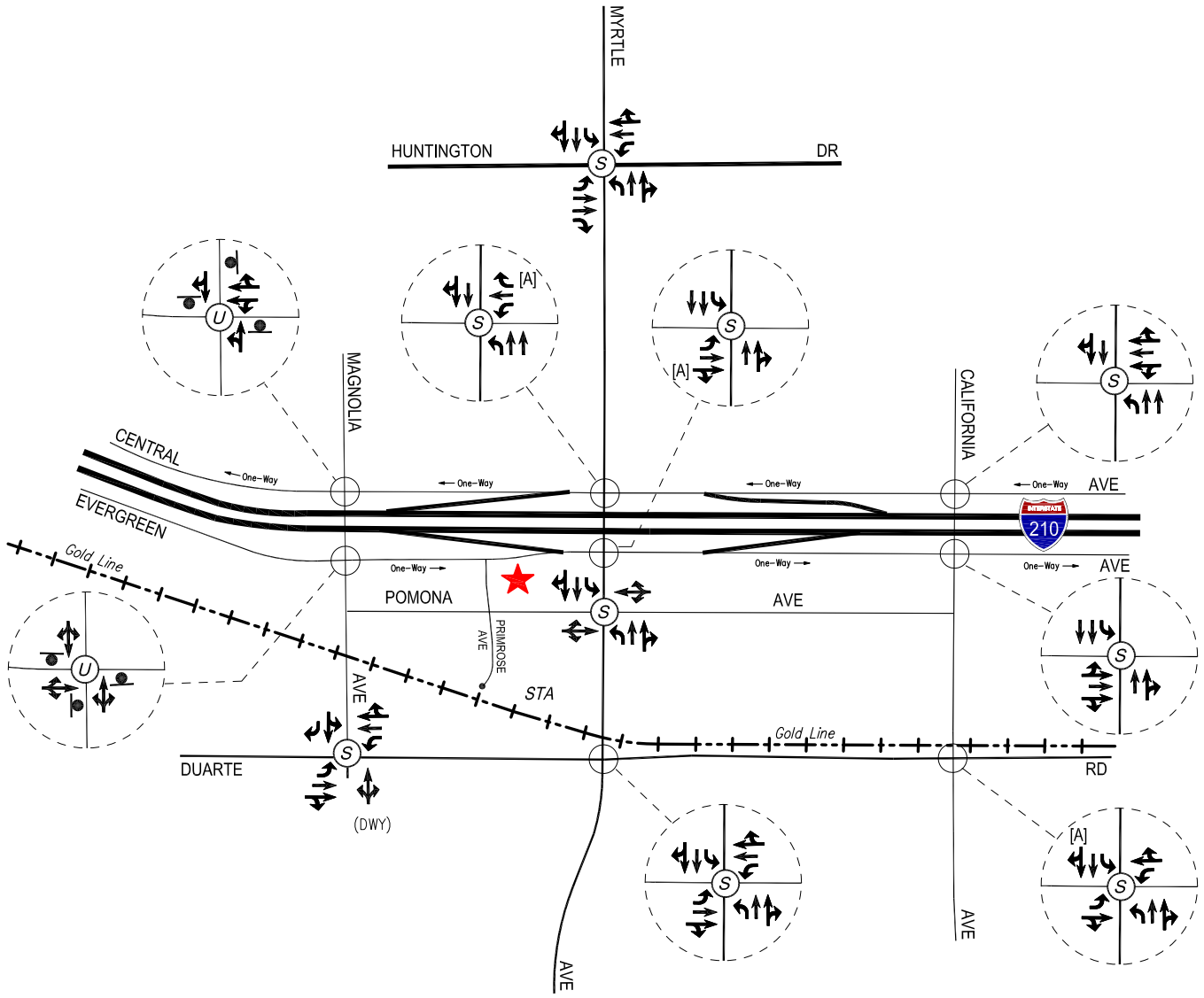
Nine of the 11 study intersections selected for analysis are presently controlled by traffic signals. The remaining two study intersections are stop-sign controlled, with stop-signs facing the minor street approach. The existing lane configurations at the study intersections are displayed in ***Figure 4-1***.

## 4.2 Roadway Classifications

The City of Monrovia utilizes the roadway categories recognized by regional, state and federal transportation agencies. There are four 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 two to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: principal and minor arterials. Principal arterials are typically four-or-more lane roadways and serve both local and regional through-traffic. Minor arterials are typically two-to-four lane streets that service local and commute traffic.

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(U) UNSIGNALIZED INTERSECTION

STOP SIGN

(S) SIGNALIZED INTERSECTION

[A] NO RIGHT-TURN ON RED

# FIGURE 4-1
# EXISTING LANE CONFIGURATIONS

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- *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.

## 4.3 Regional Highway System

Primary regional access is provided by the I-210 Freeway as shown in *Figure 1-1*. A brief description of the I-210 Freeway is provided in the following paragraph.

*Foothill (I-210) Freeway* is a major east-west freeway located just north 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. Full access interchanges (i.e., eastbound and westbound on- and off-ramps) are provided at Myrtle Avenue.

## 4.4 Roadway Descriptions

A review of the important roadways in the project site vicinity and study area is summarized in ***Table 4-1***. As indicated in *Table 4-1*, the important roadways within the project study area were reviewed in terms of the number of lanes provided, roadway median types, posted speed limits, etc. Additionally, the roadway classifications of key roads in the project study area are also presented in *Table 4-1*.

## 4.5 Transit Services

Public bus and rail transit services are provided within the 123 W. Pomona Ave project study area. Public bus transit service is currently provided by Foothill Transit and the Metropolitan Transportation Authority (Metro). The Metro Gold Line Monrovia station is located one block south of the project site, at 1675 South Primrose Avenue. A summary of the existing transit service, including the transit routes, destinations and peak hour headways is presented in ***Table 4-2***. The existing public transit routes in the project site vicinity are illustrated in ***Figure 4-2***.

Table 4-1
EXISTING ROADWAY DESCRIPTIONS

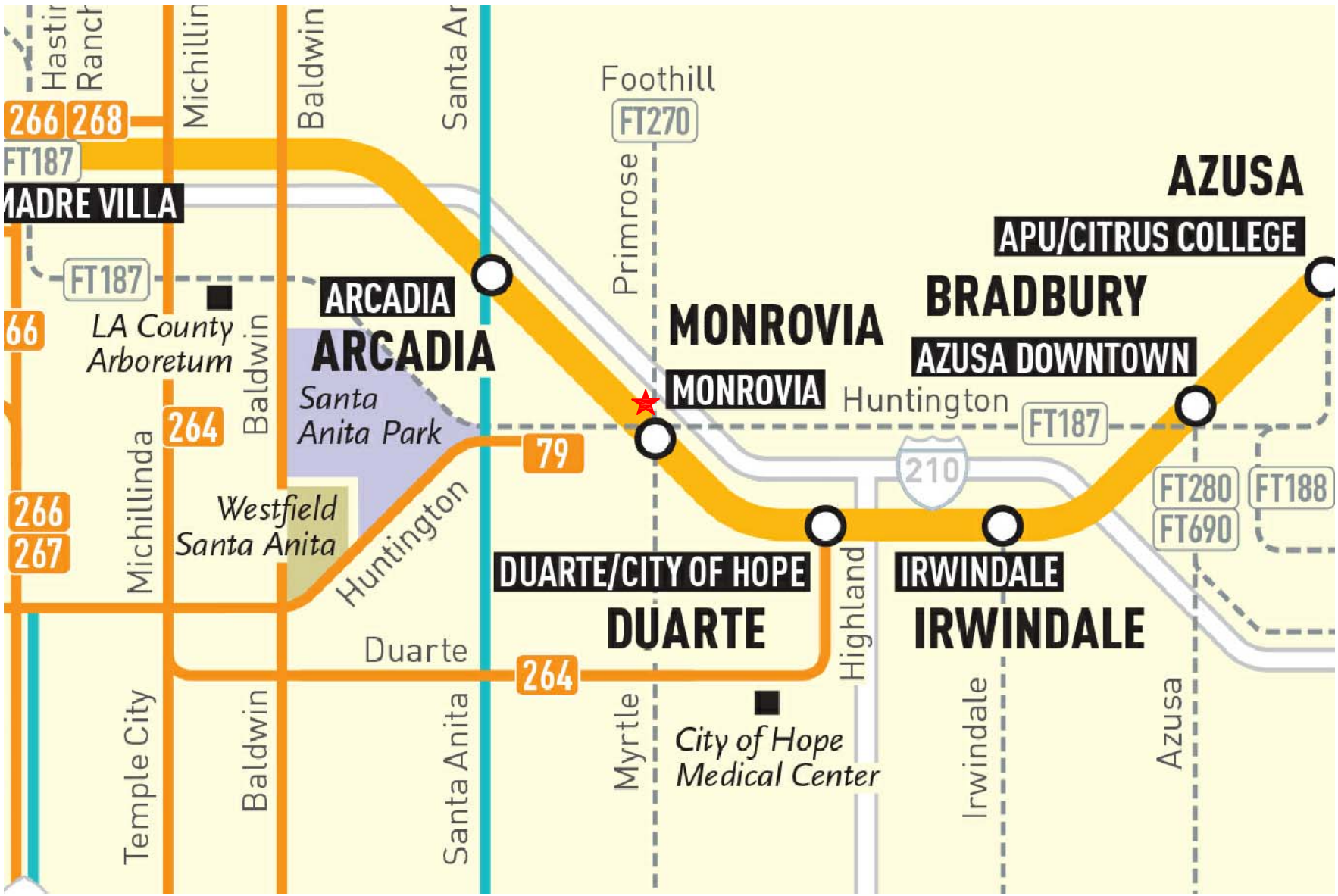
| Roadway | Classification [1] | Travel Lanes | | Median Types [4] | Speed Limit |
|---|---|---|---|---|---|
| | | Direction [2] | No. Lanes [3] | | |
| Magnolia Avenue | Collector Street | NB-SB | 2 [5] | N/A | 35 |
| Myrtle Avenue (Foothill Blvd to Huntington Dr) | Collector Street | NB-SB | 4 to 2 | RMI | 30-25 |
| Myrtle Avenue (Huntington Dr to City Limit) | Primary Arterial | NB-SB | 4 | N/A/RMI | 35 |
| California Avenue (Huntington Dr to City Limits) | Secondary Arterial | NB-SB | 4 [5] | N/A/RMI | 35 |
| Huntington Drive (5th Ave to City Limits) | Primary Arterial | EB-WB | 4 | RMI | 35 |
| Central Avenue (Mayflower Ave to Mountain Ave) | Collector Street | EB-WB | 3 to 2 [5] | N/A | 35 |
| Evergreen Avenue (Mayflower Ave to Mountain Ave) | Collector Street | EB-WB | 2 to 3 [6] | N/A | 35 |
| Pomona Avenue (Magnolia Ave to California Ave) | Collector Street | EB-WB | 2 | N/A | 25 |
| Duarte Road (5th Ave to Mountain Ave) | Secondary Arterial | EB-WB | 4 to 2 [5] | 2WLT/RMI | 40 |

Notes:
[1] Roadway classifications obtained from the *Circulation Element of the City of Monrovia General Plan*, amended November 6, 2012.
[2] Direction of roadways in the project area: NB-SB - northbound and southbound; and EB-WB - eastbound and westbound.
[3] Number of lanes in both directions on the roadway.
[4] Median type of the road: RMI - Raised Median Island; 2WLT - 2-Way Left-Turn Lane; and N/A-Not Applicable.
[5] Bike Route (Class III)
[6] Bike Lane (Class II)

Table 4-2
EXISTING TRANSIT ROUTES [1]

| ROUTE | DESTINATIONS | ROADWAY(S) NEAR SITE | NO. OF BUSES/TRAINS DURING PEAK HOUR | | |
|---|---|---|---|---|---|
| | | | DIR | AM | PM |
| Foothill Transit 187 | Azusa to Pasadena via Duarte, Monrovia, Arcadia and Sierra Madre | Myrtle Avenue, Huntington Drive | EB<br>WB | 4<br>4 | 4<br>4 |
| Foothill Transit 270 | El Monte to Monrovia via Irwindale | Myrtle Avenue, Huntington Drive, Duarte Road | NB<br>SB | 2<br>1 | 2<br>1 |
| Metro 264 | Altadena to El Monte via Pasadena, Arcadia and Duarte | Magnolia Avenue, Myrtle Avenue, California Avenue, Duarte Road | EB<br>WB | 1<br>1 | 1<br>1 |
| Metro Gold Line | East Los Angeles to Azusa via Downtown Los Angeles, Lincoln Heights, Highland Park, South Pasadena, Pasadena, Arcadia, Monrovia, Duarte and Irwindale | Monrovia Station | NB<br>SB | 8<br>8 | 8<br>8 |
| | | | Total | 29 | 29 |

[1] Sources: Foothill Transit and Los Angeles County Metropolitan Transportation Authority (Metro) websites, 2018.

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MAP SOURCE: METROPOLITAN TRANSPORTATION AUTHORITY WEBSITE 2018

★ PROJECT SITE

# FIGURE 4-2
# EXISTING TRANSIT ROUTES

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# 5.0 TRAFFIC COUNTS

Manual counts of vehicular turning movements were conducted at each of the 11 study intersections during the weekday morning (AM) and afternoon (PM) commuter periods to determine the peak hour traffic volumes. The manual counts were conducted in 2016, 2017, and 2018 by various independent traffic count subconsultants at the study intersections from 7:00 AM to 9:00 AM to determine the AM peak commuter hour, and from 4:00 PM to 6:00 PM to determine the PM peak commuter hour. Traffic counts conducted in years 2016 and 2017 were increased by an annual ambient traffic growth rate (i.e., 0.82% per year) to reflect existing (2018) conditions. In conjunction with the manual turning movement vehicle counts, a count of bicycle and pedestrian volumes were collected during the peak periods. It is noted that all of the traffic counts were conducted when local schools were in regular session. Traffic volumes at the study intersections show the typical peak periods between 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM generally associated with metropolitan peak commute hours.

The weekday AM and PM peak hour manual counts of vehicle movements at the 11 study intersections are summarized in ***Table 5-1***. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are shown in ***Figures 5-1*** and ***5-2***, respectively. For each study intersection, the highest one-hour total traffic volumes (i.e., four consecutive 15-minute time intervals) traversing through the intersection during the 7:00 to 9:00 AM and 4:00 to 6:00 PM time periods were selected so as to determine the respective weekday AM and PM peak hour traffic volumes for each study intersection. For purposes of the traffic impact analysis, this common traffic engineering practice ensures that a more conservative (i.e., worst case) assessment of existing operating conditions be attained for each study intersection. Therefore, the traffic volumes shown in *Figures 5-1* and *5-2* for the study intersections do not necessarily reflect the same exact one hour time period during the morning and/or afternoon peak commuter conditions (i.e., one intersection's peak hour may have occurred between 7:30 and 8:30 AM, while another intersection's peak hour may have occurred between 7:45 and 8:45 AM). Summary data worksheets of the manual traffic counts at the study intersections are contained in ***Appendix B***.

Table 5-1
EXISTING TRAFFIC VOLUMES [1]
WEEKDAY AM AND PM PEAK HOURS

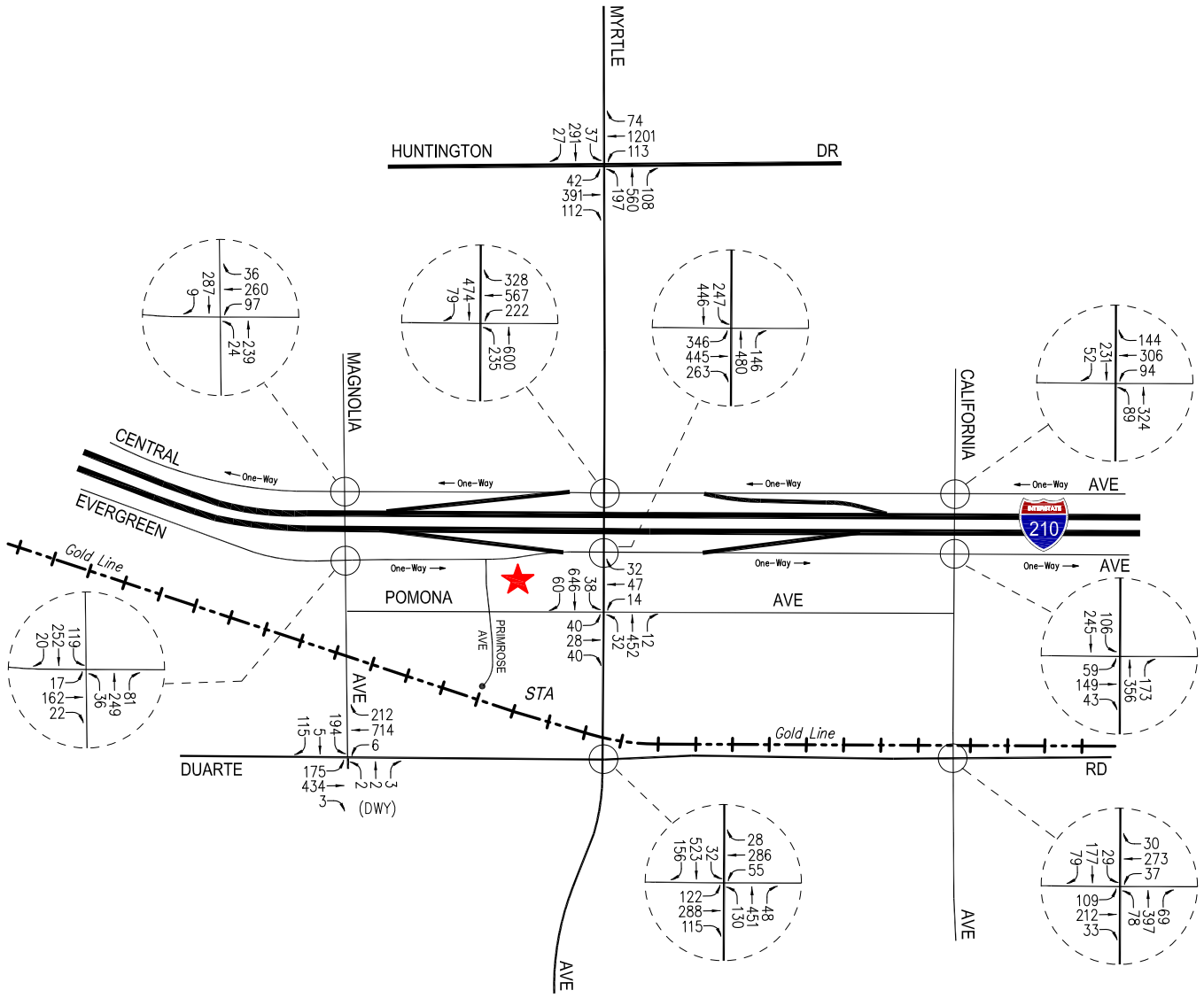
| NO. | INTERSECTION | DATE | DIR | AM PEAK HOUR | | PM PEAK HOUR | |
|---|---|---|---|---|---|---|---|
| | | | | BEGAN | VOLUME | BEGAN | VOLUME |
| 1 | Magnolia Avenue/ Central Avenue | 06/06/2017 [2] | NB | 7:15 | 263 | 4:45 | 311 |
| | | | SB | | 296 | | 321 |
| | | | EB | | 0 | | 0 |
| | | | WB | | 393 | | 346 |
| 2 | Magnolia Avenue/ Evergreen Avenue | 06/06/2017 [2] | NB | 7:15 | 366 | 4:45 | 386 |
| | | | SB | | 391 | | 423 |
| | | | EB | | 201 | | 216 |
| | | | WB | | 0 | | 0 |
| 3 | Magnolia Avenue/ Duarte Road | 03/08/2017 [2] | NB | 7:30 | 7 | 4:45 | 14 |
| | | | SB | | 314 | | 379 |
| | | | EB | | 612 | | 959 |
| | | | WB | | 932 | | 660 |
| 4 | Myrtle Avenue/ Huntington Drive | 09/20/2016 [2] | NB | 7:30 | 865 | 4:45 | 646 |
| | | | SB | | 355 | | 727 |
| | | | EB | | 545 | | 1,170 |
| | | | WB | | 1,388 | | 887 |
| 5 | Myrtle Avenue/ Central Avenue | 09/20/2016 [2] | NB | 7:30 | 835 | 4:45 | 683 |
| | | | SB | | 553 | | 891 |
| | | | EB | | 0 | | 0 |
| | | | WB | | 1,117 | | 997 |
| 6 | Myrtle Avenue/ Evergreen Avenue | 09/20/2016 [2] | NB | 7:30 | 626 | 4:30 | 717 |
| | | | SB | | 693 | | 906 |
| | | | EB | | 1,054 | | 1,168 |
| | | | WB | | 0 | | 0 |
| 7 | Myrtle Avenue/ Pomona Avenue | 08/29/2018 | NB | 7:45 | 496 | 4:45 | 674 |
| | | | SB | | 744 | | 845 |
| | | | EB | | 108 | | 230 |
| | | | WB | | 93 | | 96 |
| 8 | Myrtle Avenue/ Duarte Road | 08/18/2016 [2] | NB | 7:45 | 629 | 5:15 | 574 |
| | | | SB | | 711 | | 826 |
| | | | EB | | 525 | | 883 |
| | | | WB | | 369 | | 407 |
| 9 | California Avenue/ Central Avenue | 08/29/2018 | NB | 7:15 | 413 | 4:45 | 291 |
| | | | SB | | 283 | | 507 |
| | | | EB | | 0 | | 0 |
| | | | WB | | 544 | | 284 |
| 10 | California Avenue/ Evergreen Avenue | 08/29/2018 | NB | 7:30 | 529 | 4:30 | 381 |
| | | | SB | | 351 | | 521 |
| | | | EB | | 251 | | 693 |
| | | | WB | | 0 | | 0 |

[1] Counts conducted by NDS, City Count LLC and The Traffic Solution.
[2] Includes application of ambient traffic growth factor (i.e., 0.82% per year) to reflect existing (2018) traffic volumes.

Table 5-1 (Continued)
EXISTING TRAFFIC VOLUMES [1]
WEEKDAY AM AND PM PEAK HOURS

| NO. | INTERSECTION | DATE | DIR | AM PEAK HOUR | | PM PEAK HOUR | |
|---|---|---|---|---|---|---|---|
| | | | | BEGAN | VOLUME | BEGAN | VOLUME |
| 11 | California Avenue/ Duarte Road | 08/29/2018 | NB | 7:30 | 544 | 4:45 | 419 |
| | | | SB | | 285 | | 440 |
| | | | EB | | 354 | | 615 |
| | | | WB | | 340 | | 324 |

[1] Counts conducted by NDS, City Count LLC and The Traffic Solution.




PROJECT SITE

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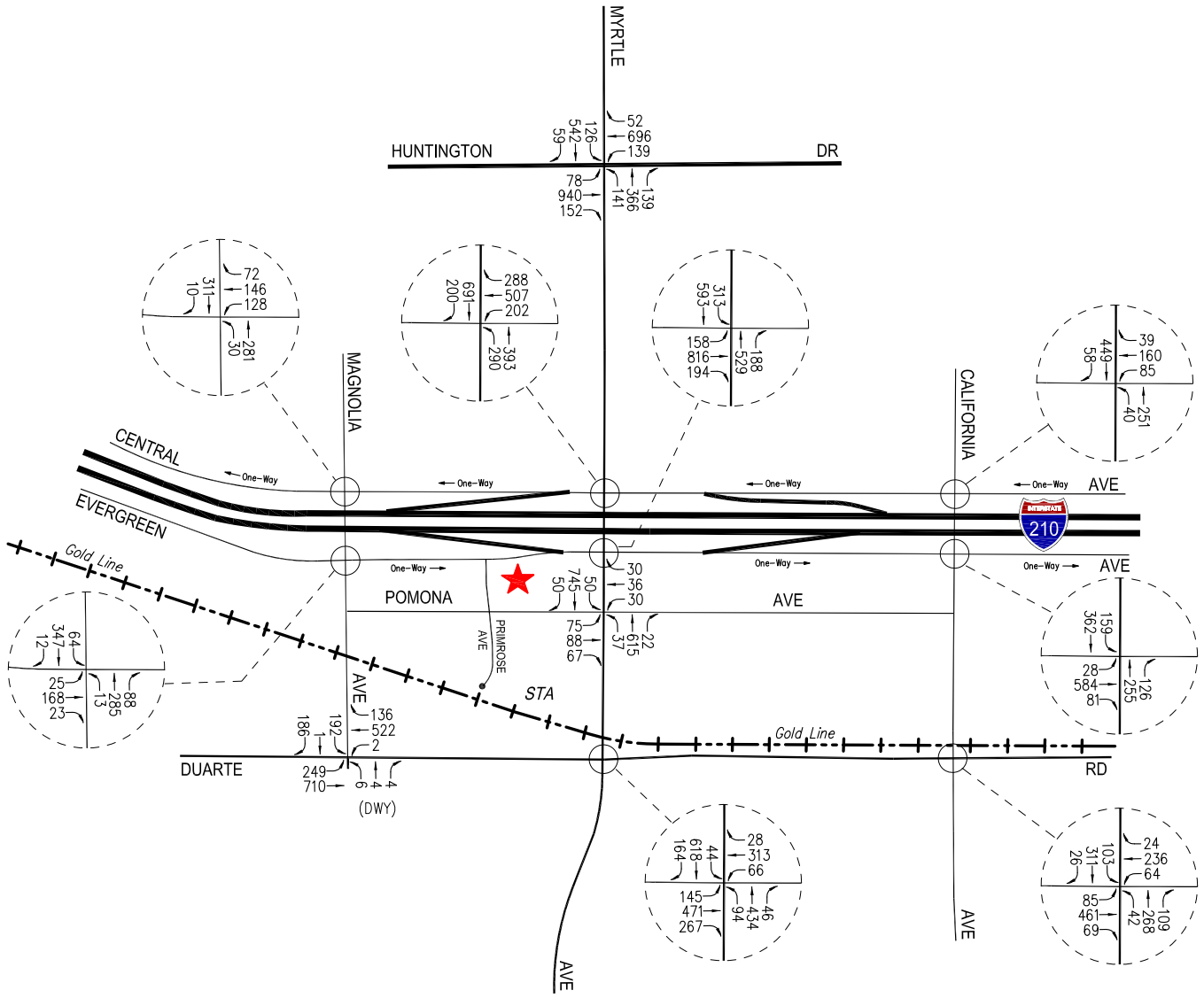
NOT TO SCALE

# FIGURE 5-1
# EXISTING TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers




PROJECT SITE

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# FIGURE 5-2
# EXISTING TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

# 6.0 CUMULATIVE DEVELOPMENT PROJECTS

The forecast of future pre-project conditions was prepared in accordance to procedures outlined in Section 15130 of the CEQA Guidelines. Specifically, the CEQA Guidelines provide two options for developing the future traffic volume forecast:

> "(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or
>
> (B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency."

Accordingly, the traffic analysis provides a highly conservative estimate of future pre-project traffic volumes as it incorporates both the "A" and "B" options outlined in the CEQA Guidelines for purposes of developing the forecast.

## 6.1 Related Projects

A forecast of on-street traffic conditions prior to occupancy of the proposed project was prepared by incorporating the potential trips associated with other known development projects (related projects) in the area. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. The related projects research was based on information on file at the City of Monrovia Community Development Department Planning Division, County of Los Angeles Department of Regional Planning, City of Arcadia Development Services Department, and the City of Duarte Community Development Department. The list of related projects in the project study area is presented in ***Table 6-1***. The location of the related projects is shown in ***Figure 6-1***.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*[3] and other sources. 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 6-1*. The distribution of the related projects traffic volumes to the study intersections during the weekday AM and PM peak hours are displayed in ***Figures 6-2*** and ***6-3***, respectively.

[3] Institute of Transportation Engineers *Trip Generation Manual*, 9th Edition, Washington, D.C., 2012.

Table 6-1
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 |
| **City of Monrovia** | | | | | | | | | | | | |
| M1 | Under Construction | Former Albertsons Center<br>725 E. Huntington Boulevard | Retail | 98,000 GLSF | [3] | 4,185 | 58 | 36 | 94 | 175 | 189 | 364 |
| M2 | Under Construction | 530 Fano Street | Condominium | 12 DU | [4] | 70 | 1 | 4 | 5 | 4 | 2 | 6 |
| M3 | Built | City of Hope<br>1218 S. 5th Avenue | Research and Development Center | 42,936 GSF | [5] | 348 | 43 | 9 | 52 | 7 | 39 | 46 |
| M4 | Planning Review | Alexan<br>1625 Magnolia Avenue | Apartment<br>Live Work | 432 DU<br>4 DU | [6] | 1,938 | 12 | 131 | 143 | 132 | 62 | 194 |
| M5 | Under Construction | MODA<br>Southwest corner of Pomona Avenue between Primrose Avenue and Magnolia Avenue | Apartment | 261 DU | [7] | 1,736 | 27 | 106 | 133 | 105 | 57 | 162 |
| M6 | Built | 5th & Huntington<br>1110-1212 S. 5th Avenue | Apartment<br>Retail | 154 DU<br>1,340 GLSF | [8] | 736 | (11) | 56 | 45 | 56 | 11 | 67 |
| M7 | Approved | 239 W. Chestnut Avenue | Condominium | 10 DU | [4] | 58 | 1 | 3 | 4 | 3 | 2 | 5 |
| M8 | Built | 303 S. Madison Avenue | Single-Family Residential | 6 DU | [9] | 57 | 1 | 4 | 5 | 4 | 2 | 6 |
| M9 | In Planning Review | 717-721 W. Duarte Road | Condominium | 8 DU | [4] | 46 | 1 | 3 | 4 | 3 | 1 | 4 |
| M10 | Approved | 205 and 225 W. Duarte Road,<br>1725 Peck Road | Apartment | 296 DU | [7] | 1,968 | 30 | 121 | 151 | 120 | 64 | 184 |
| M11 | Planning Review | 825 S. Myrtle Avenue | Apartment<br>Retail | 154 DU<br>3,440 GLSF | [10] | 721 | (11) | 38 | 27 | 44 | 8 | 52 |
| M12 | Proposed | Northeast corner of Myrtle Avenue and Lime Avenue | Apartment | 140 DU | [7] | 931 | 14 | 57 | 71 | 57 | 30 | 87 |
| M13 | Planning Review | Block bounded by Evergreen Avenue to the north, Pomona Avenue to the south, Primrose Avenue to the east, and Magnolia Avenue to the west. | Apartment<br>Retail | 284 DU<br>7,080 GLSF | [11] | 1,034 | (6) | 50 | 44 | 56 | 18 | 74 |
| M14 | Planning Review | Marriott Town Place Suites<br>102-140 W. Huntington Drive | Hotel | 109 Occ. Rm | [12] | 891 | 34 | 24 | 58 | 34 | 31 | 65 |
| M15 | Proposed | 1601 Myrtle Avenue<br>(current City Park-and Ride Lot) | Hotel | 100 Occ. Rm | [13] | 892 | 39 | 28 | 67 | 34 | 36 | 70 |
| M16 | Proposed | 239 W. Huntington Drive | Coffee Shop | 2,200 GSF | [14] | 1,801 | 113 | 108 | 221 | 47 | 47 | 94 |

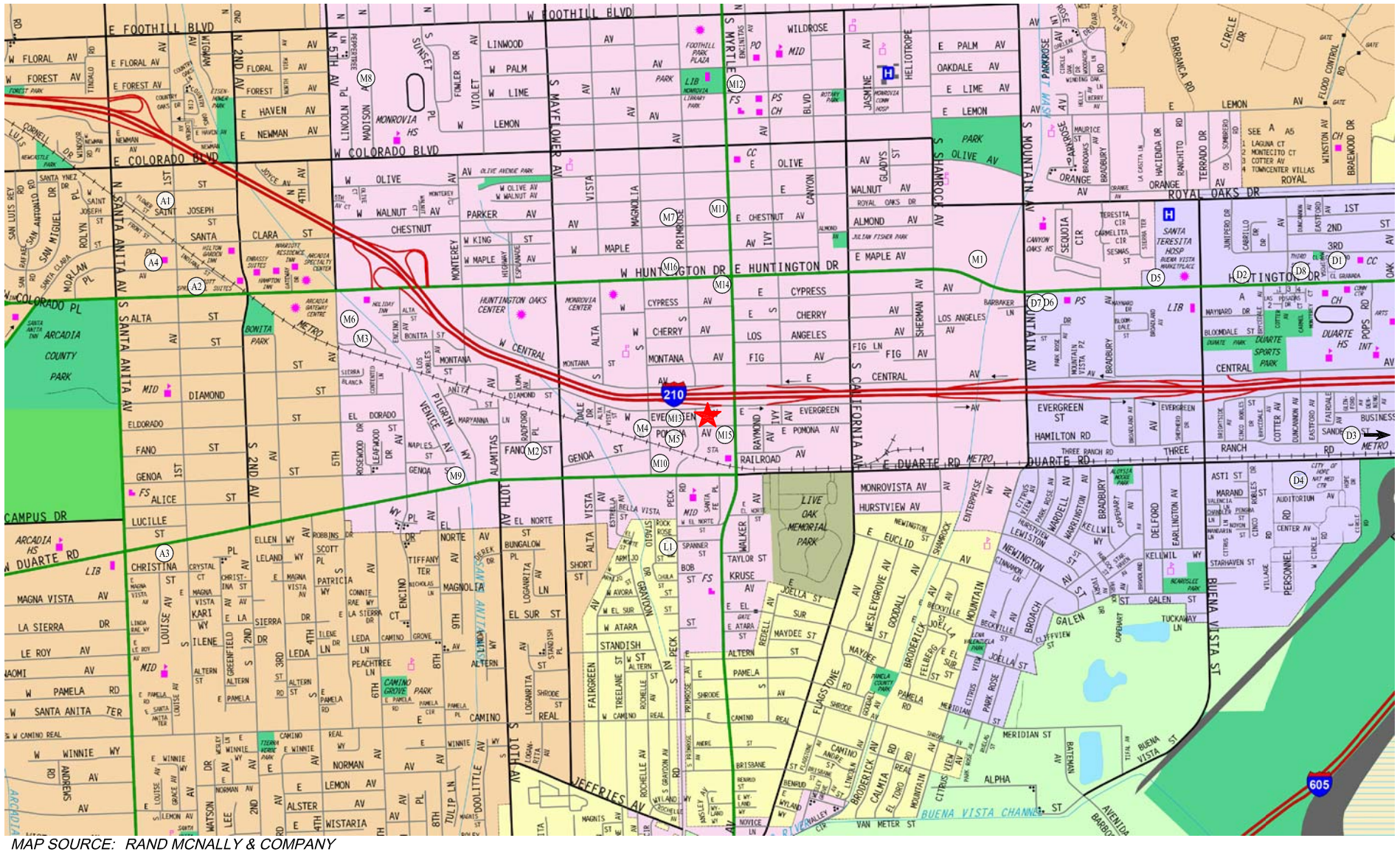
Table 6-1 (Continued)
RELATED PROJECTS LIST AND TRIP GENERATION [1]

| 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 |
| **Los Angeles County** | | | | | | | | | | | | |
| L1 | Approved | 1901-1909 Peck Road | Condominium | 10 DU | [4] | 58 | 1 | 3 | 4 | 3 | 2 | 5 |
| **City of Duarte** | | | | | | | | | | | | |
| D1 | Under Construction | 1634 Third Street and 1101 Oak Avenue | Condominium | 18 DU | [4] | 105 | 1 | 7 | 8 | 6 | 3 | 9 |
| D2 | Approved | Duarte Town Center Mixed-Use Project | Apartment | 161 DU | [7] | 1,071 | 16 | 66 | 82 | 65 | 35 | 100 |
| | | 1405-1437 Huntington Drive | Retail | 3,500 GLSF | [3] | 149 | 2 | 1 | 3 | 6 | 7 | 13 |
| D3 | Approved | Duarte Station TOD | Apartment | 475 DU | [7] | 3,159 | 48 | 194 | 242 | 192 | 103 | 295 |
| | | Northwest corner of Highland Avenue | Office | 400,000 GSF | [15] | 4,412 | 549 | 75 | 624 | 101 | 495 | 596 |
| | | and Duarte Road | Hotel | 250 Occ. Rms. | [13] | 2,230 | 97 | 71 | 168 | 86 | 89 | 175 |
| | | | Retail | 12,000 GLSF | [3] | 512 | 7 | 5 | 12 | 22 | 23 | 45 |
| D4 | Proposed | City of Hope Specific Plan | City of Hope (Population Net Increase) | 2,945 Persons | [16] | 4,753 | 448 | 66 | 514 | 74 | 388 | 462 |
| | | 1500 Duarte Road | | | | | | | | | | |
| D5 | Approved | Planet Fitness | Health Club | 15,862 GSF | [17] | 522 | 11 | 11 | 22 | 32 | 24 | 56 |
| | | 1193 Huntington Drive | | | | | | | | | | |
| D6 | Approved | 946-962 Huntington Drive | Condominium | 25 DU | [4] | 145 | 2 | 9 | 11 | 9 | 4 | 13 |
| D7 | Proposed | 928 Huntington Drive | Condominium | 22 DU | [4] | 128 | 2 | 8 | 10 | 7 | 4 | 11 |
| D8 | Approved | 1525 Huntington Drive | Restaurant (Outdoor Dining Addition) | 5,200 GSF | [18] | 468 | 2 | 2 | 4 | 26 | 13 | 39 |
| **City of Arcadia** | | | | | | | | | | | | |
| A1 | Proposed | 323-325 N. 1st Avenue | Medical Office | 5,420 GSF | [19] | 196 | 10 | 3 | 13 | 5 | 14 | 19 |
| | | | Retail | 1,806 GLSF | [3] | 77 | 1 | 1 | 2 | 3 | 4 | 7 |
| A2 | Proposed | 117-129 E. Huntington Drive | Apartment | 170 DU | [7] | 1,131 | 17 | 70 | 87 | 68 | 37 | 105 |
| | | 124, 126 & 134 E. Wheeler Avenue | Retail | 13,900 GLSF | [3] | 594 | 8 | 5 | 13 | 25 | 27 | 52 |
| A3 | Under Construction | 56 E. Duarte Road | Condominium | 37 DU | [4] | 215 | 3 | 13 | 16 | 13 | 6 | 19 |
| | | | Retail | 19,360 GLSF | [3] | 827 | 12 | 7 | 19 | 35 | 37 | 72 |
| A4 | Under Construction | 57 Wheeler Avenue | Apartment | 38 DU | [7] | 253 | 4 | 15 | 19 | 16 | 8 | 24 |
| | | | Retail | 16,175 GLSF | [3] | 691 | 10 | 6 | 16 | 29 | 31 | 60 |
| **TOTAL** | | | | | | 39,108 | 1,597 | 1,416 | 3,013 | 1,704 | 1,953 | 3,657 |

[1] Sources: City of Monrovia Community Development Department - Planning Division, Los Angeles County Department of Regional Planning, City of Arcadia Development Services Department - Planning Division, and City of Duarte Community Development Department - Planning Division. Trip generation for the related projects are based on ITE "Trip Generation Manual", 9th Edition, 2012 (as referenced in the Project Data Source column), unless otherwise noted.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 820 (Shopping Center) trip generation average rates.
[4] ITE Land Use Code 230 (Residential Condominium/Townhouse) trip generation average rates.
[5] ITE Land Use Code 760 (Research and Development Center) trip generation average rates.

Table 6-1 (Continued)
RELATED PROJECTS LIST AND TRIP GENERATION [1]

[6] Source: "Traffic Impact Analysis for 1625 Magnolia Avenue", prepared by LSA, May 2018.
[7] ITE Land Use Code 220 (Apartment) trip generation average rates.
[8] Source: "Traffic Impact Analysis for 5th Avenue/Huntington Drive Mixed-Use Project", prepared by LLG Engineers, December 27, 2012.
[9] ITE Land Use Code 210 (Single Family Detached Housing) trip generation average rates.
[10] Source: "Traffic Impact Analysis for Avalon Monrovia", prepared by LSA, March 2018.
[11] Source: "Transportation Impact Study for The Arroyo at Monrovia Station Project", prepared by LLG Engineers, February 2019.
[12] Source: "Traffic Impact Analysis for Monrovia Hotel", prepared by LSA, May 2018.
[13] ITE Land Use Code 310 (Hotel) trip generation average rates.
[14] ITE Land Use Code 937 (Coffee/Donut Shop with Drive-Through) trip generation average rates.
[15] ITE Land Use Code 710 (General Office) trip generation average rates.
[16] Source: "Draft Transportation Impact Study for the City of Hope", prepared by Fehr & Peers, April 2017. The City of Hope Specific Plan build-out year is expected to be by the year 2035, which is beyond the build-out year for the proposed 123 W. Pomona project.
[17] ITE Land Use Code 492 (Health/Fitness Club) trip generation average rates.
[18] ITE Land Use Code 931 (Quality Restaurant) trip generation average rates.
[19] ITE Land Use Code 720 (Medical-Dental Office Building) trip generation average rates.




MAP SOURCE: RAND MCNALLY & COMPANY

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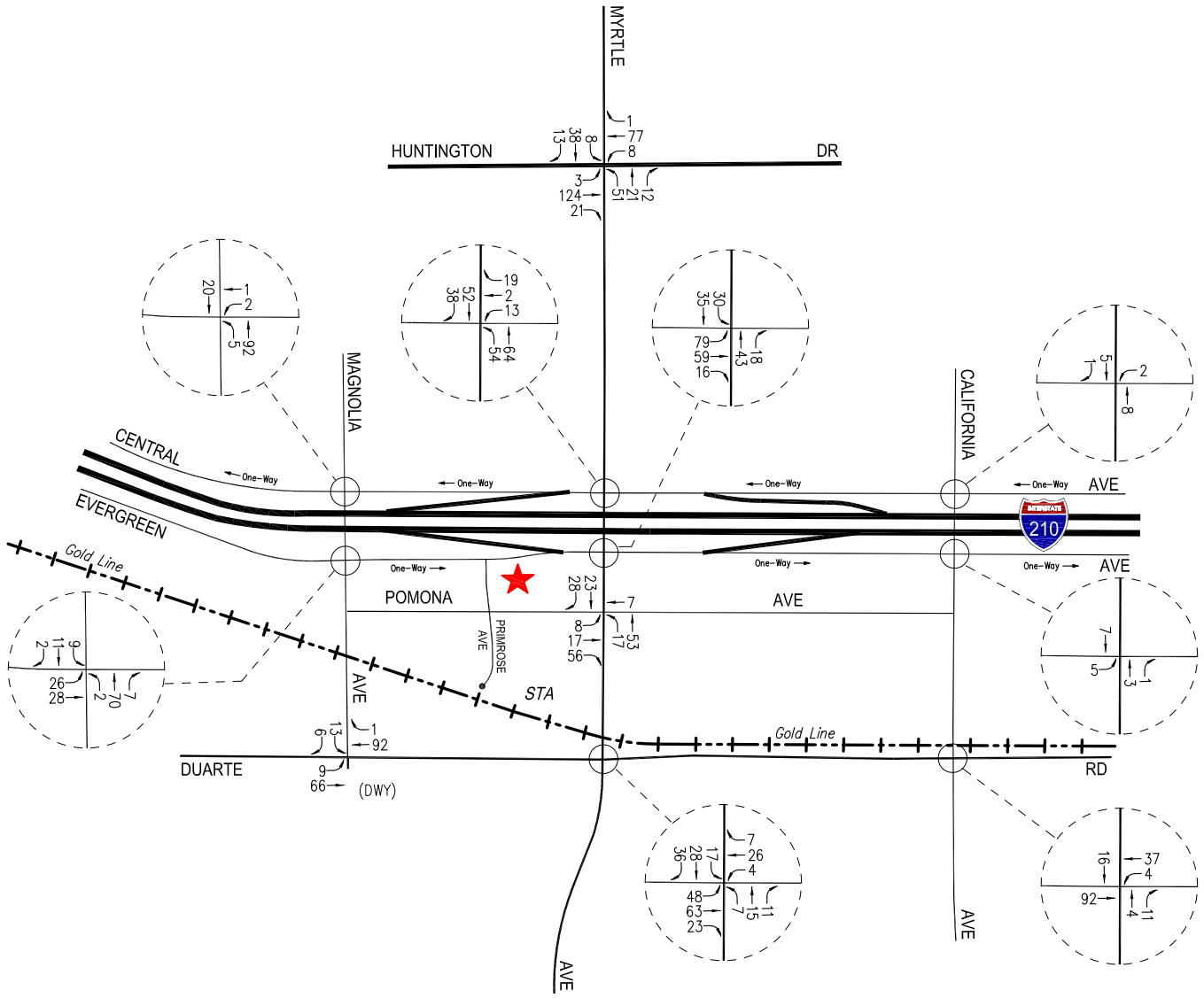
NOT TO SCALE

- PROJECT SITE
- (M) CITY OF MONROVIA RELATED PROJECT
- (L) LOS ANGELES COUNTY RELATED PROJECT
- (D) CITY OF DUARTE RELATED PROJECT
- (A) CITY OF ARCADIA RELATED PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

# FIGURE 6-1
# LOCATION OF RELATED PROJECTS

123 W. POMONA PROJECT




PROJECT SITE

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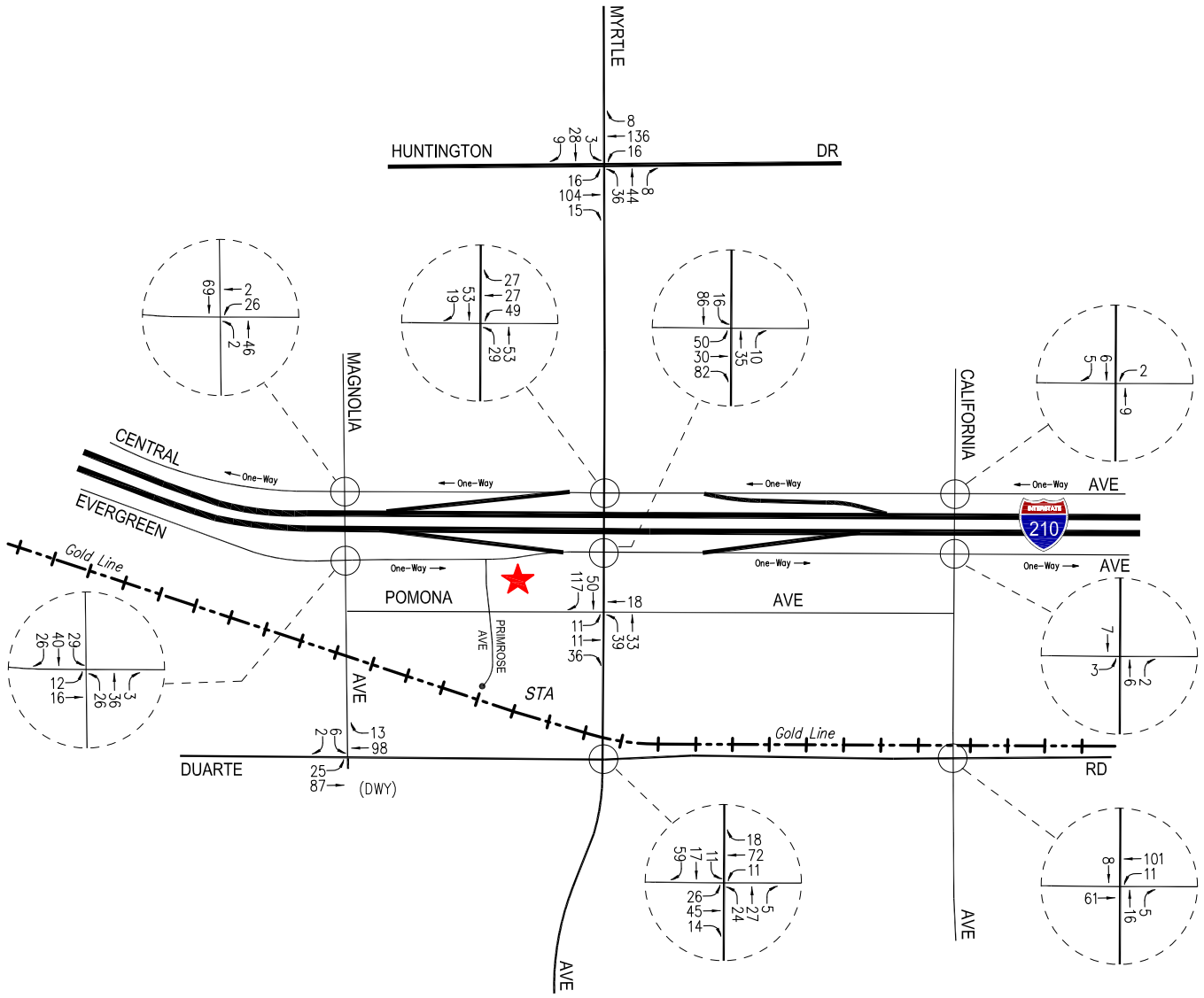
# FIGURES 6-2
# RELATED PROJECTS TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers




PROJECT SITE

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# FIGURES 6-3
# RELATED PROJECTS TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

## 6.2 Ambient Traffic Growth Factor

In order to account for area-wide regional growth not included in this analysis, the existing traffic volumes were increased at an annual rate of 0.82 percent (0.82%) per year to the year 2022 (i.e., the anticipated year of project build-out). The ambient growth factor was based on review of the background traffic growth estimates for the City of Monrovia (included as part of Regional Statistical Area No. 25) published in the *2010 Congestion Management Program*, which indicate that existing traffic volumes would be expected to increase at an annual rate of approximately 0.57% to 0.82% between years 2015 and 2025. Further, it is noted that the ambient traffic growth rate is intended to anticipate future traffic generated by development projects in the project vicinity. Thus, the inclusion in this traffic analysis of both a forecast of traffic generated by known related projects plus the use of an ambient growth traffic factor based on CMP traffic model data results in a conservative estimate of future traffic volumes at the study intersections.

# 7.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the 123 W. Pomona project, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic volumes. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the proposed project is isolated by comparing operational (i.e., Levels of Service) conditions at the selected key intersections using existing and expected future traffic volumes without and with forecast project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the project's impacts identified.

## 7.1 Project Trip Generation

Traffic volumes expected to be generated by the proposed project during the weekday AM and PM peak hours, as well as on a daily basis, were estimated using rates published in the 10th Edition of the ITE *Trip Generation Manual*[4]. ITE Land Use Code 221 (Multifamily Housing [Mid-Rise]) and ITE Land Use Code 820 (Shopping Center) trip generation rates were used to forecast the traffic volumes expected to be generated by the residential and retail components of the project, respectively. In addition, the ITE Land Use Code 110 (General Light Industrial) trip generation rates were used to forecast the traffic volumes from the existing uses (i.e., to be applied as a credit/reduction in the project trip generation forecasts as it will be removed with the proposed project).

The ITE manual contains trip rates for a variety of land uses (including office buildings, shopping centers, condominiums, apartments, etc.), which have been derived based on traffic counts conducted at existing sites. However, the traffic count data submitted to ITE is for free-standing sites generally located in suburban locations, which likely do not reflect the trip generation characteristics for projects located in urban areas such as where the proposed project is situated. Thus, the trip rates provided in the ITE *Trip Generation Manual* (derived from traffic counts at suburban projects) would be expected to

[4] Institute of Transportation Engineers *Trip Generation Manual*, 10th Edition, Washington, D.C., 2017.

overstate the trip generation potential of projects located in the Station Square Transit Village (SSTV) Planned Development area of the City of Monrovia, including the proposed project.

Internal capture trips are those trips made internal to the site between land uses in a mixed or multi-use development. When combined within a mixed or multi-use development, land uses tend to interact, and thus attract a portion of each other's trip generation. In addition to internal capture trips, pass-by trips are made as intermediate stops on the way from an origin to a primary destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the site. It should be noted that a combined internal capture/pass-by adjustment factor of 25 percent has been conservatively applied to the retail traffic generation forecast only.

For the 123 W. Pomona project, it is reasonable to conclude that its design and location within Western Gateway neighborhood of the SSTV Planned Development area and proximity to the Metro Gold Line Monrovia station, would result in a significant reduction in vehicle trips as compared to the trip generation forecasts that would otherwise be calculated using the applicable and unadjusted ITE trip rates in a passively managed traffic management condition. Thus, a transit adjustment factor of 25 percent has been conservatively applied to the residential traffic generation forecast, and a transit adjustment factor of 15 percent was applied to the retail traffic generation forecast after the internal/pass-by adjustments were applied.

### 7.1.1 *Project Trip Generation Summary*

The trip generation forecast for the proposed project is summarized in ***Table 7-1***. The trip generation forecast for the proposed project was submitted for review and approval by City of Monrovia staff. As presented in *Table 7-1*, the proposed project is expected to generate 73 net new vehicle trips (11 inbound trips and 62 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 111 net new vehicle trips (71 inbound trips and 40 outbound trips). Over a 24-hour period, the proposed project is forecast to generate 1,390 net new daily trip ends during a typical weekday (approximately 695 inbound trips and 695 outbound trips).

## 7.2 Project Traffic Distribution and Assignment

Project traffic volumes both entering and exiting the 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., Myrtle Avenue, Huntington Drive, Duarte Road, I-210 Freeway, etc.);
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes and I-210 Freeway on/off-ramp traffic volumes;

Table 7-1
PROJECT TRIP GENERATION [1]

| LAND USE | SIZE | DAILY TRIP ENDS [2] VOLUMES | AM PEAK HOUR VOLUMES [2] IN | AM PEAK HOUR VOLUMES [2] OUT | AM PEAK HOUR VOLUMES [2] TOTAL | PM PEAK HOUR VOLUMES [2] IN | PM PEAK HOUR VOLUMES [2] OUT | PM PEAK HOUR VOLUMES [2] TOTAL |
|---|---|---|---|---|---|---|---|---|
| ***Proposed Uses*** | | | | | | | | |
| Apartment [3] | 310 DU | 1,686 | 29 | 83 | 112 | 83 | 53 | 136 |
| Less Transit Adjustment (25%) [4] | | (422) | (7) | (21) | (28) | (21) | (13) | (34) |
| Retail [5] | 10,000 GLSF | 378 | 6 | 3 | 9 | 18 | 20 | 38 |
| Less Internal/Pass-by Adjustment (25%) [6] | | (95) | (2) | (1) | (3) | (5) | (5) | (10) |
| Less Transit Adjustment (15%) [4] | | (42) | (1) | 0 | (1) | (2) | (2) | (4) |
| **Subtotal Proposed Uses** | | **1,505** | **25** | **64** | **89** | **73** | **53** | **126** |
| ***Existing Uses to be Removed*** | | | | | | | | |
| General Light Industrial [7] | (23,264) GLSF | (115) | (14) | (2) | (16) | (2) | (13) | (15) |
| **Subtotal Existing Uses** | | **(115)** | **(14)** | **(2)** | **(16)** | **(2)** | **(13)** | **(15)** |
| | | | | | | | | |
| **NET TOTAL PROJECT TRIPS** | | **1,390** | **11** | **62** | **73** | **71** | **40** | **111** |

[1] Source: ITE "Trip Generation Manual", 10th Edition, 2017.

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

[3] ITE Land Use Code 221 (Multifamily Housing [Mid-Rise]) trip generation average rates.
- Daily Trip Rate: 5.44 trips/dwelling unit; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.36 trips/dwelling unit; 26% inbound/74% outbound
- PM Peak Hour Trip Rate: 0.44 trips/dwelling unit; 61% inbound/39% outbound

[4] Transit adjustments of 25 percent and 15 percent were applied to residential and retail project components, respectively, due to the proximity to the Metro Gold Line Monrovia Station located at 1675 S. Primrose Avenue. The transit adjustments were applied after the internal/pass-by adjustments were applied for the retail project component.

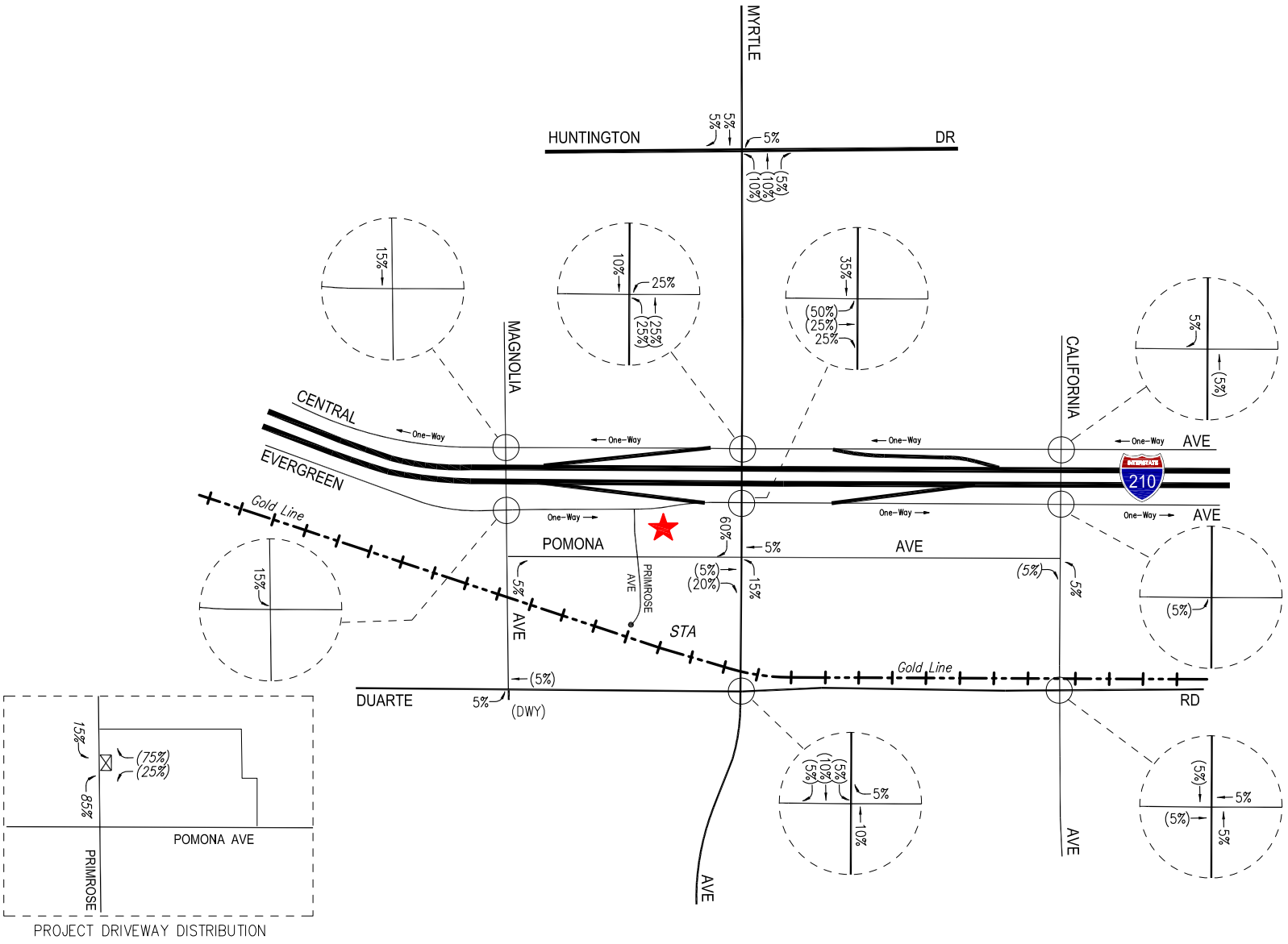
[5] ITE Land Use Code 820 (Shopping Center) trip generation average rates.
- Daily Trip Rate: 37.75 trips/1,000 SF of leasable floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.94 trips/1,000 SF of leasable floor area; 62% inbound/38% outbound
- PM Peak Hour Trip Rate: 3.81 trips/1,000 SF of leasable floor area; 48% inbound/52% outbound

[6] Pass-by trips are made as intermediate stops on the way from an origin to a primary destination without a route diversion. Pass-by trips are attracted from the traffic passing the site on an adjacent street or roadway that offers direct access to the site. In addition, an internal trip adjustment was included to account for the synergistic effects between the residential and retail land use components of the proposed project. The internal capture/pass-by adjustment factor of 25 percent was applied to the retail land use component.

[7] ITE Land Use Code 110 (General Light Industrial) trip generation average rates.
- Daily Trip Rate: 4.96 trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.70 trips/1,000 SF of floor area; 88% inbound/12% outbound
- PM Peak Hour Trip Rate: 0.63 trips/1,000 SF of floor area; 13% inbound/87% outbound

- Existing site parcel access ingress/egress schemes;
- Ingress/egress scheme planned for the proposed project;
- Nearby population and employment centers; and
- Coordination with City staff.

The residential and retail project traffic volume distribution percentages during weekday AM and PM peak hours at the study intersections are illustrated in ***Figures 7-1*** and ***7-2***, respectively. The forecast net new project traffic volumes at the study intersections for the weekday AM and PM peak hours are displayed in ***Figures 7-3*** and ***7-4***, respectively. The existing traffic volume distribution percentages during the weekday AM and PM peak hours at the study locations are contained in ***Appendix C***. The net new traffic volume assignments presented in *Figures 7-3* and *7-4* reflect the traffic distribution characteristics shown in *Figures 7-1*, *7-2*, and *Appendix Figure C-1*, as well as the project traffic generation forecast presented in *Table 7-1*.




PROJECT SITE

XX = INBOUND PERCENTAGES

(XX) = OUTBOUND PERCENTAGES

NOT TO SCALE

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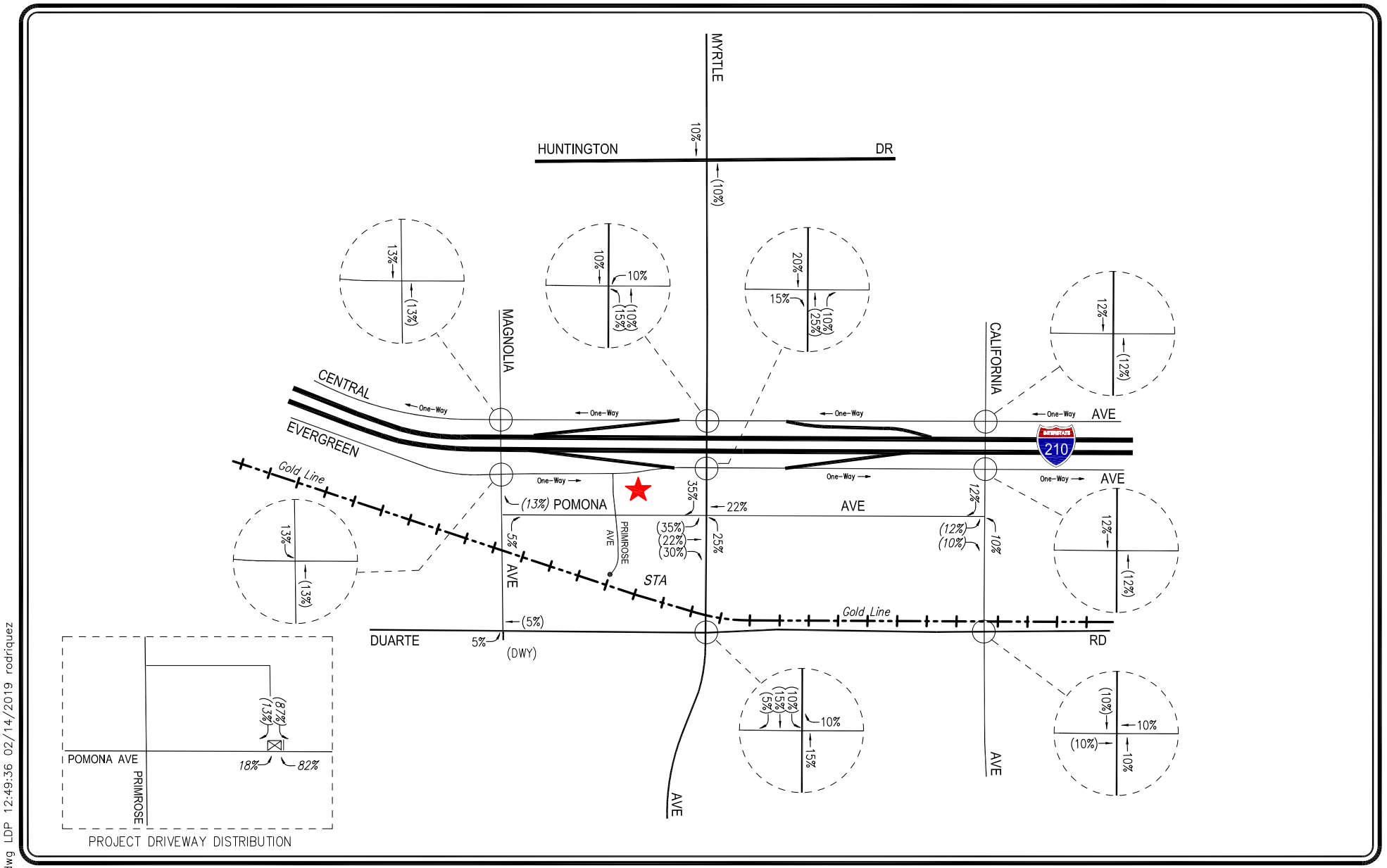
# FIGURE 7-1
# PROJECT TRIP DISTRIBUTION

RESIDENTIAL COMPONENT

123 W. POMONA PROJECT

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★ PROJECT SITE

XX = INBOUND PERCENTAGES

(XX) = OUTBOUND PERCENTAGES

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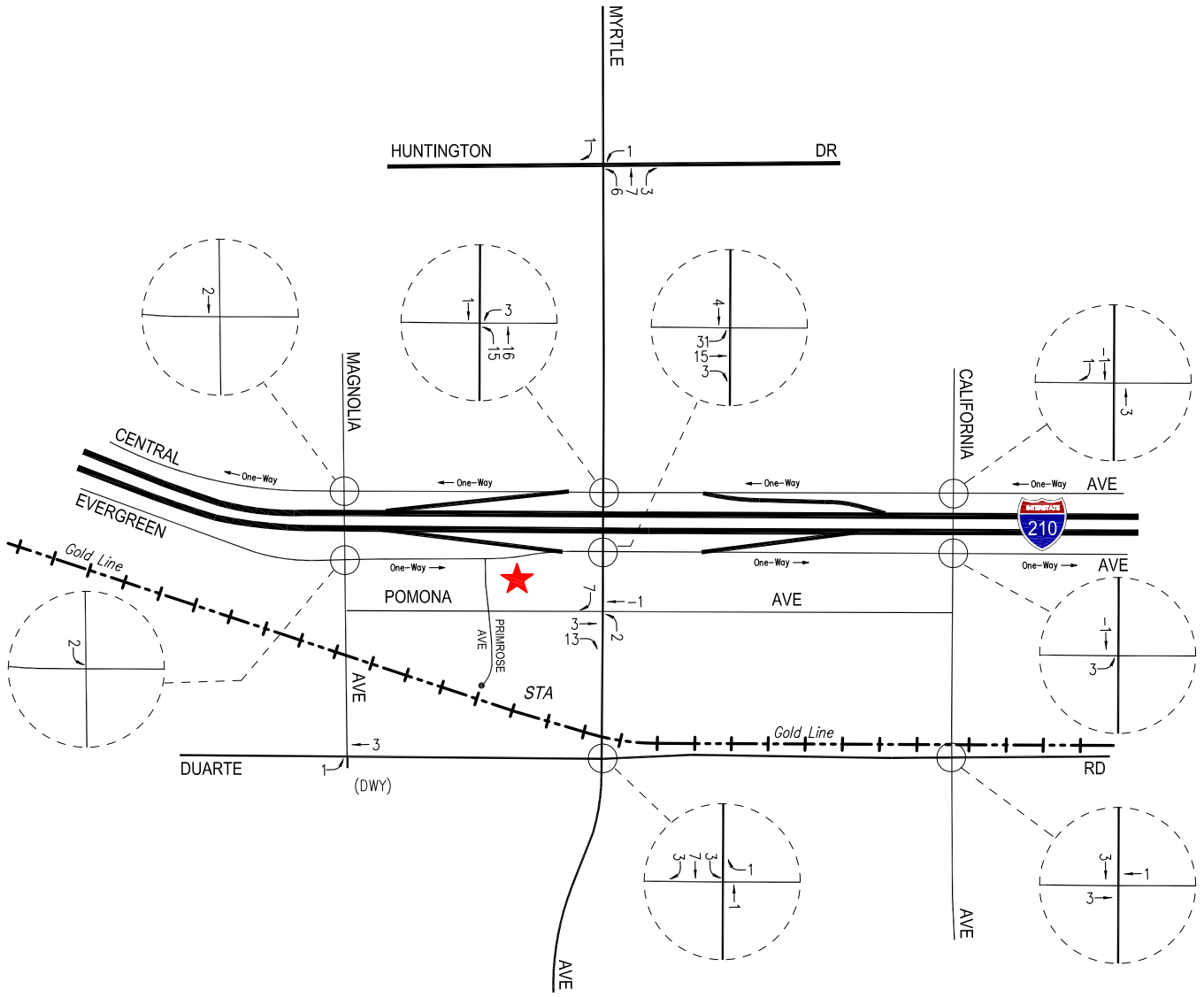
# FIGURE 7-2
# PROJECT TRIP DISTRIBUTION

RETAIL COMPONENT

123 W. POMONA PROJECT




PROJECT SITE

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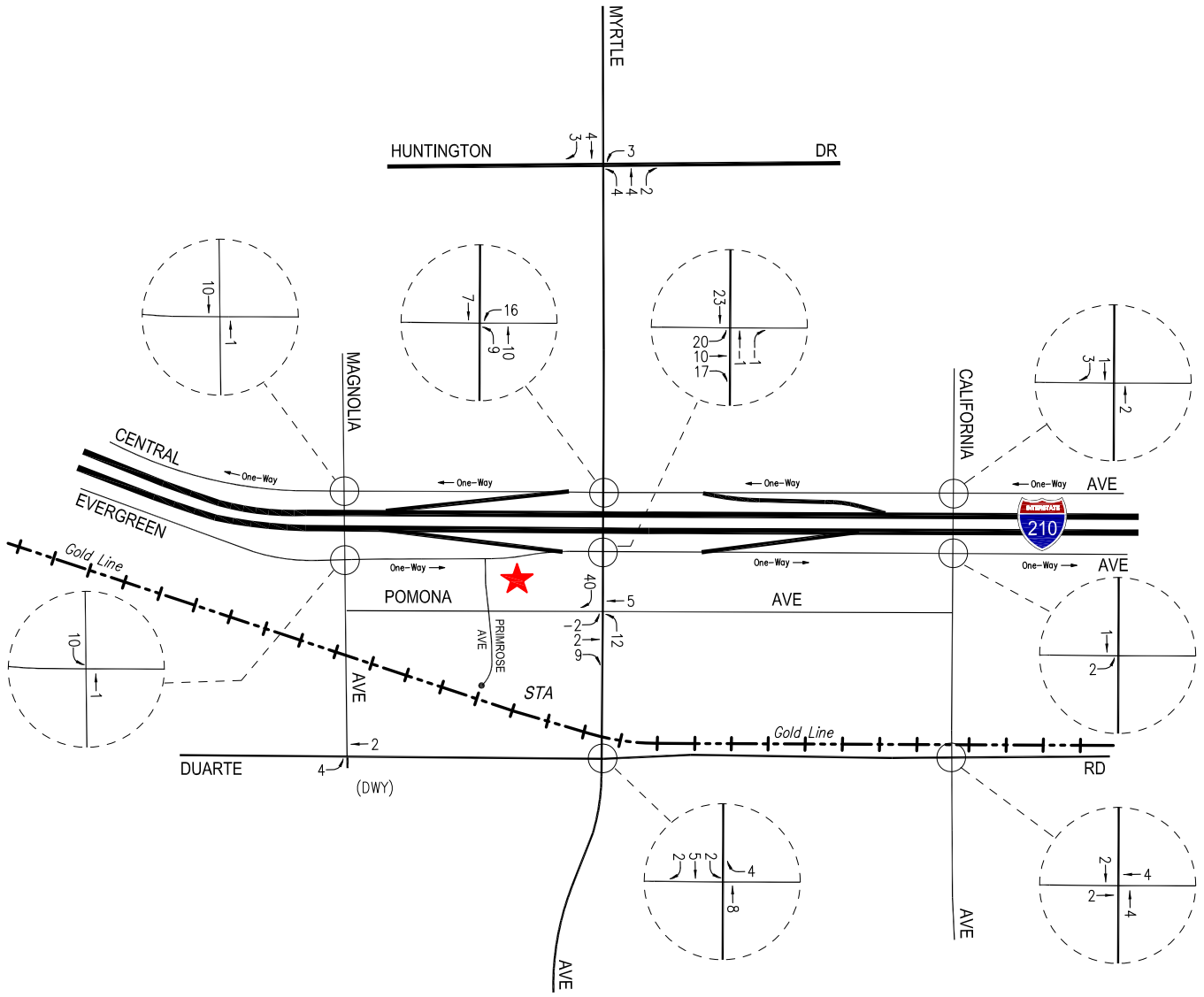
# FIGURE 7-3
# NET NEW PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers




PROJECT SITE

N

NOT TO SCALE

# FIGURE 7-4
# NET NEW PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

# 8.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

Signalized study intersections are typically 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) to LOS F (jammed condition). The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in ***Table 8-1***. Detailed description of the ICU method and corresponding Levels of Service is provided in ***Appendix D***.

TABLE 8-1

LEVEL OF SERVICE CRITERIA AND ICU CHARACTERISTICS

| Level of Service (LOS) | Intersection Capacity Utilization Value (V/C) | Level of Service Description |
|---|---|---|
| A | ≤ 0.600 | EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used. |
| B | 0.601 – 0.700 | VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles. |
| C | 0.701 – 0.800 | GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles. |
| D | 0.801 – 0.900 | FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups. |
| E | 0.901 – 1.000 | POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles. |
| F | > 1.000 | FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths. |

As the ICU method is intended for signalized intersection analysis, the two unsignalized/all-way stop-controlled (AWSC) study intersections were also analyzed using the methodology outlined in Chapter 19 of the Highway Capacity Manual. 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. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in ***Table 8-2***:

TABLE 8-2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

| Level of Service (LOS) | Control Delay Value (sec/veh) | Level of Service Description |
|---|---|---|
| A | ≤ 10.0 | Little or no delay |
| B | > 10.0 and ≤ 15.0 | Short traffic delays |
| C | > 15.0 and ≤ 25.0 | Average traffic delays |
| D | > 25.0 and ≤ 35.0 | Long traffic delays |
| E | > 35.0 and ≤ 50.0 | Very long traffic delays |
| F | > 50.0 | Severe congestion |

Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. The average control delay is measured in seconds per vehicle, and 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. Detailed description of the HCM method and corresponding Level of Service is also provided in *Appendix D.*

## 8.1 Impact Criteria and Thresholds

The relative impact of the added project traffic volumes to be generated by the proposed project during the weekday AM and PM peak hours was evaluated based on analysis of existing and future operating conditions at the study intersections, without and with the proposed 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 significance of the potential impacts of project-generated traffic at each study intersection was identified using criteria as confirmed with City of Monrovia staff. According to the City's Sliding Scale Method for calculating the level of impact due to traffic generated by the proposed project, a significant transportation impact is determined based on the criteria presented in ***Table 8-3***.

Table 8-3
CITY OF MONROVIA
SIGNALIZED INTERSECTION IMPACT THRESHOLD CRITERIA

| Pre-Project ICU | Level of Service | Project Related Increase in *v/c* |
|---|---|---|
| > 0.710 - 0.800 | C | equal to or greater than 0.04 |
| > 0.810 - 0.900 | D | equal to or greater than 0.03 |
| > 0.910 – 1.000 | E | equal to or greater than 0.02 |
| > 1.000 | F | equal to or greater than 0.01 |

The ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left-turn, through, and right-turn lanes and a dual turn-lane capacity of 2,880 vph. A clearance interval of 0.10 also is included in the ICU calculations.

The City of Monrovia does not have established thresholds of significance for unsignalized intersections. However, based on prior coordination with City staff, unsignalized study intersections which operate at LOS E or F conditions for future with project conditions would require the preparation of a traffic signal warrant analysis at the subject intersection.

## 8.2 Traffic Impact Analysis Scenarios

Pursuant to the City's traffic study guidelines, LOS calculations have been prepared for the following scenarios:

[a] Existing conditions.

[b] Existing with project conditions.

[c] Condition [b] with implementation of project mitigation measures, where necessary.

[d] Condition [a] plus 0.82 percent (0.82%) annual ambient traffic growth through year 2022 and with completion and occupancy of the related projects (i.e., future without project conditions).

[e] Condition [d] with completion and occupancy of the proposed project.

[f] Condition [e] with implementation of project mitigation measures, where necessary.

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the study intersections.

# 9.0 TRAFFIC ANALYSIS

The traffic impact analysis prepared for the study intersections using the ICU and HCM methodology and application of the City of Monrovia significant traffic impact criteria is summarized in ***Table 9-1***. The ICU and HCM data worksheets for the analyzed intersections are contained in *Appendix D.*

## 9.1 Existing Conditions

### 9.1.1 *Existing Conditions*

As indicated in column [1] of *Table 9-1*, all 11 study intersections are presently operating at LOS D or better during the weekday AM and PM peak hours under existing conditions as shown in *Table 9-1*. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figures 5-1* and *5-2*, respectively.

### 9.1.2 *Existing With Project Conditions*

As shown in column [2] of *Table 9-1,* application of the City's threshold criteria to the "Existing With Project" scenario indicates that the proposed project is not expected to result in a significant traffic impact at any of the study intersections during the weekday morning or afternoon peak hours.

Incremental but not significant impacts are noted at the remaining study intersections. The existing with project traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in ***Figures 9-1*** and ***9-2***, respectively.

## 9.2 Future Conditions

### 9.2.1 *Future Without Project Conditions*

The future cumulative baseline 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 and delay 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 6-1*. As presented in column [3] of *Table 9-1*, eight of the 11 study intersections are expected to operate at LOS D 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. The following three remaining study intersections are anticipated to operate at LOS E for the peak hour shown below with the addition of related projects traffic and ambient traffic:

- Int. No. 5: Myrtle Avenue/Central Avenue — PM Peak Hour: v/c=0.960, LOS E
- Int. No. 6: Myrtle Avenue/Evergreen Avenue — PM Peak Hour: v/c=0.918, LOS E
- Int. No. 8: Myrtle Avenue/Duarte Road — PM Peak Hour: v/c=0.958, LOS E

Table 9-1
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS

| NO. | INTERSECTION | PEAK HOUR | [1] YEAR 2018 EXISTING V/C or DELAY | [1] LOS [a] | [2] YEAR 2018 EXISTING W/ PROJECT V/C or Delay | [2] LOS [a] | [2] CHANGE V/C or DELAY [(2)-(1)] | [2] SIGNIF. IMPACT [b] | [3] YEAR 2022 FUTURE PRE-PROJECT V/C or DELAY | [3] LOS [a] | [4] YEAR 2022 FUTURE W/ PROJECT V/C or DELAY | [4] LOS [a] | [4] CHANGE V/C or DELAY [(4)-(3)] | [4] SIGNIF. IMPACT [b] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Magnolia Avenue/ Central Avenue [c] | AM | 13.4 | B | 13.4 | B | 0.0 | -- | 16.8 | C | 16.9 | C | 0.1 | -- |
| | | PM | 14.1 | B | 14.3 | B | 0.2 | -- | 19.3 | C | 19.9 | C | 0.6 | -- |
| 2 | Magnolia Avenue/ Evergreen Avenue [c] | AM | 14.8 | B | 14.8 | B | 0.0 | -- | 22.2 | C | 22.3 | C | 0.1 | -- |
| | | PM | 16.7 | C | 17.1 | C | 0.4 | -- | 32.6 | D | 34.5 | D | 1.9 | -- |
| 3 | Magnolia Avenue/ Duarte Road | AM | 0.624 | B | 0.626 | B | 0.002 | No | 0.684 | B | 0.686 | B | 0.002 | No |
| | | PM | 0.590 | A | 0.593 | A | 0.003 | No | 0.660 | B | 0.663 | B | 0.003 | No |
| 4 | Myrtle Avenue/ Huntington Drive | AM | 0.757 | C | 0.760 | C | 0.003 | No | 0.843 | D | 0.847 | D | 0.004 | No |
| | | PM | 0.757 | C | 0.763 | C | 0.006 | No | 0.855 | D | 0.862 | D | 0.007 | No |
| 5 | Myrtle Avenue/ Central Avenue | AM | 0.774 | C | 0.784 | C | 0.010 | No | 0.860 | D | 0.870 | D | 0.010 | No |
| | | PM | 0.877 | D | 0.884 | D | 0.007 | No | 0.960 | E | 0.968 | E | 0.008 | No |
| 6 | Myrtle Avenue/ Evergreen Avenue | AM | 0.671 | B | 0.686 | B | 0.015 | No | 0.772 | C | 0.791 | C | 0.019 | No |
| | | PM | 0.835 | D | 0.843 | D | 0.008 | No | 0.918 | E | 0.926 | E | 0.008 | No |
| 7 | Myrtle Avenue/ Pomona Avenue | AM | 0.424 | A | 0.430 | A | 0.006 | No | 0.504 | A | 0.517 | A | 0.013 | No |
| | | PM | 0.534 | A | 0.560 | A | 0.026 | No | 0.661 | B | 0.687 | B | 0.026 | No |
| 8 | Myrtle Avenue/ Duarte Road | AM | 0.768 | C | 0.771 | C | 0.003 | No | 0.848 | D | 0.851 | D | 0.003 | No |
| | | PM | 0.875 | D | 0.877 | D | 0.002 | No | 0.958 | E | 0.960 | E | 0.002 | No |
| 9 | California Avenue/ Central Avenue | AM | 0.357 | A | 0.357 | A | 0.000 | No | 0.368 | A | 0.368 | A | 0.000 | No |
| | | PM | 0.343 | A | 0.344 | A | 0.001 | No | 0.354 | A | 0.356 | A | 0.002 | No |

Table 9-1 (Continued)
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS

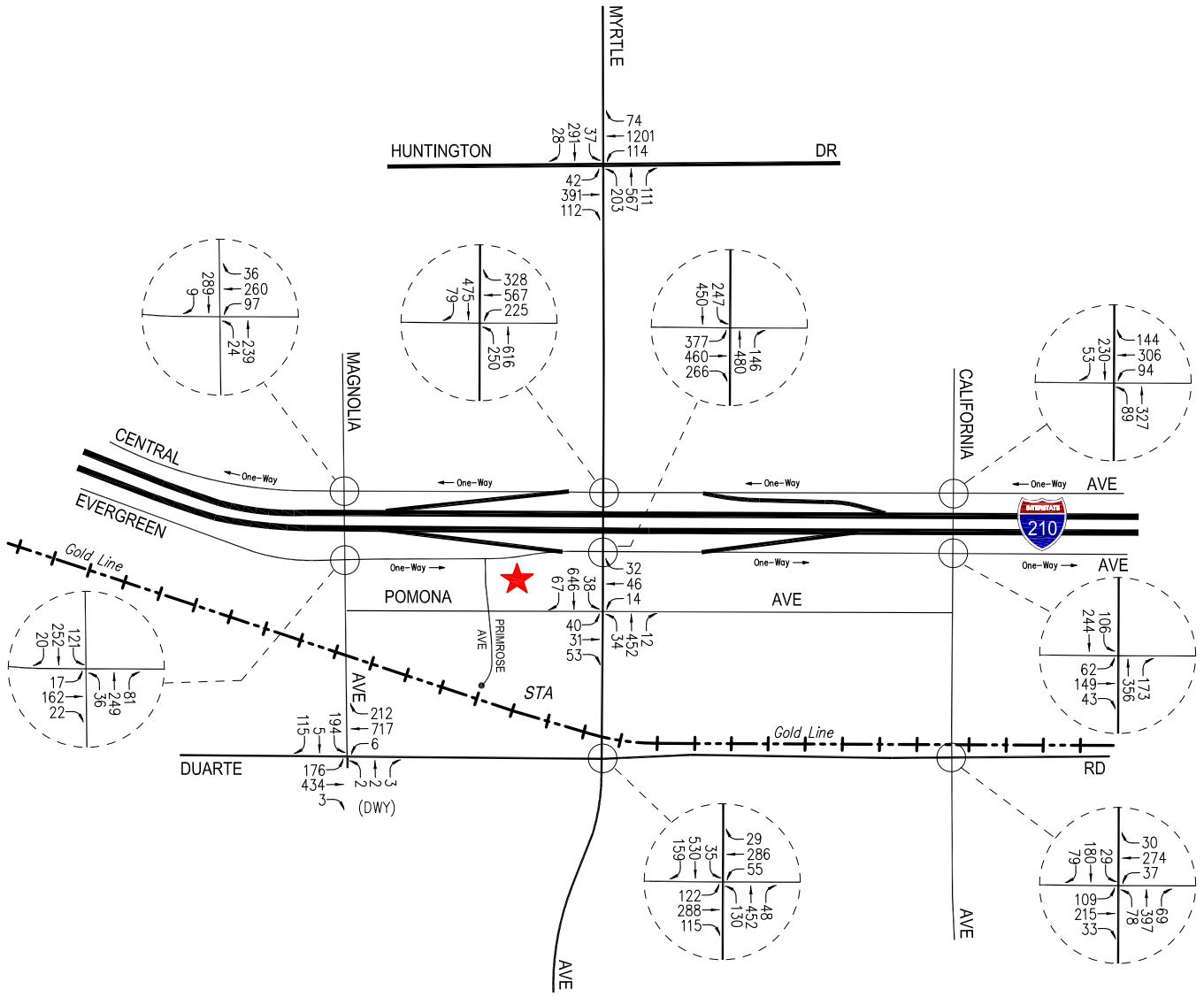
| NO. | INTERSECTION | PEAK HOUR | [1] YEAR 2018 EXISTING V/C or DELAY | [1] LOS [a] | [2] YEAR 2018 EXISTING W/ PROJECT V/C or Delay | [2] LOS [a] | [2] CHANGE V/C or DELAY [(2)-(1)] | [2] SIGNIF. IMPACT [b] | [3] YEAR 2022 FUTURE PRE-PROJECT V/C or DELAY | [3] LOS [a] | [4] YEAR 2022 FUTURE W/ PROJECT V/C or DELAY | [4] LOS [a] | [4] CHANGE V/C or DELAY [(4)-(3)] | [4] SIGNIF. IMPACT [b] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | California Avenue/ Evergreen Avenue | AM | 0.384 | A | 0.384 | A | 0.000 | No | 0.396 | A | 0.397 | A | 0.001 | No |
| | | PM | 0.463 | A | 0.463 | A | 0.000 | No | 0.478 | A | 0.478 | A | 0.000 | No |
| 11 | California Avenue/ Duarte Road | AM | 0.521 | A | 0.522 | A | 0.001 | No | 0.563 | A | 0.564 | A | 0.001 | No |
| | | PM | 0.653 | B | 0.656 | B | 0.003 | No | 0.723 | C | 0.725 | C | 0.002 | No |

[a] Level of Service (LOS) is based on the reported ICU value for signalized intersections and the delay value for unsignalized intersections.

[b] The City of Monrovia intersection impact threshold criteria for signalized and unsignalized intersections are as follows:
For signalized intersections, an impact is considered significant if the project-related increase in the volume-to-capacity ratio (v/c) equals or exceeds the thresholds shown the following table:

| Level of Service | Pre-Project V/C | Project-Related Increase in V/C |
|---|---|---|
| C | > 0.710 - 0.800 | equal to or greater than 0.040 |
| D | > 0.810 - 0.900 | equal to or greater than 0.030 |
| E | > 0.910 - 1.000 | equal to or greater than 0.020 |
| F | > 1.00 | equal to or greater than 0.010 |

[c] For unsignalized intersections:
- Traffic signal warrants analysis to be prepared for unsignalized intersections operating at LOS E or F for future with project conditions.




PROJECT SITE

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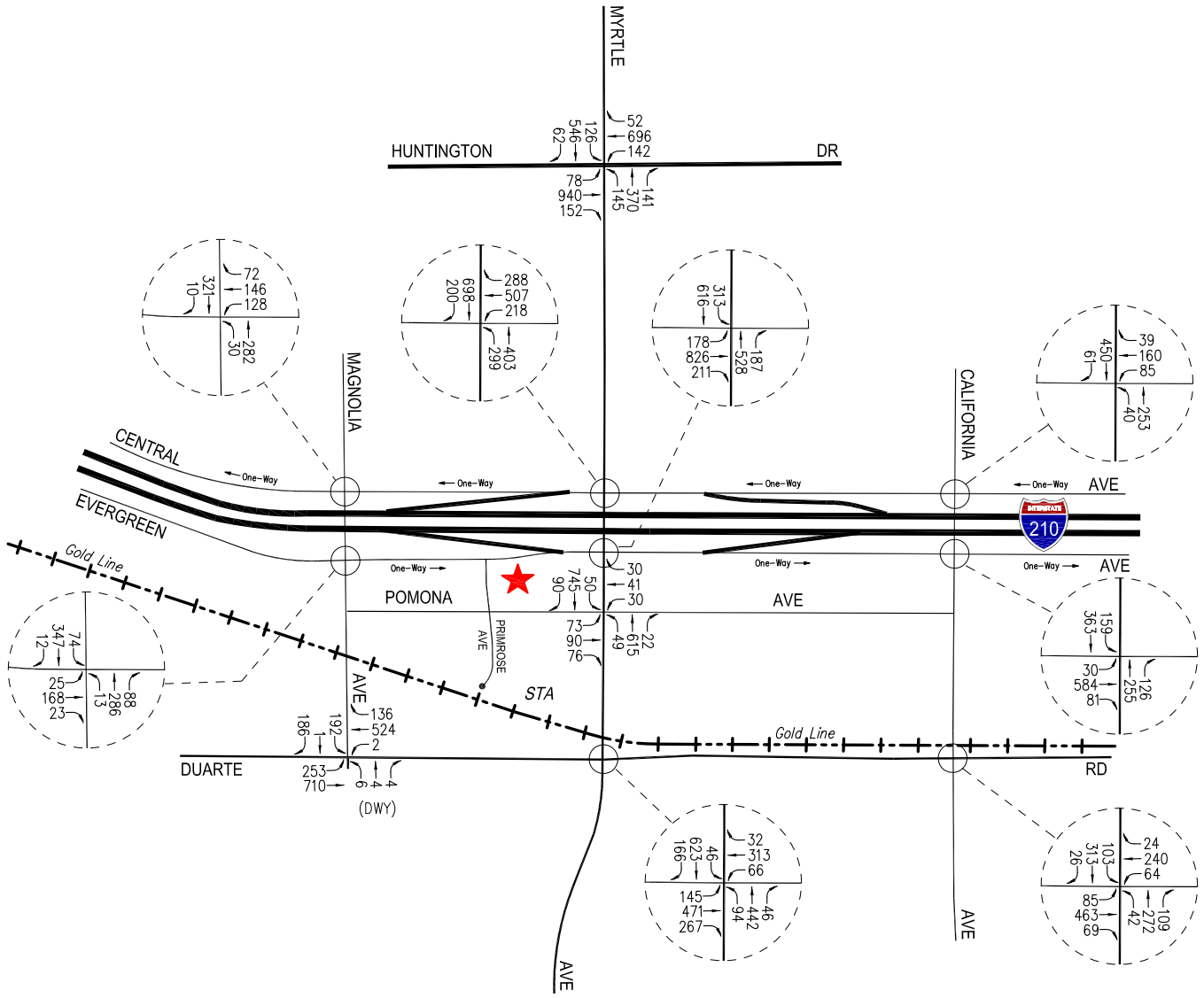
NOT TO SCALE

# FIGURE 9-1
# EXISTING WITH PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers




PROJECT SITE

N

NOT TO SCALE

# FIGURE 9-2
# EXISTING WITH PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

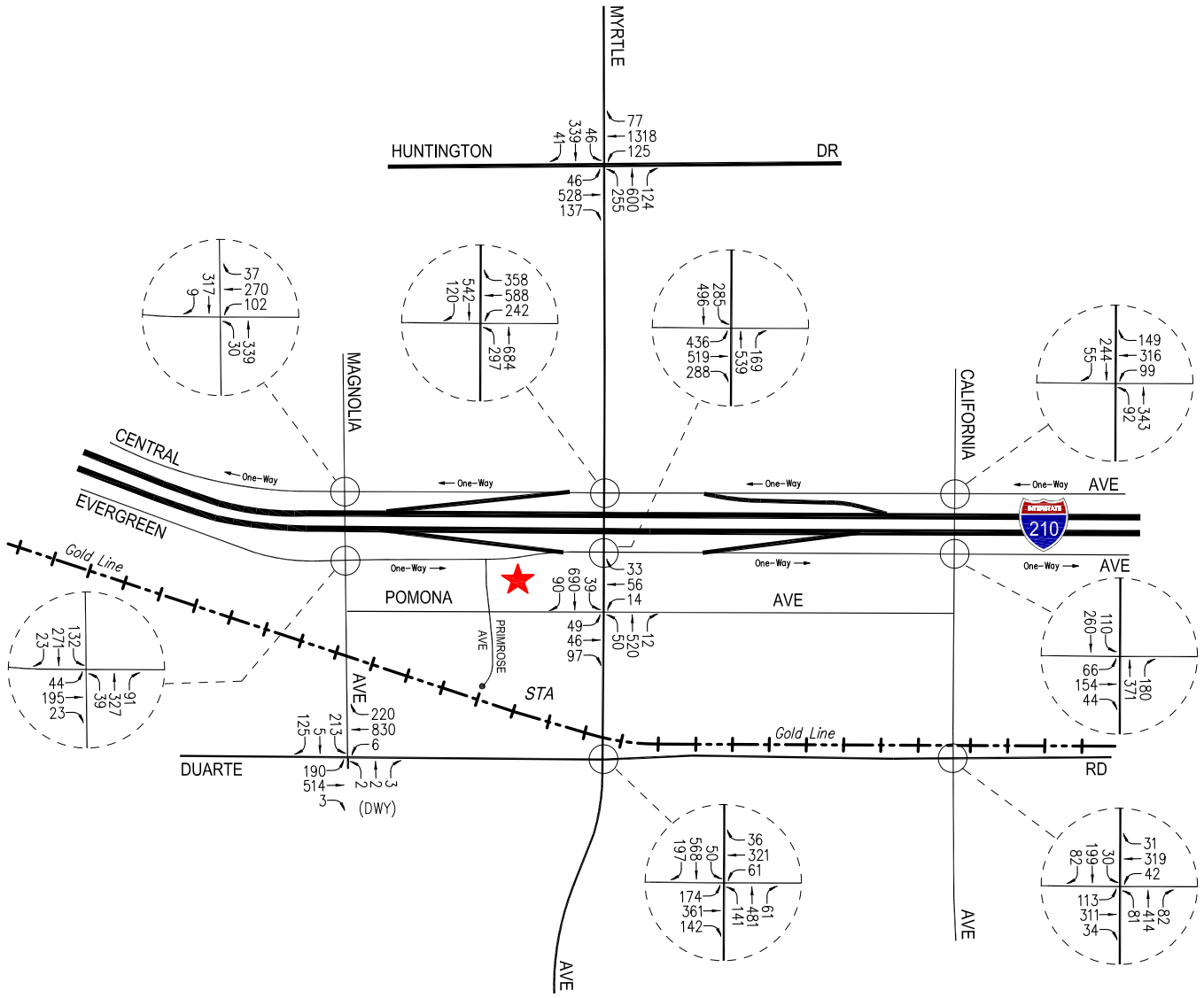
123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

The future without project (existing, ambient growth and related projects) traffic volumes at the study intersections during the weekday AM and PM peak hours are presented in ***Figures 9-3*** and ***9-4***, respectively.

### 9.2.2 *Future With Project Conditions*

As shown in column [4] of *Table 9-1,* application of the City's threshold criteria to the "Year 2022 Future With Project" scenario indicates that the proposed project is not expected to result in a significant impact at any of the 11 study intersections during the weekday morning and afternoon peak hours. Incremental, but not significant, impacts are noted at the remaining study intersections. Because there are no significant impacts, no traffic mitigation measures are required or recommended for the study intersections. The future with project (existing, ambient growth, related projects and project) traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in ***Figures 9-5*** and ***9-6***, respectively.




PROJECT SITE

N

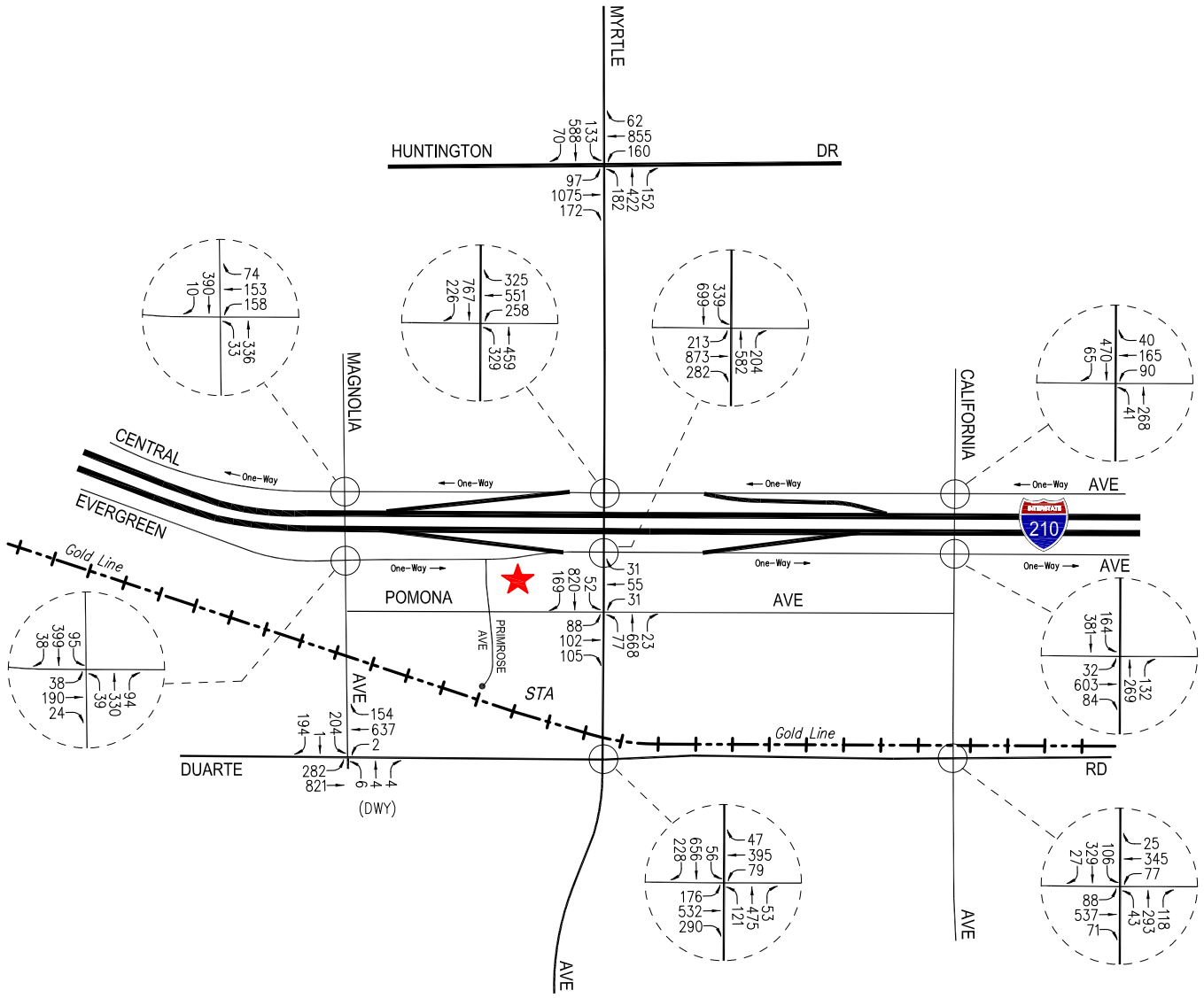
NOT TO SCALE

# FIGURE 9-3
# FUTURE WITHOUT PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers




PROJECT SITE

N

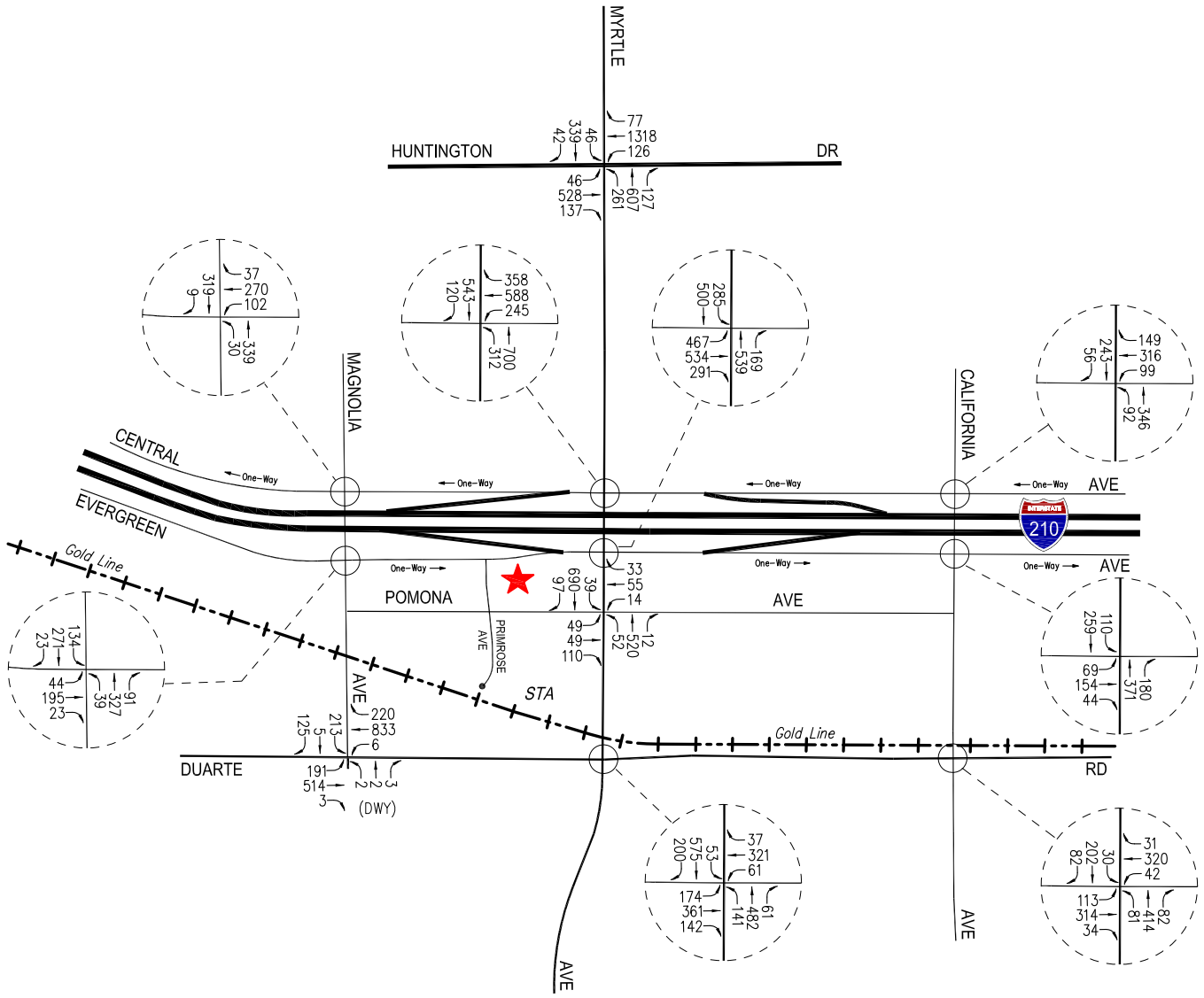
NOT TO SCALE

# FIGURE 9-4
# FUTURE WITHOUT PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers




PROJECT SITE

N

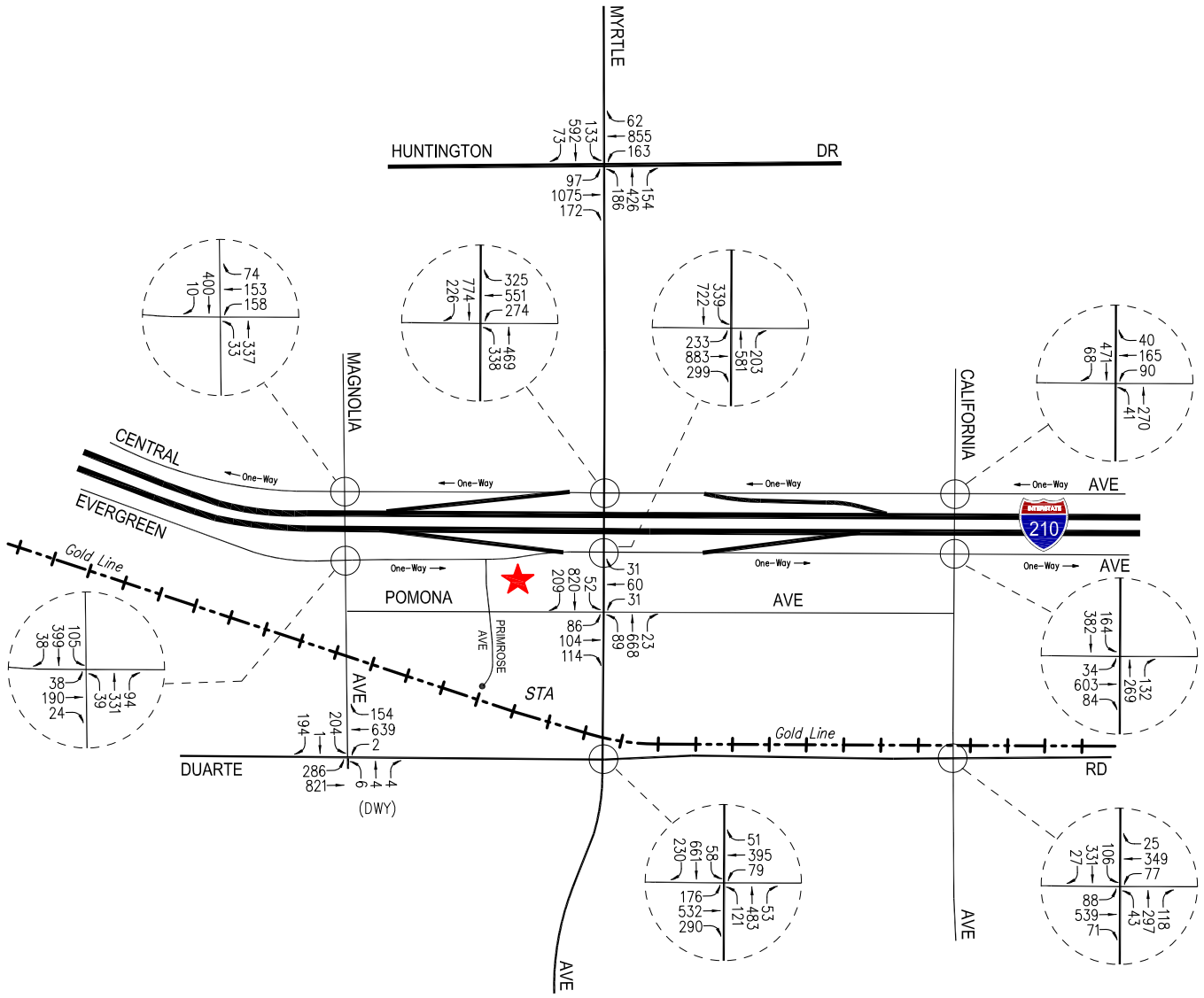
NOT TO SCALE

# FIGURE 9-5
# FUTURE WITH PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers




PROJECT SITE

N

NOT TO SCALE

# FIGURE 9-6
# FUTURE WITH PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

# 10.0 CALIFORNIA DEPARTMENT OF TRANSPORTATION FREEWAY ANALYSIS

## 10.1 Freeway Segment Analysis

In addition to the intersection analyses, which utilize the City of Monrovia's methodology, a supplemental analysis was prepared based on the *Highway Capacity Manual*[5] (HCM) operational analysis methodologies pursuant to the California Department of Transportation's (Caltrans) *Guide for the Preparation of Traffic Impact Studies*[6]. According to the Caltrans document, the LOS for operating State highway facilities is based upon measures of effectiveness (MOEs). For mainline freeway segments, the MOE is determined based on density in passenger cars per mile per lane (pc/mi/ln). However, in some instances the density-based methodology will yield LOS results that are not indicative of actual peak hour operations, especially under congested conditions. Under such conditions, it may be more appropriate to utilize speed to measure LOS operations. Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities. Since the maximum density for LOS C operations on a freeway mainline segment is 26 pc/mi/ln, the freeway segment is considered to be significantly impacted if the traffic associated with any development project or projects causes the facility to degrade to a density of 27 pc/mi/ln or greater (resulting in LOS D operation). However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained. Under this condition, if a freeway mainline segment is operating at LOS E with a density of 36 pc/mi/ln, then that same density value should be maintained.

According to the Caltrans document, analyses of Caltrans facilities should be conducted when and if a proposed project is expected to add 50 or more peak hour trips in either direction on a freeway mainline segment. The proposed project at build-out is not expected to generate 50 or more vehicle trips, during either the weekday AM or PM commute peak hours, at any freeway mainline location. Thus, any freeway mainline location would not exceed the threshold for preparation of a Caltrans freeway mainline analysis. However, the following mainline freeway segments along the I-210 Freeway have been identified for analysis based on their proximity to the project site and the expected level of project-generated traffic. These segments are forecast to experience a relatively greater percentage of project-related traffic than other mainline freeway segment locations:

- I-210 Freeway west of Myrtle Avenue
- I-210 Freeway east of Myrtle Avenue

The proposed project's effect on the regional mainline freeway system has been determined based on a review of available traffic volume data for existing weekday peak hour conditions. Freeway

[5] *Highway Capacity Manual 6th Edition*, Transportation Research Board of the National Academies of Sciences-Engineering-Medicine, 2016.

[6] *Guide for the Preparation of Traffic Impact Studies*, State of California Department of Transportation, December 2002.

mainline data were obtained from Caltrans' Performance Measurement System (PeMS) website. Hourly volume and speed data were obtained for all mid-week days (i.e., Tuesday, Wednesday, and Thursday) in October 2018 and reviewed for validity and consistency. The 85th percentile volumes during the AM and PM peak hours were utilized for purposes of the analysis. The year 2018 existing traffic volumes were then increased by the CMP annual average growth rate of 0.82% per year so as to reflect the future year 2022 analysis condition. Additionally, the existing speeds associated with the 85th percentile volumes during the AM and PM peak hours were also obtained from PeMS, as it was noted that some of the freeway mainline segments experienced congested conditions during the peak hours, leading to an inaccurate representation of demand on the segments.

The selected freeway segment features used in the analysis were based on information obtained from field reviews and confirmed by the detector station details and roadway information provided by PeMS. The freeway analysis is primarily based on the number of freeway mainline lanes, although the effects of travel lane width and right shoulder width are considered. Along some freeway segments, auxiliary lanes are provided to facilitate entering and exiting freeway traffic to and from the freeway mainline. Although some of the freeway auxiliary lanes accommodate through traffic, these have not been considered so as to provide a conservative analysis to determine the effects of the proposed project. The HCM operational analysis for freeway segments is based on density (i.e., passenger cars per mile per lane [pc/mi/ln]). Where the LOS determined through the use of existing speed data obtained from PeMS indicates a worse operating condition than the LOS determined by the calculated density, the worse LOS is reported. The Caltrans freeway traffic analysis is summarized in ***Table 10-1*** for all traffic analysis conditions. Copies of the HCM freeway analysis data worksheets are provided in ***Appendix E***.

### 10.1.1 *Existing and Existing With Project Conditions*

As shown in *Table 10-1*, both of the study freeway segments are presently operating at LOS F during the weekday PM peak hour in the eastbound direction. Additionally, the freeway segment west of Myrtle Avenue is expected to operate at LOS F in the westbound direction during the weekday AM peak hour. With the addition of the proposed project traffic, the same study freeway segments are expected to continue to operate at LOS F during the weekday AM and PM peak hours. As shown in *Table 10-1*, application of the Caltrans LOS standards and guidelines to the "Existing With Project" scenario indicates that the proposed project is not expected to create traffic impacts at any of the study freeway segments.

### 10.1.2 *Future Without and With Project Conditions*

Growth in traffic due to the combined effects of continuing development, intensification of existing development, and other factors, were assumed to be 0.82% per year through year 2022. With the addition of regional growth and development of the related projects (i.e., year 2022 without project conditions), the I-210 Freeway segment west of Myrtle Avenue is expected to operate at LOS F in the eastbound direction during the weekday PM peak hour. Additionally, the I-210 Freeway east of Myrtle Avenue is expected to operate at LOS F in the westbound direction during the AM peak hour and in the eastbound direction during the PM peak hour. With the addition of the proposed project

Table 10-1
CALTRANS FREEWAY IMPACT ANALYSIS [1]
WEEKDAY AM AND PM PEAK HOURS

| No. | Freeway Segment | Peak Hour | Dir. | Existing Year 2018 Traffic Volumes [2] | Existing Year 2018 Density (pc/mi/ln) [3] | Existing Year 2018 LOS [4] | Existing Year 2018 Speed (mph) [2] | Existing Year 2018 LOS [5] | Project Trip Ends [6] | Existing Year 2018 With Project Traffic Volumes [7] | Existing Year 2018 With Project Density (pc/mi/ln) [3] | Existing Year 2018 With Project LOS [8] | Density Increase With Project [9] | Impact | Future Year 2022 Without Project Traffic Volumes [10] | Future Year 2022 Without Project Density (pc/mi/ln) [3] | Future Year 2022 Without Project LOS [8] | Project Trip Ends [6] | Future Year 2022 With Project Traffic Volumes [11] | Future Year 2022 With Project Density (pc/mi/ln) [3] | Future Year 2022 With Project LOS [8] | Density Increase With Project [12] | Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I-210 Freeway west of Myrtle Avenue | AM | EB | 6,577 | 28.9 | D | 65.4 | A/B | 3 | 6,580 | 28.9 | D | 0.0 | No | 6,795 | 30.3 | D | 3 | 6,798 | 30.3 | D | 0.0 | No |
| | | | WB | 4,285 | 18.1 | C | 59.8 | D | 16 | 4,301 | 18.1 | D | 0.0 | No | 4,427 | 18.7 | D | 16 | 4,443 | 18.7 | D | 0.0 | No |
| | | PM | EB | 5,004 | 21.9 | C | 20.6 | F | 18 | 5,022 | 22.0 | F | 0.1 | No | 5,170 | 22.6 | F | 18 | 5,188 | 22.8 | F | 0.2 | No |
| | | | WB | 5,380 | 22.4 | C | 68.7 | A/B | 9 | 5,389 | 22.4 | C | 0.0 | No | 5,559 | 23.2 | C | 9 | 5,568 | 23.2 | C | 0.0 | No |
| 2 | I-210 Freeway east of Myrtle Avenue | AM | EB | 6,268 | 28.0 | D | 68.6 | A/B | 12 | 6,280 | 28.1 | D | 0.1 | No | 6,476 | 29.3 | D | 12 | 6,488 | 29.4 | D | 0.1 | No |
| | | | WB | 4,822 | 19.4 | C | 38.8 | F | 1 | 4,823 | 19.4 | F | 0.0 | No | 4,982 | 20.0 | F | 1 | 4,983 | 20.0 | F | 0.0 | No |
| | | PM | EB | 4,757 | 20.3 | C | 33.0 | F | 6 | 4,763 | 20.3 | F | 0.0 | No | 4,915 | 21.0 | F | 6 | 4,921 | 21.0 | F | 0.0 | No |
| | | | WB | 6,278 | 26.3 | D | 69.8 | A/B | 13 | 6,291 | 26.4 | D | 0.1 | No | 6,486 | 27.4 | D | 13 | 6,499 | 27.5 | D | 0.1 | No |

[1] Freeway analysis based on the Highway Capacity Manual 6th Edition, operational analysis methodologies, per the Caltrans' *Guide for the Preparation of Traffic Impact Studies* , December 2002.
[2] Source: Caltrans PeMS website, 2018. Data reflects the 85th percentile volumes and associated speeds for weekday AM and PM peak hour conditions based on October 2018 data obtained for the I-210 Freeway at postmiles 32.86 and 35.12 in the eastbound direction, and postmiles 32.76 and 34.61 in the westbound direction.
[3] pc/mi/ln: passenger cars per mile per lane. Pursuant to the Highway Capacity Software (HCS) worksheets contained in Appendix E, density values are reported to one decimal place.
[4] Freeway mainline Levels of Service by density were based on the following criteria:

| Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
|---|---|---|---|
| ≤ 11 | A | > 26-35 | D |
| > 11-18 | B | > 35-45 | E |
| > 18-26 | C | > 45 | F |

[5] Freeway mainline Levels of Service by minimum speeds were based on the following criteria:

| Speed (mph) | LOS | Speed (mph) | LOS |
|---|---|---|---|
| ≥ 65.0 | A | <64.6-59.7 | D |
| ≥ 65.0 | B | <59.7-52.2 | E |
| <65.0-64.6 | C | <52.2 | F |

[6] Based on the trip generation and trip distribution for the project.
[7] [2] + [6]
[8] For the purposes of this analysis, the worst-case Level of Service based on the calculated density and the existing speeds is reported as the segment Level of Service.
[9] Derived by subtracting the density of the year 2018 existing conditions from the year 2018 existing with project conditions.
[10] Year 2022 future without project traffic volumes were derived by increasing the existing traffic volumes by an ambient growth rate of 0.82% per year to the year 2022.
[11] [10] + [6]
[12] Derived by subtracting the density of the year 2022 future without project conditions from the year 2022 future with project conditions.

traffic (i.e., year 2022 with project conditions), these segments are expected to continue to operate at LOS F in the peak hours and direction noted in the future without project conditions. As shown in *Table 10-1*, application of the Caltrans LOS standards and guidelines to the year 2022 with project scenario indicates that the proposed project is not expected to create traffic impacts at any of the study freeway segments.

## 10.2 Freeway Intersection (Ramp) Analysis

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

The HCM signalized methodology calculates the control delay for each of the subject traffic movements and determines the level of service for each constrained movement. The control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. The overall control delay is measured in seconds per vehicle and the level of service is then determined. The term Level of Service (LOS) is used to describe intersection operations. Intersection Levels of Service vary from LOS A (free flow condition) to LOS F (jammed condition). The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range for signalized intersections.

The following Caltrans study intersections have been identified for analysis based on their proximity to the project site:

- Intersection No. 5: Myrtle Avenue/Central Avenue-I-210 Freeway Westbound Ramps
- Intersection No. 6: Myrtle Avenue/Evergreen Avenue-I-210 Freeway Eastbound Ramps

For state-controlled study intersections, the MOE is determined based on control delay in seconds per vehicle (sec/veh). For this analysis, LOS D is the target level of service standard and will be utilized to assess the project impacts at the Caltrans study intersections. For intersections, Caltrans considers a location to be impacted if the target MOE is not maintained and a corresponding change in control delay in seconds per vehicle (sec/veh) is 1.0 second or more.

Intersection analyses were prepared utilizing the *Synchro 10* software package which implements the Highway Capacity Manual operational methods. A *Synchro* network was created based on existing conditions field reviews at the above two (2) Caltrans study intersections. In addition, specifics such as traffic volume data, lane configurations, available vehicle storage lengths, crosswalk locations, posted speed limits, traffic signal timing and phasing, etc., were coded to complete the existing network.

***Table 10-2*** summarizes the intersection analyses for the existing, existing with project, and year 2022 future cumulative traffic conditions (i.e., existing, ambient growth, and related projects) both without and with the project. The first column [1] of *Table 10-2* presents a summary of existing traffic conditions. The second column [2] presents existing with project traffic conditions based on existing intersection geometry. The third column [3] presents year 2022 traffic conditions based on existing intersection geometry, but without any project-generated traffic. The fourth column [4] presents future forecast traffic conditions with the addition of project traffic. As shown in *Table 10-2*, application of the Caltrans LOS standards and guidelines to the existing with project and future with project scenarios indicate that while incremental increases in delay are noted, the proposed project is not expected to adversely impact any of the Caltrans study intersections. The corresponding weekday AM and PM peak hour HCM intersection worksheets are contained in ***Appendix F***.

## 10.3 Ramp Vehicle Queuing Analysis

A detailed review was also undertaken with respect to vehicle queuing on the freeway off-ramp approaches at two locations. The queuing analysis was calculated using the *Synchro 10* software package which includes a microsimulation module (SimTraffic). In forecasting vehicle queuing, the *Synchro* software considers traffic volume data, lane configurations, and available vehicle storage lengths for the respective traffic movements.

The following two (2) Caltrans study locations have been identified for a detailed review of vehicle queuing on the freeway off-ramp approaches:

- Intersection No. 5: Myrtle Avenue/Central Avenue-I-210 Freeway Westbound Ramps
- Intersection No. 6: Myrtle Avenue/Evergreen Avenue-I-210 Freeway Eastbound Ramps

The queuing analysis was prepared for the existing, existing with project, future without project and future cumulative with project conditions. Each of the two freeway off-ramp intersection approaches were reviewed in terms of expected maximum vehicle queues (i.e., 95$^{th}$ percentile queues) which represent the maximum back of vehicle queues with 95$^{th}$ percentile traffic volumes. The corresponding maximum vehicle queue lengths were then compared with the ramp storage lengths (i.e., the available storage length as measured from the applicable freeway/frontage road gore areas to the respective off-ramp approach limit lines/merge points). The total ramp storage lengths were determined based on the sum of the striped storage for all lanes provided at the off-ramp location.

As presented in ***Table 10-3***, adequate storage areas are provided to accommodate the forecast 95$^{th}$ percentile queues under the Existing Year 2018 With Project and Future Year 2022 Without Project and With Project conditions. Therefore, based on a review of the queuing analyses and the available storage lengths, vehicle queuing back onto the I-210 Freeway mainline travel lanes is not expected. The corresponding weekday AM peak hour and PM peak hour peak hour HCM worksheets for purposes of determining the 95$^{th}$ percentile vehicle queues are contained in *Appendix F*.

Table 10-2
CALTRANS INTERSECTION IMPACT ANALYSIS [a]

| NO. | INTERSECTION | PEAK HOUR | [1] YEAR 2018 EXISTING DELAY [b] | [1] LOS [c] | [2] YEAR 2018 EXISTING W/ PROJECT DELAY [b] | [2] LOS [c] | [2] CHANGE IN DELAY [(2)-(1)] | [2] IMPACT | [3] YEAR 2022 FUTURE PRE-PROJECT W/ AM. GROW. & REL. PROJ. DELAY [b] | [3] LOS [c] | [4] YEAR 2022 FUTURE W/ PROJECT DELAY [b] | [4] LOS [c] | [4] CHANGE IN DELAY [(4)-(3)] | [4] IMPACT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | Myrtle Avenue/ | AM | 22.0 | C | 22.5 | C | 0.5 | No | 33.8 | C | 35.8 | D | 2.0 | No |
| | Central Avenue - I-210 Freeway Westbound Ramps | PM | 36.2 | D | 37.2 | D | 1.0 | No | 50.8 | D | 52.3 | D | 1.5 | No |
| 6 | Myrtle Avenue/ | AM | 27.8 | C | 28.9 | C | 1.1 | No | 35.5 | D | 38.9 | D | 3.4 | No |
| | Evergreen Avenue - I-210 Freeway Eastbound Ramps | PM | 37.1 | D | 38.0 | D | 0.9 | No | 51.3 | D | 53.0 | D | 1.7 | No |

[a] Intersection analysis based on the Highway Capacity Manual operational analysis methodologies, per the Caltrans' *Guide for the Preparation of Traffic Impact Studies, December 2002*.

[b] Reported control delay values in seconds per vehicle. For two-way stop controlled intersections, reported control delay values represent the delays associated with the most constrained approach of the intersection.

[c] Signalized Intersection Levels of Service are based on the following criteria:

| Control Delay (s/veh) | LOS |
|---|---|
| <= 10 | A |
| > 10-20 | B |
| > 20-35 | C |
| > 35-55 | D |
| > 55-80 | E |
| > 80 | F |

Table 10-3
SUMMARY OF OFF-RAMP VEHICLE QUEUING ANALYSIS [1]
WEEKDAY AM AND PM PEAK HOURS

| NO. | INTERSECTION | PEAK HOUR | AVAILABLE OFF-RAMP STORAGE [2] (FEET) | EXISTING YEAR 2018 | | EXISTING YEAR 2018 WITH PROJECT | | FUTURE YEAR 2022 WITHOUT PROJECT | | FUTURE YEAR 2022 WITH PROJECT | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 95th PERCENTILE QUEUE [3] (FEET) | EXCEEDS STORAGE? (YES/NO) | 95th PERCENTILE QUEUE [3] (FEET) | EXCEEDS STORAGE? (YES/NO) | 95th PERCENTILE QUEUE [3] (FEET) | EXCEEDS STORAGE? (YES/NO) | 95th PERCENTILE QUEUE [3] (FEET) | EXCEEDS STORAGE? (YES/NO) |
| 5 | Myrtle Avenue/ | AM | 990 | 685 | No | 710 | No | 685 | No | 685 | No |
| | Central Avenue - I-210 Freeway Westbound Ramps | PM | 990 | 734 | No | 734 | No | 874 | No | 874 | No |
| 6 | Myrtle Avenue/ | AM | 1,630 | 587 | No | 638 | No | 778 | No | 805 | No |
| | Evergreen Avenue - I-210 Freeway Eastbound Ramps | PM | 1,630 | 611 | No | 679 | No | 783 | No | 783 | No |

[1] Refer to queuing worksheets contained in Appendix F.

[2] Available storage as measured via Google Earth, 2018.

[3] The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. The total 95th percentile queue was obtained by summing the queue reported for each lane group on the ramp approach.

# 11.0 CONGESTION MANAGEMENT PROGRAM TRAFFIC IMPACT ASSESSMENT

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the California State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system.

As required by the 2010 Congestion Management Program, a Traffic Impact Assessment (TIA) has been prepared to determine the potential impacts on designated monitoring locations on the CMP highway system. The analysis has been prepared in accordance with procedures outlined in the *2010 Congestion Management Program*, Los Angeles County Metropolitan Transportation Authority, October 2010.

According to Section D.9.1 (Appendix D, page D-6) of the 2010 CMP manual, the criteria for determining a significant transportation impact is listed below:

> "A significant transportation impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C $\geq$ 0.02), causing or worsening LOS F (V/C > 1.00); if the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C $\geq$ 0.02)."

The CMP impact criteria apply for analysis of both intersection and freeway monitoring locations.

## 11.1 Freeways

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

- CMP Station — Location

  Seg. No. 1062 — I-210 west of Route 605

The CMP TIA guidelines require that freeway monitoring locations must be examined if the proposed project will add 150 or more trips (in either direction) during either the weekday AM or PM peak periods. The proposed project will not add 150 or more trips (in either direction) during either the weekday AM or PM peak hours to CMP freeway monitoring locations which is the threshold for preparing a traffic impact assessment, as stated in the CMP manual. As summarized in *Table 7-1*, the project is anticipated to generate at most 73 total net new trips during the AM peak hour and 111 total net new trips during the PM peak hour, which is well below the 150 trips threshold. Therefore, no further review of potential impacts to freeway monitoring locations that are part of the CMP highway system is required.

## 11.2 Intersections

The following CMP intersection monitoring locations in the project vicinity have been identified:

- CMP Station — Intersection

  No. 100 — Rosemead Boulevard/Huntington Drive

  No. 121 — Rosemead Boulevard/Foothill Boulevard

The CMP TIA guidelines require that intersection monitoring locations must be examined if the proposed project will add 50 or more trips during either the weekday AM or PM peak hours. The proposed project will not add 50 or more trips during either the weekday AM or PM peak hours (i.e., of adjacent street traffic) at CMP monitoring intersections, as stated in the CMP manual as the threshold criteria for a traffic impact assessment. Therefore, no further review of potential impacts to intersection monitoring locations that are part of the CMP highway system is required.

## 11.3 Transit Impact Review

As required by the *2010 Congestion Management Program*, a review has been made of the potential impacts of the project on transit service. As discussed in Subsection 4.5 herein, existing transit service is provided in the vicinity of the proposed 123 W. Pomona project.

The project trip generation, as shown in *Table 7-1*, was adjusted by values set forth in the CMP (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 25 or 15 percent of the total person trips) to estimate transit trip generation. Pursuant to the CMP guidelines, the proposed project is forecast to generate demand for 41 transit trips during the weekday AM peak hour and 56 transit trips during the weekday PM peak hour. Over a 24-hour period, the proposed project is forecast to generate demand for 669 daily transit trips. Therefore, the calculations are as follows:

- Weekday AM Peak Hour:
  Residential = 112 x 1.4 x 0.25 = 39 Transit Trips
  Retail = 9 × 1.4 × 0.15 = 2 Transit Trip

- Weekday PM Peak Hour:
  Residential = 136 x 1.4 x 0.25 = 48 Transit Trips
  Retail = 38 x 1.4 x 0.15 = 8 Transit Trips

- Weekday Daily Trips:
  Residential = 1,686 × 1.4 × 0.25 = 590 Transit Trips
  Retail = 378 x 1.4 x 0.15 = 79 Transit Trips

As shown in *Table 4-2,* four bus/train transit lines and routes are provided adjacent to or in close proximity the project site. As outlined in *Table 4-2*, under the "No. of Buses/Trains During Peak Hour" column, these four transit lines provide services for an average of (i.e., average of the

directional number of buses/trains during the peak hours) roughly 29 trains/buses during both the weekday AM and PM peak hours. Therefore, based on the above calculated weekday AM and PM peak hour trips, this would correspond to approximately one to two transit riders per bus. It is anticipated that the existing transit service in the project area will adequately accommodate the increase of project-generated transit trips. Thus, given the number of project-generated transit trips per bus/train, no project impacts on existing or future transit services in the project area are expected to occur as a result of the proposed project.

## 12.0 SUMMARY AND CONCLUSIONS

- ***Project Description*** – The proposed mixed-use, transit oriented development project consists of 310 residential apartment units and two retail tenant spaces totaling 10,000 square feet, with site amenities including a main plaza area and fitness center. Completion and occupancy of the proposed 123 W. Pomona project is expected by the end of 2022.

- ***Vehicular Site Access*** – Vehicular access into and out of the project site will be provided via two access driveways: one full access driveway on Primrose Avenue for the residential ingress/egress and one full access driveway on Pomona Avenue for the retail and loading ingress/egress. No direct site access is provided via Evergreen Avenue.

- ***Study Scope –*** Eleven (11) intersections in the project vicinity were selected for detailed peak hour level of service analyses under existing and future conditions, without and with the proposed project traffic. The analysis focused on assessing potential traffic impacts during the AM and PM peak hours on a typical weekday.

- ***Project Trip Generation*** – The proposed project is expected to generate 73 net new vehicle trips (11 inbound trips and 62 outbound trips) during the AM peak hour. During the PM peak hour, the proposed project development is expected to generate 111 net new vehicle trips (71 inbound trips and 40 outbound trips). Over a 24-hour period, the proposed project development is forecast to generate an increase of approximately 1,390 net new daily trips (approximately 695 inbound trips and 695 outbound trips) during a typical weekday.

- ***Related Projects*** – The City of Monrovia Community Development Department, the County of Los Angeles Department of Regional Planning, the City of Arcadia Development Services Department, and the City of Duarte Community Development Department were consulted to obtain the list of development projects (related projects) in the area. A total of 29 related projects was identified and considered as part of the cumulative traffic analysis.

- ***Traffic Impact Analysis*** – It is concluded that the proposed project is not expected to result in a significant project impact at any of the study intersections based on the City of Monrovia's thresholds of significance used for evaluating traffic impacts.

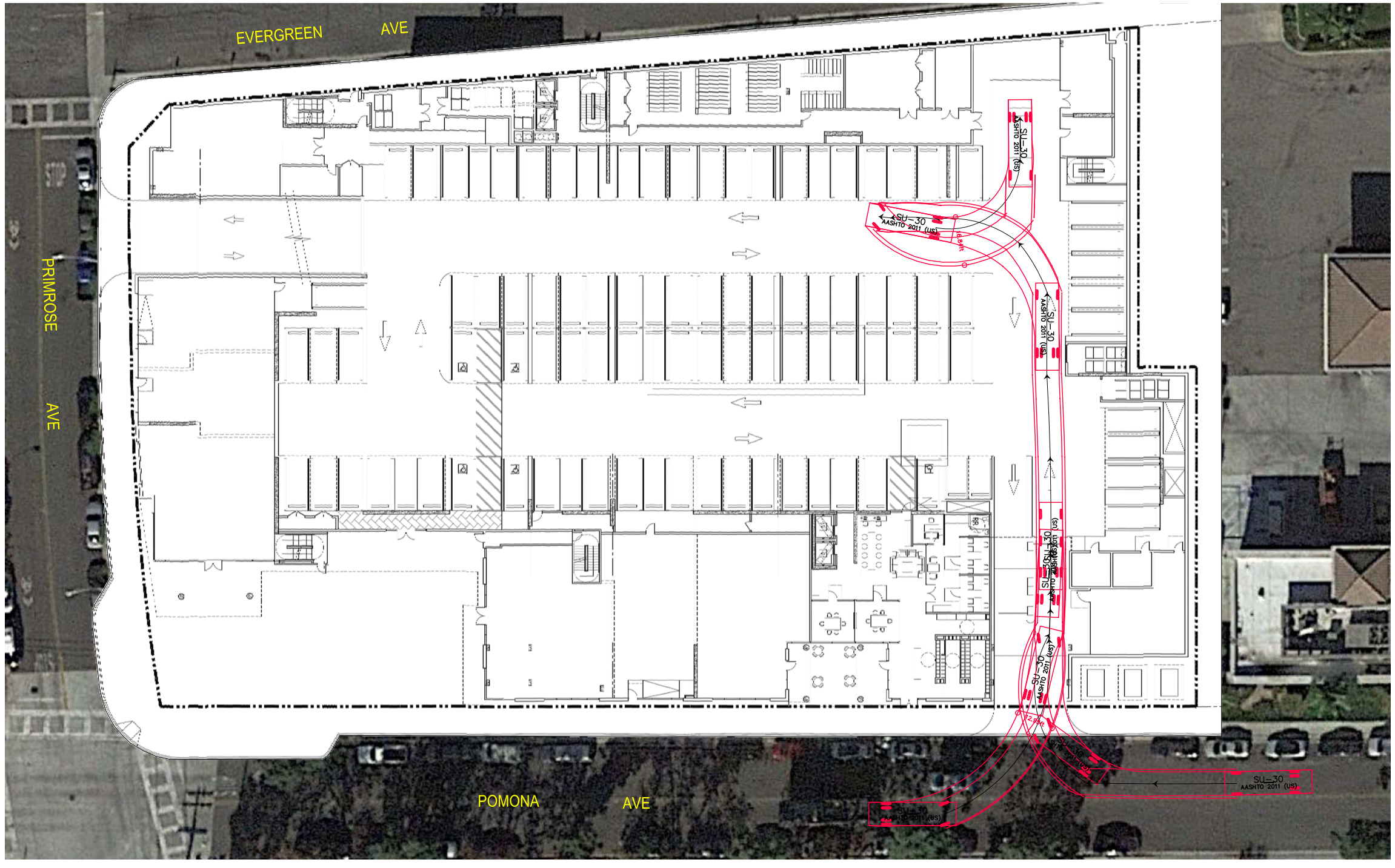
- ***CMP Traffic Assessment*** – The results of the Los Angeles CMP traffic assessment indicated that the proposed project will not adversely affect any CMP arterial monitoring intersections or freeway monitoring locations. Therefore, no improvements/mitigation measures are required or recommended.

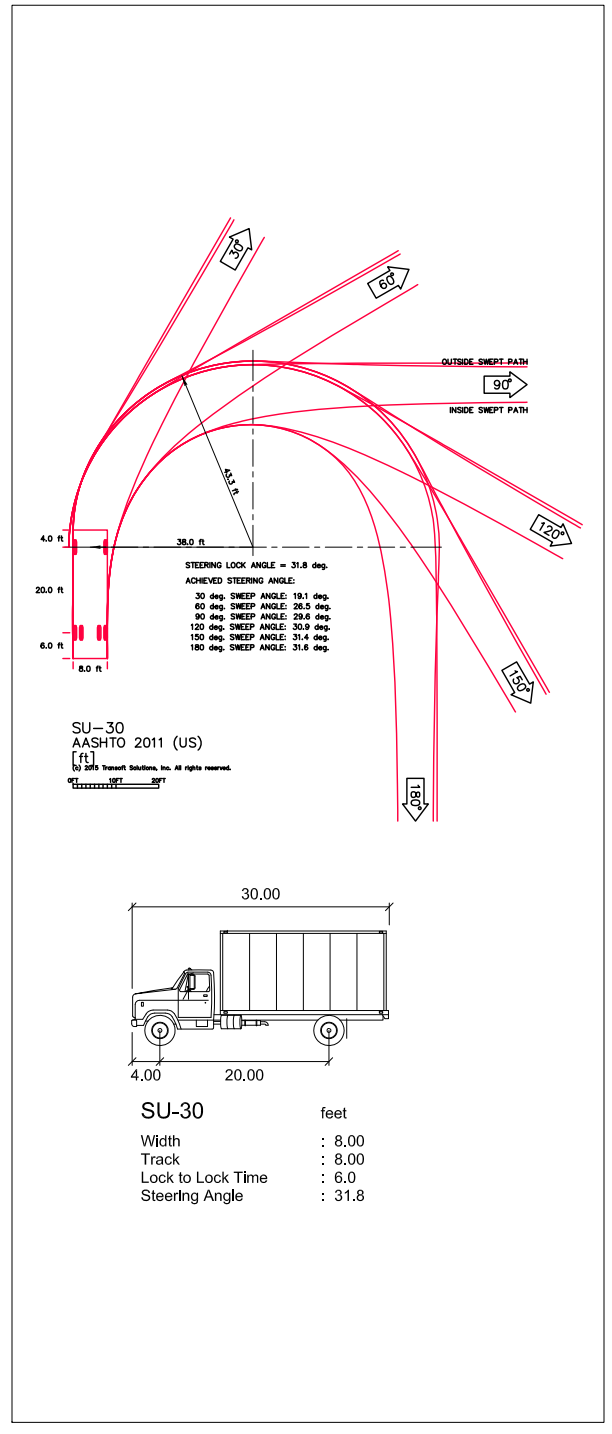
- ***Caltrans Traffic Impact Analysis*** – Application of the respective Caltrans LOS standards and guidelines to the year 2022 cumulative with project scenario indicates that the proposed project is not expected to result in a contribution to cumulative traffic impacts at two freeway ramp intersections. In addition, it is recognized the proposed project would not result in a significant traffic impact at the two mainline freeway segments analyzed. Furthermore, adequate storage

lengths are provided to accommodate the forecast 95$^{th}$ percentile queues under the year 2022 cumulative with project build-out conditions at the two studied I-210 Freeway off-ramp locations at Myrtle Avenue.

# APPENDIX A

## TRUCK TURNING MANEUVERS




N

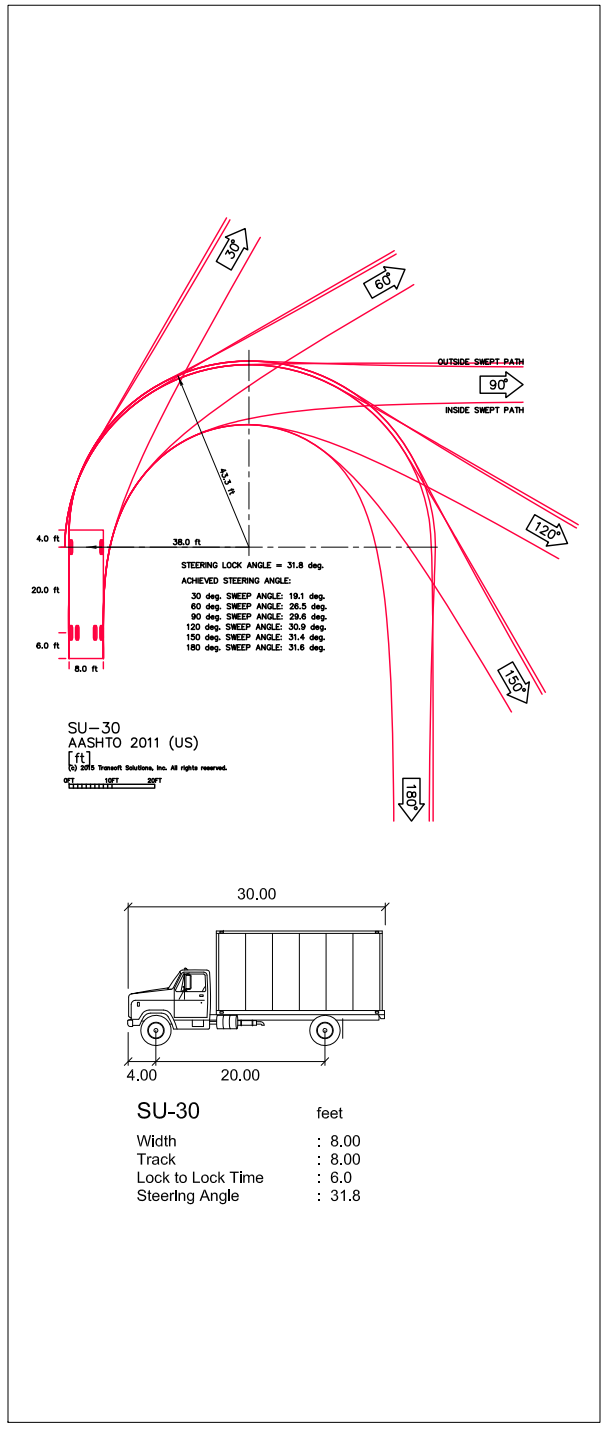
SCALE 1" = 40'

# APPENDIX FIGURE A-1
# TRUCK MANEUVERING ANALYSIS - INBOUND

AASHTO (US) SU-30

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers


| SU-30 | feet |
|---|---|
| Width | : 8.00 |
| Track | : 8.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.8 |

N

SCALE 1" = 40'

# APPENDIX FIGURE A-2
# TRUCK MANEUVERING ANALYSIS - OUTBOUND

AASHTO (US) SU-30

123 W. POMONA PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

# APPENDIX B

## MANUAL INTERSECTION TRAFFIC COUNT DATA – WEEKDAY AM AND PM PEAK PERIODS

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *Magnolia Ave and Central Ave , Monrovia*

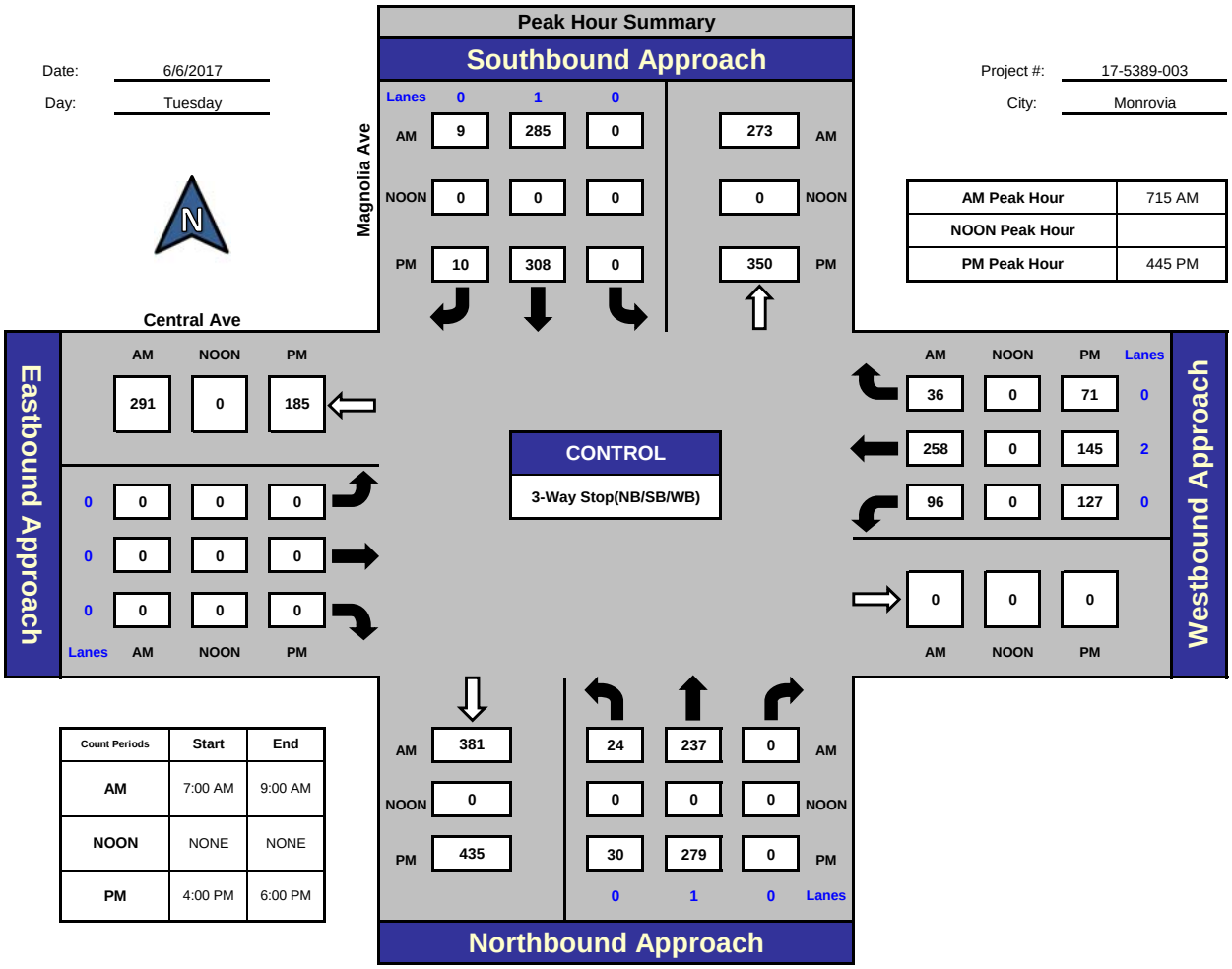
Date: 6/6/2017

Day: Tuesday

Project #: 17-5389-003

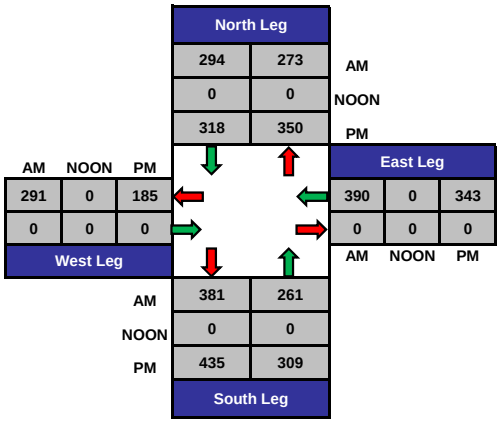
City: Monrovia

| | |
|---|---|
| AM Peak Hour | 715 AM |
| NOON Peak Hour | |
| PM Peak Hour | 445 PM |

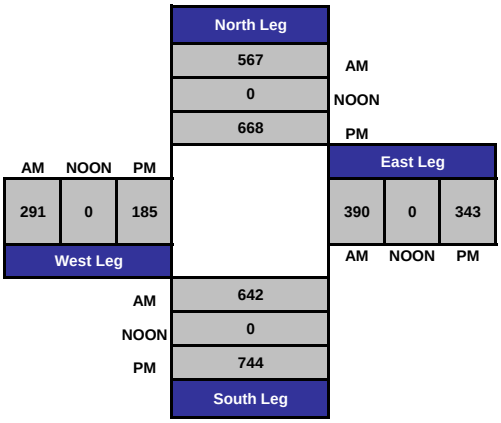



| Count Periods | Start | End |
|---|---|---|
| AM | 7:00 AM | 9:00 AM |
| NOON | NONE | NONE |
| PM | 4:00 PM | 6:00 PM |

## Total Ins & Outs




## Total Volume Per Leg



# ITM Peak Hour Summary

Prepared by:

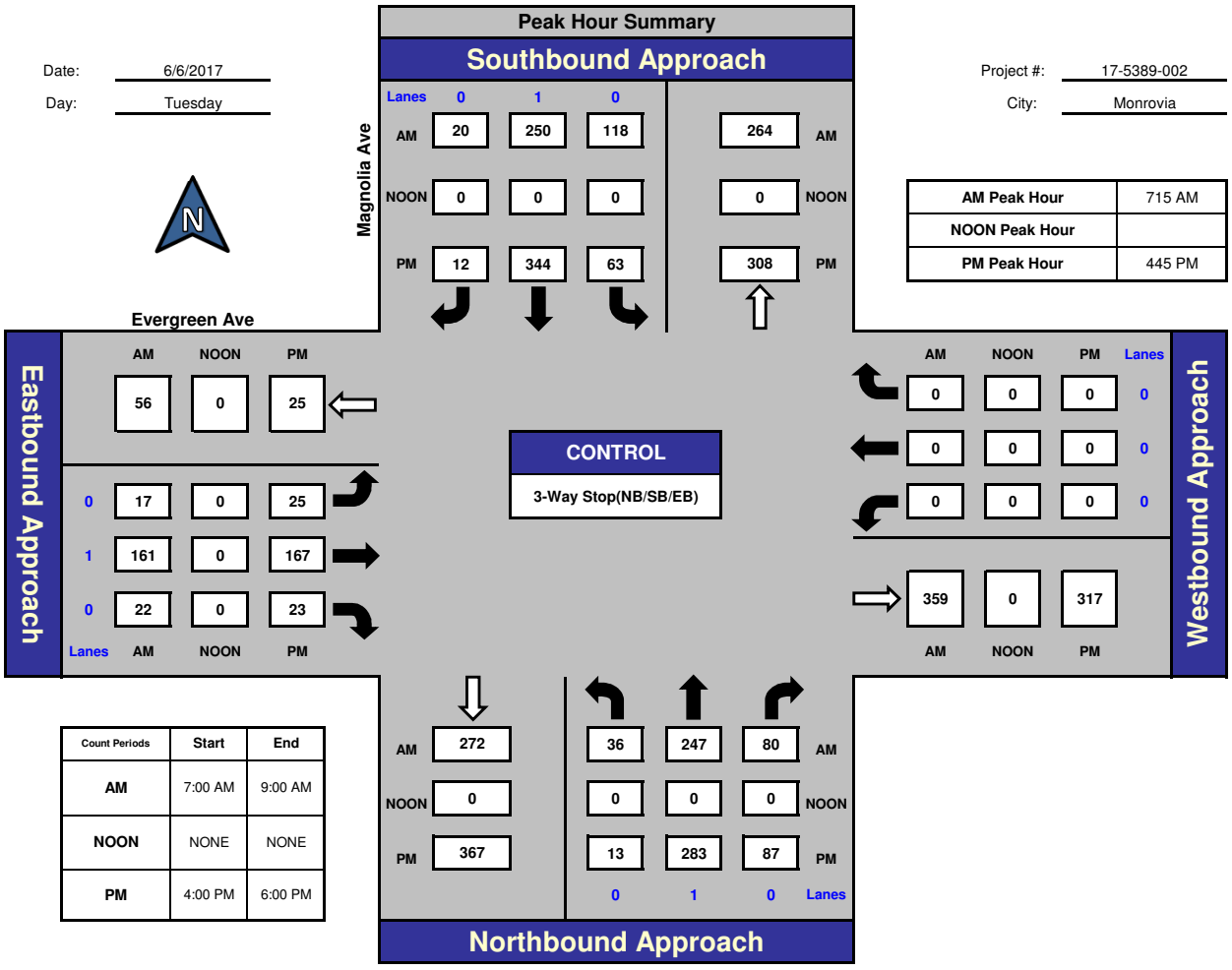
National Data & Surveying Services

## *Magnolia Ave and Evergreen Ave , Monrovia*

Date: 6/6/2017
Day: Tuesday

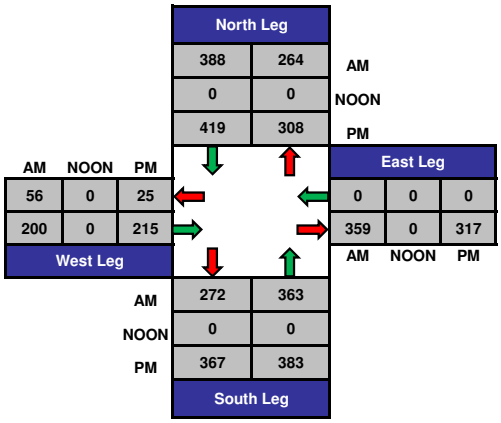
Project #: 17-5389-002
City: Monrovia

| | |
|---|---|
| AM Peak Hour | 715 AM |
| NOON Peak Hour | |
| PM Peak Hour | 445 PM |

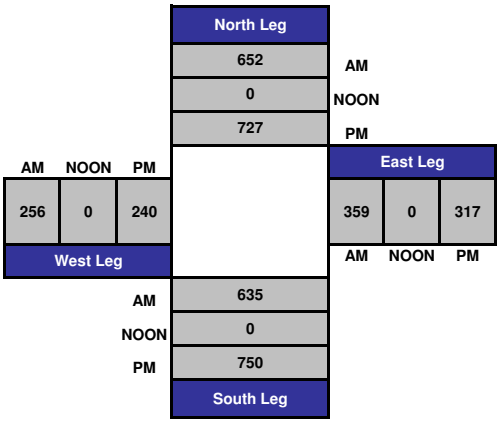



| Count Periods | Start | End |
|---|---|---|
| AM | 7:00 AM | 9:00 AM |
| NOON | NONE | NONE |
| PM | 4:00 PM | 6:00 PM |

## Total Ins & Outs




## Total Volume Per Leg



# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

***Magnolia Ave and Duarte Rd , Monrovia***

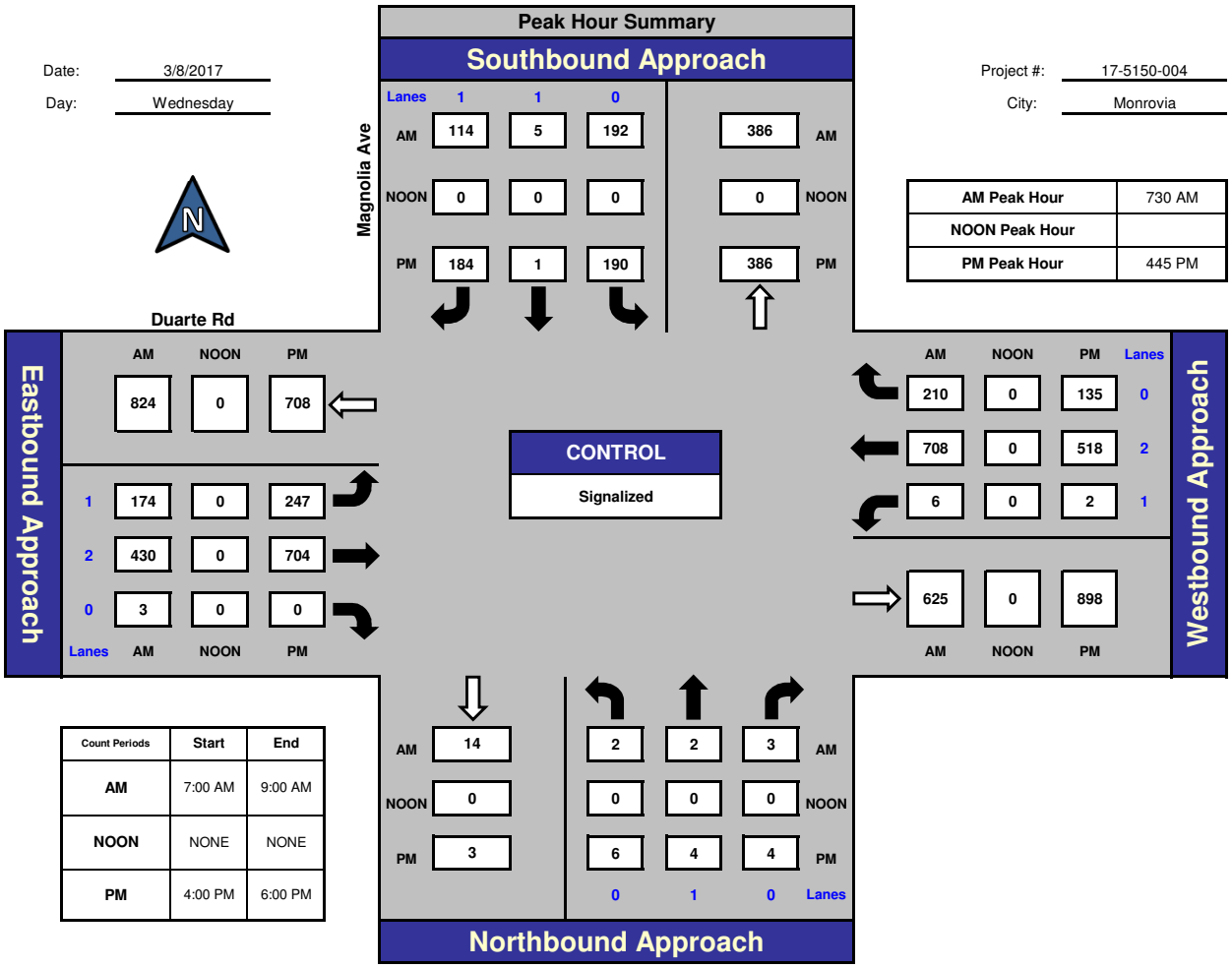
Date: 3/8/2017

Day: Wednesday

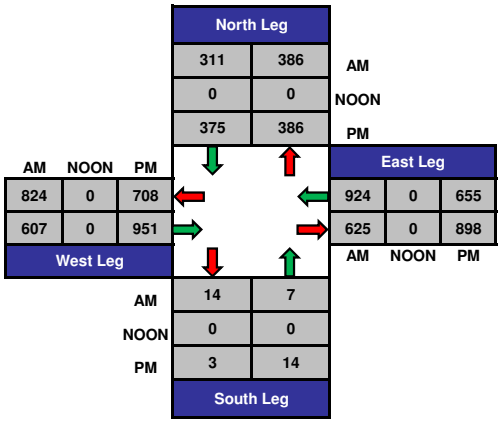
Project #: 17-5150-004

City: Monrovia

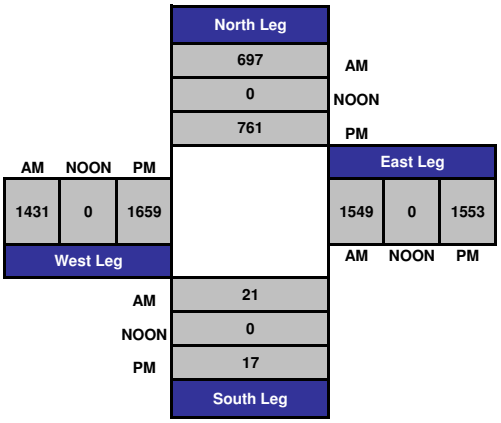
| | |
|---|---|
| AM Peak Hour | 730 AM |
| NOON Peak Hour | |
| PM Peak Hour | 445 PM |




## Total Ins & Outs




## Total Volume Per Leg



# ITM Peak Hour Summary

Prepared by:

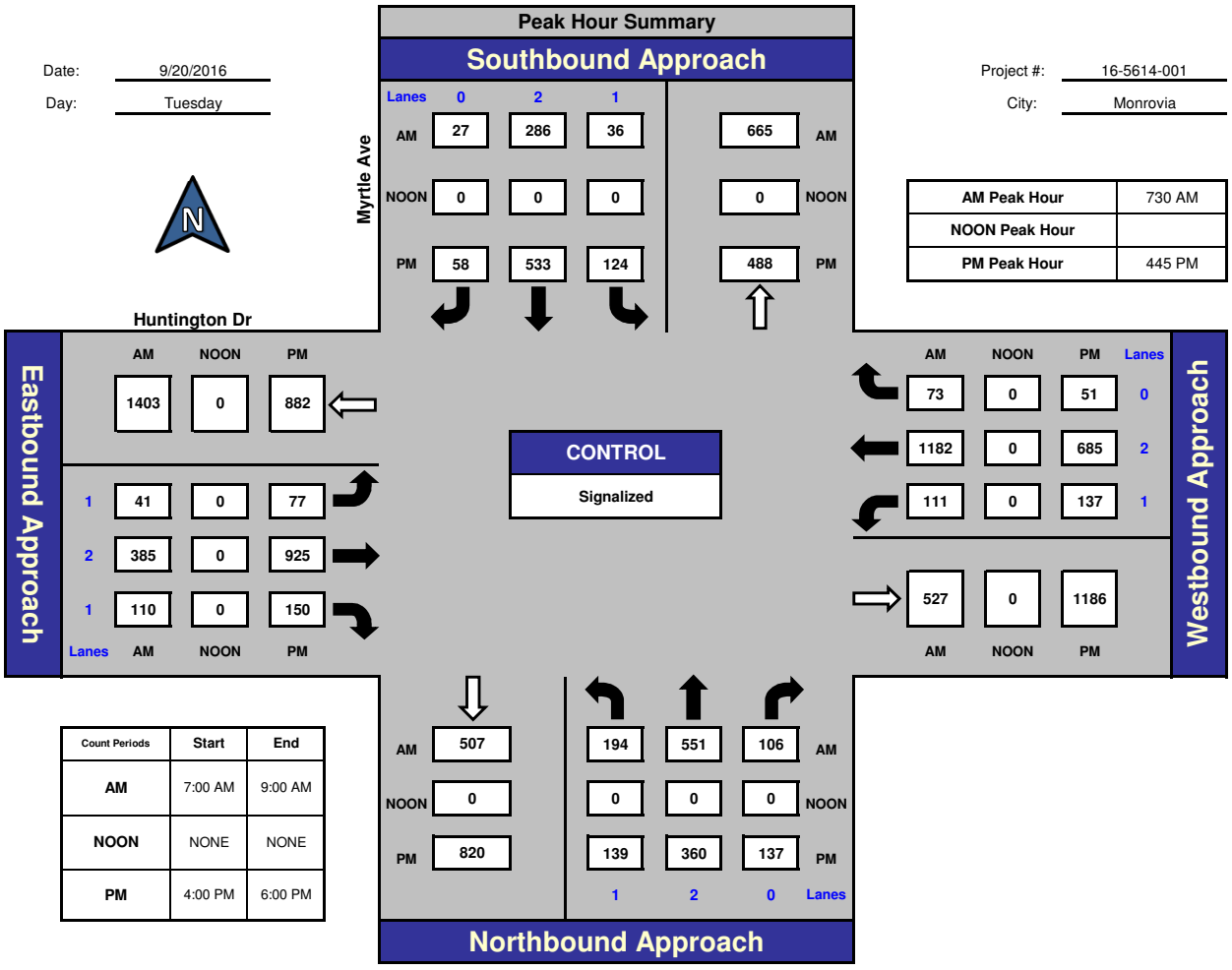
National Data & Surveying Services

## *Myrtle Ave and Huntington Dr , Monrovia*

Date: 9/20/2016
Day: Tuesday

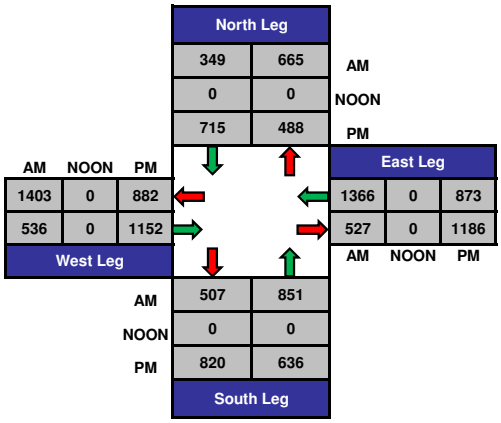
Project #: 16-5614-001
City: Monrovia

| | |
|---|---|
| AM Peak Hour | 730 AM |
| NOON Peak Hour | |
| PM Peak Hour | 445 PM |

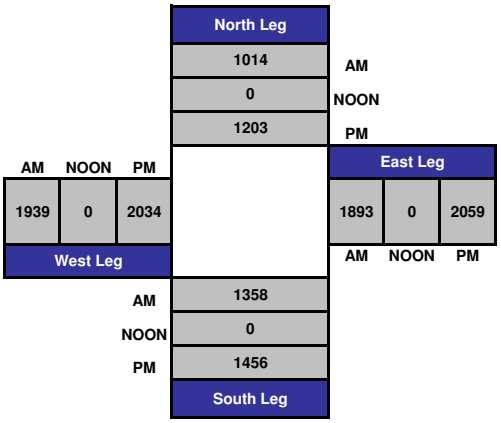



| Count Periods | Start | End |
|---|---|---|
| AM | 7:00 AM | 9:00 AM |
| NOON | NONE | NONE |
| PM | 4:00 PM | 6:00 PM |

## Total Ins & Outs




## Total Volume Per Leg



# ITM Peak Hour Summary

Prepared by:

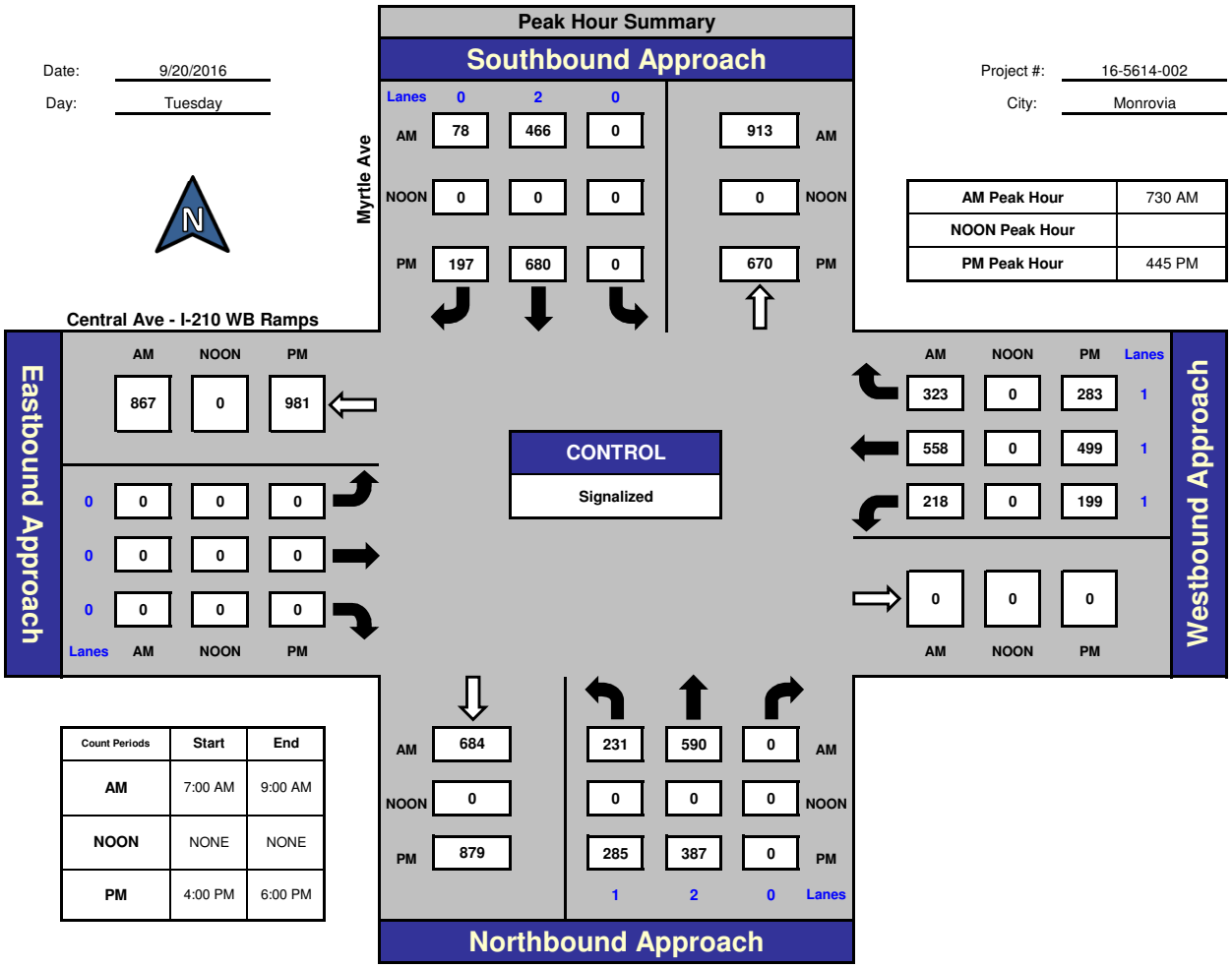
National Data & Surveying Services

## *Myrtle Ave and Central Ave - I-210 WB Ramps , Monrovia*

Date: 9/20/2016
Day: Tuesday

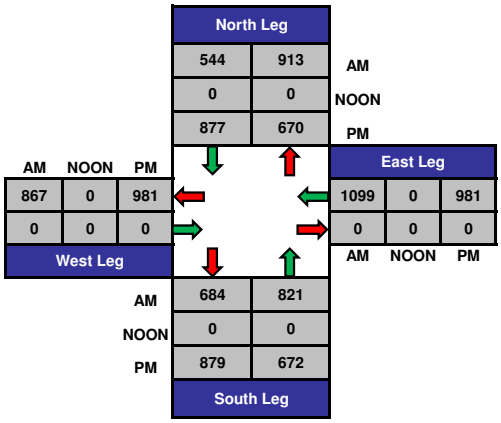
Project #: 16-5614-002
City: Monrovia

| | |
|---|---|
| AM Peak Hour | 730 AM |
| NOON Peak Hour | |
| PM Peak Hour | 445 PM |




| Count Periods | Start | End |
|---|---|---|
| AM | 7:00 AM | 9:00 AM |
| NOON | NONE | NONE |
| PM | 4:00 PM | 6:00 PM |

## Total Ins & Outs

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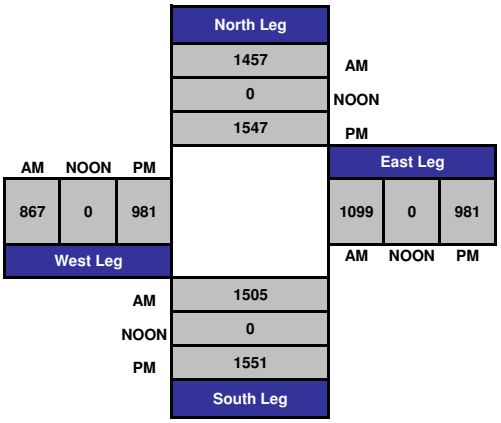


# ITM Peak Hour Summary

Prepared by:

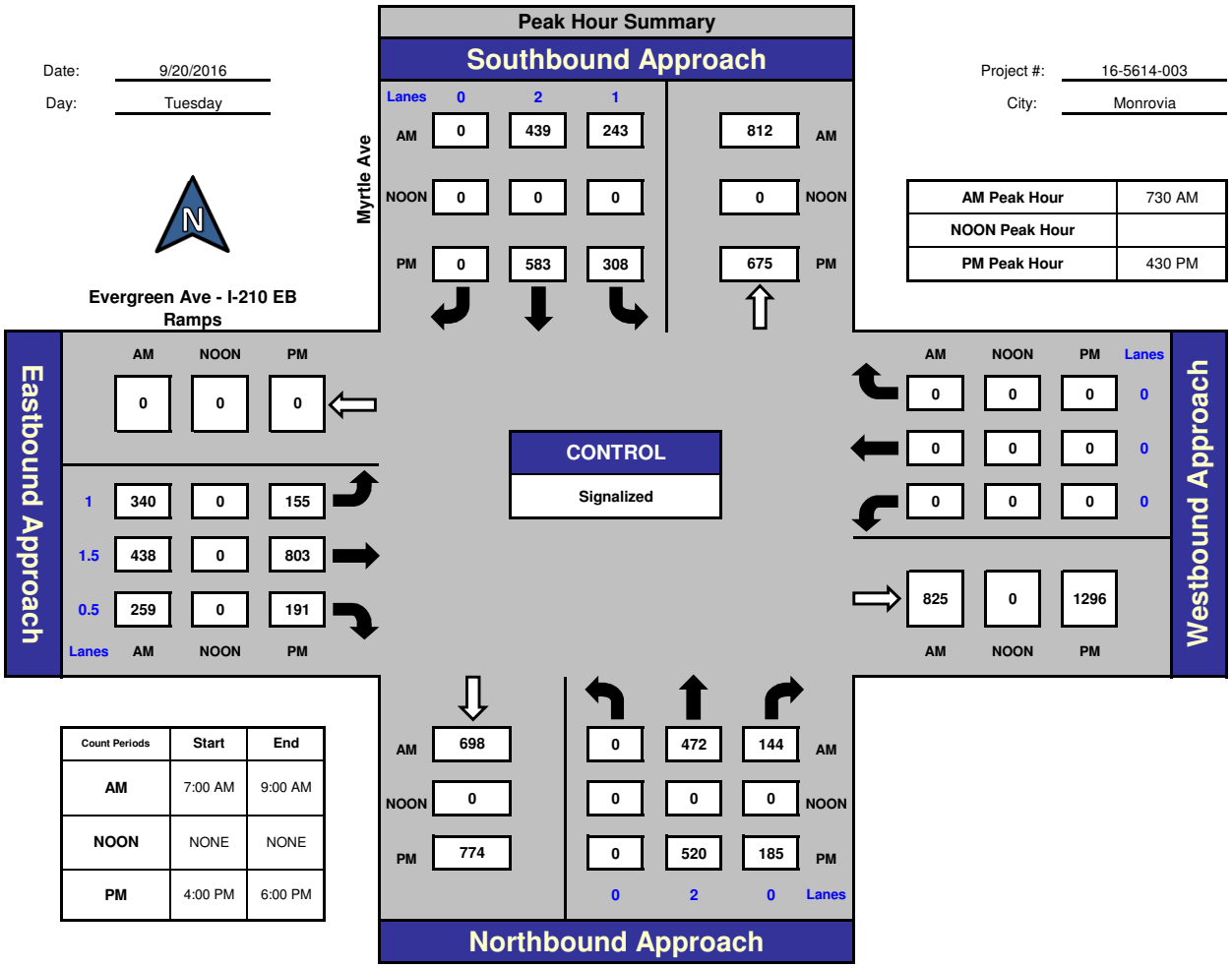
National Data & Surveying Services

## *Myrtle Ave and Evergreen Ave - I-210 EB Ramps , Monrovia*

Date: 9/20/2016
Day: Tuesday

Project #: 16-5614-003
City: Monrovia

| | |
|---|---|
| AM Peak Hour | 730 AM |
| NOON Peak Hour | |
| PM Peak Hour | 430 PM |




| Count Periods | Start | End |
|---|---|---|
| AM | 7:00 AM | 9:00 AM |
| NOON | NONE | NONE |
| PM | 4:00 PM | 6:00 PM |

### Total Ins & Outs

| | North Leg | | |
|---|---|---|---|
| AM | 682 | 812 | AM |
| NOON | 0 | 0 | NOON |
| PM | 891 | 675 | PM |

| West Leg | | | East Leg | | |
|---|---|---|---|---|---|
| AM | NOON | PM | | | |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1037 | 0 | 1149 | 825 | 0 | 1296 |
| | | | AM | NOON | PM |

| | South Leg | |
|---|---|---|
| AM | 698 | 616 |
| NOON | 0 | 0 |
| PM | 774 | 705 |

### Total Volume Per Leg

| | North Leg | |
|---|---|---|
| AM | 1494 | AM |
| NOON | 0 | NOON |
| PM | 1566 | PM |

| West Leg | | | East Leg | | |
|---|---|---|---|---|---|
| AM | NOON | PM | | | |
| 1037 | 0 | 1149 | 825 | 0 | 1296 |
| | | | AM | NOON | PM |

| | South Leg |
|---|---|
| AM | 1314 |
| NOON | 0 |
| PM | 1479 |

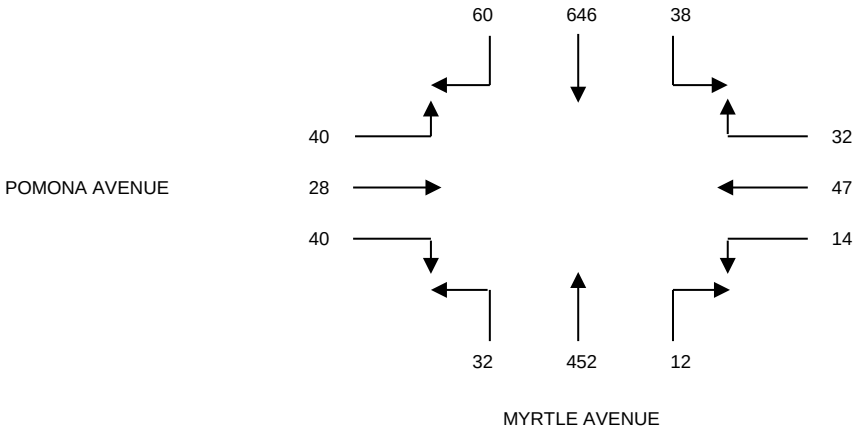
# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF MONROVIA
DATE: WEDNESDAY, AUGUST 29, 2018
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S MYRTLE AVENUE
E/W POMONA AVENUE
FILE NUMBER: 1-AM

| 15 MINUTE TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700-0715 | 20 | 98 | 15 | 10 | 10 | 3 | 2 | 97 | 9 | 9 | 1 | 8 |
| 0715-0730 | 18 | 102 | 9 | 7 | 11 | 5 | 2 | 104 | 11 | 5 | 3 | 6 |
| 0730-0745 | 12 | 144 | 5 | 6 | 19 | 2 | 1 | 101 | 7 | 3 | 3 | 11 |
| 0745-0800 | 12 | 161 | 5 | 7 | 17 | 4 | 2 | 105 | 7 | 5 | 3 | 16 |
| 0800-0815 | 15 | 165 | 10 | 7 | 11 | 2 | 3 | 111 | 7 | 11 | 7 | 8 |
| 0815-0830 | 15 | 170 | 11 | 8 | 10 | 3 | 4 | 115 | 8 | 12 | 8 | 8 |
| 0830-0845 | 18 | 150 | 12 | 10 | 9 | 5 | 3 | 121 | 10 | 12 | 10 | 8 |
| 0845-0900 | 15 | 140 | 10 | 7 | 8 | 3 | 4 | 116 | 7 | 10 | 7 | 8 |

| 1 HOUR TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700-0800 | 62 | 505 | 34 | 30 | 57 | 14 | 7 | 407 | 34 | 22 | 10 | 41 | 1223 |
| 0715-0815 | 57 | 572 | 29 | 27 | 58 | 13 | 8 | 421 | 32 | 24 | 16 | 41 | 1298 |
| 0730-0830 | 54 | 640 | 31 | 28 | 57 | 11 | 10 | 432 | 29 | 31 | 21 | 43 | 1387 |
| 0745-0845 | 60 | 646 | 38 | 32 | 47 | 14 | 12 | 452 | 32 | 40 | 28 | 40 | 1441 |
| 0800-0900 | 63 | 625 | 43 | 32 | 38 | 13 | 14 | 463 | 32 | 45 | 32 | 32 | 1432 |

A.M. PEAK HOUR
0745-0845




DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

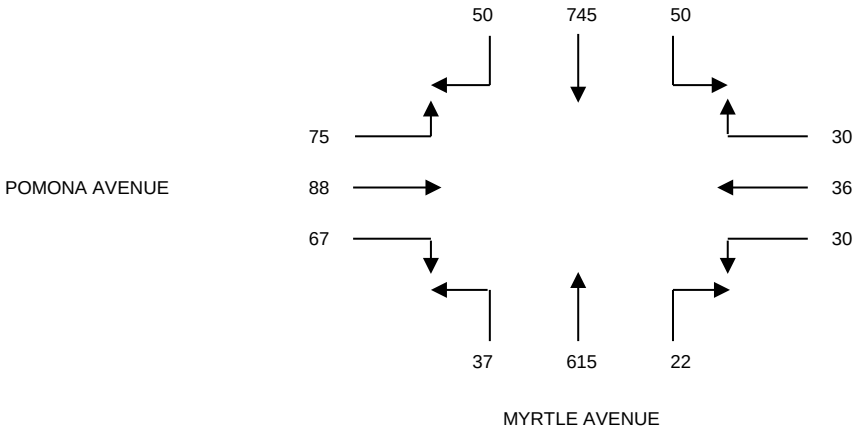
# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF MONROVIA
DATE: WEDNESDAY, AUGUST 29, 2018
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S MYRTLE AVENUE
E/W POMONA AVENUE
FILE NUMBER: 1-PM

| 15 MINUTE TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400-0415 | 8 | 167 | 7 | 5 | 5 | 7 | 5 | 157 | 5 | 9 | 20 | 12 |
| 0415-0430 | 9 | 145 | 10 | 4 | 4 | 7 | 2 | 123 | 4 | 13 | 17 | 11 |
| 0430-0445 | 10 | 173 | 13 | 5 | 5 | 8 | 3 | 162 | 6 | 12 | 20 | 14 |
| 0445-0500 | 14 | 185 | 18 | 6 | 4 | 8 | 4 | 168 | 6 | 12 | 21 | 17 |
| 0500-0515 | 14 | 180 | 10 | 10 | 9 | 7 | 6 | 160 | 11 | 21 | 20 | 26 |
| 0515-0530 | 14 | 177 | 8 | 9 | 9 | 8 | 7 | 157 | 12 | 20 | 22 | 22 |
| 0530-0545 | 8 | 203 | 14 | 5 | 14 | 7 | 5 | 130 | 8 | 14 | 25 | 10 |
| 0545-0600 | 8 | 194 | 14 | 3 | 15 | 8 | 6 | 123 | 7 | 14 | 23 | 16 |

| 1 HOUR TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400-0500 | 41 | 670 | 48 | 20 | 18 | 30 | 14 | 610 | 21 | 46 | 78 | 54 | 1650 |
| 0415-0515 | 47 | 683 | 51 | 25 | 22 | 30 | 15 | 613 | 27 | 58 | 78 | 68 | 1717 |
| 0430-0530 | 52 | 715 | 49 | 30 | 27 | 31 | 20 | 647 | 35 | 65 | 83 | 79 | 1833 |
| 0445-0545 | 50 | 745 | 50 | 30 | 36 | 30 | 22 | 615 | 37 | 67 | 88 | 75 | 1845 |
| 0500-0600 | 44 | 754 | 46 | 27 | 47 | 30 | 24 | 570 | 38 | 69 | 90 | 74 | 1813 |

P.M. PEAK HOUR
0445-0545

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# Turning Movement Count Report AM

Location ID: 1
North/South: Myrtle Ave
East/West: Duarte Rd

Date: 08/18/16
City: Monrovia, CA

| | *Southbound* | | | *Westbound* | | | *Northbound* | | | *Eastbound* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | Totals: |
| Movements: | R | T | L | R | T | L | R | T | L | R | T | L | |
| 7:00 | 19 | 80 | 4 | 1 | 60 | 7 | 5 | 83 | 23 | 22 | 40 | 22 | 366 |
| 7:15 | 30 | 103 | 4 | 4 | 73 | 17 | 7 | 139 | 20 | 10 | 41 | 16 | 464 |
| 7:30 | 29 | 119 | 4 | 6 | 100 | 17 | 8 | 88 | 33 | 34 | 55 | 40 | 533 |
| 7:45 | 29 | 152 | 7 | 11 | 60 | 14 | 12 | 119 | 34 | 34 | 95 | 39 | 606 |
| 8:00 | 38 | 139 | 9 | 7 | 69 | 19 | 12 | 99 | 34 | 38 | 57 | 19 | 540 |
| 8:15 | 36 | 123 | 5 | 6 | 72 | 9 | 11 | 95 | 31 | 20 | 72 | 26 | 506 |
| 8:30 | 50 | 101 | 10 | 4 | 80 | 12 | 12 | 131 | 29 | 21 | 59 | 36 | 545 |
| 8:45 | 49 | 104 | 13 | 7 | 66 | 18 | 7 | 97 | 28 | 29 | 64 | 36 | 518 |
| 9:00 | | | | | | | | | | | | | 0 |
| 9:15 | | | | | | | | | | | | | 0 |
| 9:30 | | | | | | | | | | | | | 0 |
| 9:45 | | | | | | | | | | | | | 0 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Volume: | 280 | 921 | 56 | 46 | 580 | 113 | 74 | 851 | 232 | 208 | 483 | 234 | 4078 |
| Approach % | 22% | 73% | 4% | 6% | 78% | 15% | 6% | 74% | 20% | 22% | 52% | 25% | |

| **Peak Hr Begin:** | 7:45 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHV | 153 | 515 | 31 | 28 | 281 | 54 | 47 | 444 | 128 | 113 | 283 | 120 | 2197 |
| PHF | 0.930 | | | 0.945 | | | 0.900 | | | 0.768 | | | 0.906 |

# Turning Movement Count Report PM

Location ID: 1
North/South: Myrtle Ave
East/West: Duarte Rd

Date: 08/18/16
City: Monrovia, CA

| | *Southbound* | | | *Westbound* | | | *Northbound* | | | *Eastbound* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | Totals: |
| Movements: | R | T | L | R | T | L | R | T | L | R | T | L | |
| 15:00 | 29 | 105 | 10 | 5 | 49 | 21 | 12 | 69 | 19 | 25 | 77 | 38 | 459 |
| 15:15 | 32 | 102 | 7 | 10 | 46 | 10 | 21 | 162 | 20 | 21 | 74 | 32 | 537 |
| 15:30 | 37 | 145 | 4 | 10 | 61 | 16 | 7 | 81 | 23 | 45 | 93 | 22 | 544 |
| 15:45 | 28 | 149 | 8 | 2 | 60 | 11 | 19 | 109 | 25 | 42 | 96 | 33 | 582 |
| 16:00 | 29 | 127 | 7 | 9 | 45 | 15 | 11 | 103 | 20 | 48 | 87 | 24 | 525 |
| 16:15 | 27 | 123 | 7 | 5 | 51 | 10 | 11 | 111 | 19 | 40 | 107 | 41 | 552 |
| 16:30 | 23 | 118 | 7 | 4 | 77 | 18 | 9 | 100 | 25 | 54 | 107 | 38 | 580 |
| 16:45 | 39 | 135 | 10 | 12 | 70 | 10 | 13 | 103 | 14 | 56 | 120 | 36 | 618 |
| 17:00 | 45 | 165 | 6 | 6 | 70 | 8 | 19 | 87 | 20 | 70 | 97 | 42 | 635 |
| 17:15 | 28 | 154 | 10 | 8 | 82 | 15 | 14 | 120 | 25 | 82 | 126 | 26 | 690 |
| 17:30 | 54 | 160 | 16 | 7 | 56 | 11 | 14 | 125 | 20 | 58 | 107 | 36 | 664 |
| 17:45 | 32 | 139 | 7 | 7 | 88 | 13 | 9 | 96 | 31 | 63 | 130 | 35 | 650 |
| 18:00 | 47 | 155 | 10 | 6 | 82 | 26 | 8 | 86 | 16 | 60 | 100 | 46 | 642 |
| 18:15 | 35 | 139 | 4 | 7 | 57 | 13 | 13 | 117 | 33 | 61 | 112 | 31 | 622 |
| 18:30 | 24 | 137 | 7 | 5 | 56 | 14 | 8 | 85 | 13 | 59 | 107 | 29 | 544 |
| 18:45 | 21 | 146 | 4 | 3 | 68 | 13 | 12 | 85 | 18 | 53 | 69 | 29 | 521 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Volume: | 530 | 2199 | 124 | 106 | 1018 | 224 | 200 | 1639 | 341 | 837 | 1609 | 538 | 9365 |
| Approach % | 19% | 77% | 4% | 8% | 76% | 17% | 9% | 75% | 16% | 28% | 54% | 18% | |

| **Peak Hr Begin:** | 17:15 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHV | 161 | 608 | 43 | 28 | 308 | 65 | 45 | 427 | 92 | 263 | 463 | 143 | 2646 |
| PHF | 0.883 | | | 0.879 | | | 0.887 | | | 0.928 | | | 0.959 |

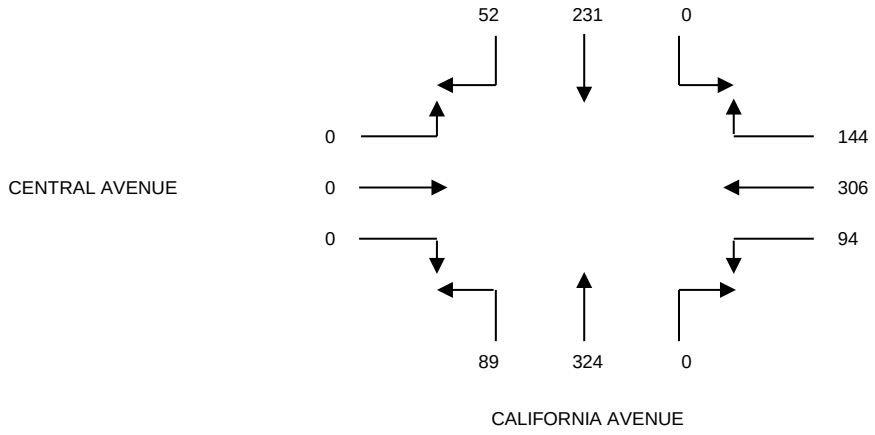
# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF MONROVIA
DATE: WEDNESDAY, AUGUST 29, 2018
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S CALIFORNIA AVENUE
E/W CENTRAL AVENUE
FILE NUMBER: 2-AM

| 15 MINUTE TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700-0715 | 10 | 38 | 0 | 29 | 76 | 19 | 0 | 48 | 22 | 0 | 0 | 0 |
| 0715-0730 | 9 | 43 | 0 | 29 | 103 | 19 | 0 | 62 | 24 | 0 | 0 | 0 |
| 0730-0745 | 17 | 63 | 0 | 20 | 81 | 20 | 0 | 69 | 28 | 0 | 0 | 0 |
| 0745-0800 | 16 | 63 | 0 | 39 | 62 | 31 | 0 | 112 | 20 | 0 | 0 | 0 |
| 0800-0815 | 10 | 62 | 0 | 56 | 60 | 24 | 0 | 81 | 17 | 0 | 0 | 0 |
| 0815-0830 | 10 | 73 | 0 | 41 | 45 | 17 | 0 | 80 | 12 | 0 | 0 | 0 |
| 0830-0845 | 5 | 56 | 0 | 37 | 39 | 14 | 0 | 53 | 7 | 0 | 0 | 0 |
| 0845-0900 | 2 | 59 | 0 | 33 | 25 | 14 | 0 | 62 | 6 | 0 | 0 | 0 |

| 1 HOUR TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700-0800 | 52 | 207 | 0 | 117 | 322 | 89 | 0 | 291 | 94 | 0 | 0 | 0 | 1172 |
| 0715-0815 | 52 | 231 | 0 | 144 | 306 | 94 | 0 | 324 | 89 | 0 | 0 | 0 | 1240 |
| 0730-0830 | 53 | 261 | 0 | 156 | 248 | 92 | 0 | 342 | 77 | 0 | 0 | 0 | 1229 |
| 0745-0845 | 41 | 254 | 0 | 173 | 206 | 86 | 0 | 326 | 56 | 0 | 0 | 0 | 1142 |
| 0800-0900 | 27 | 250 | 0 | 167 | 169 | 69 | 0 | 276 | 42 | 0 | 0 | 0 | 1000 |

A.M. PEAK HOUR
0715-0815

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# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF MONROVIA
DATE: WEDNESDAY, AUGUST 29, 2018
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S CALIFORNIA AVENUE
E/W CENTRAL AVENUE
FILE NUMBER: 2-PM

| 15 MINUTE TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400-0415 | 12 | 75 | 0 | 8 | 29 | 11 | 0 | 50 | 9 | 0 | 0 | 0 |
| 0415-0430 | 14 | 90 | 0 | 14 | 27 | 22 | 0 | 63 | 15 | 0 | 0 | 0 |
| 0430-0445 | 12 | 94 | 0 | 7 | 40 | 28 | 0 | 49 | 14 | 0 | 0 | 0 |
| 0445-0500 | 15 | 116 | 0 | 6 | 47 | 22 | 0 | 76 | 13 | 0 | 0 | 0 |
| 0500-0515 | 15 | 107 | 0 | 9 | 42 | 19 | 0 | 50 | 8 | 0 | 0 | 0 |
| 0515-0530 | 16 | 112 | 0 | 10 | 32 | 20 | 0 | 58 | 9 | 0 | 0 | 0 |
| 0530-0545 | 12 | 114 | 0 | 14 | 39 | 24 | 0 | 67 | 10 | 0 | 0 | 0 |
| 0545-0600 | 10 | 101 | 0 | 11 | 37 | 22 | 0 | 65 | 14 | 0 | 0 | 0 |

| 1 HOUR TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400-0500 | 53 | 375 | 0 | 35 | 143 | 83 | 0 | 238 | 51 | 0 | 0 | 0 | 978 |
| 0415-0515 | 56 | 407 | 0 | 36 | 156 | 91 | 0 | 238 | 50 | 0 | 0 | 0 | 1034 |
| 0430-0530 | 58 | 429 | 0 | 32 | 161 | 89 | 0 | 233 | 44 | 0 | 0 | 0 | 1046 |
| 0445-0545 | 58 | 449 | 0 | 39 | 160 | 85 | 0 | 251 | 40 | 0 | 0 | 0 | 1082 |
| 0500-0600 | 53 | 434 | 0 | 44 | 150 | 85 | 0 | 240 | 41 | 0 | 0 | 0 | 1047 |

P.M. PEAK HOUR
0445-0545


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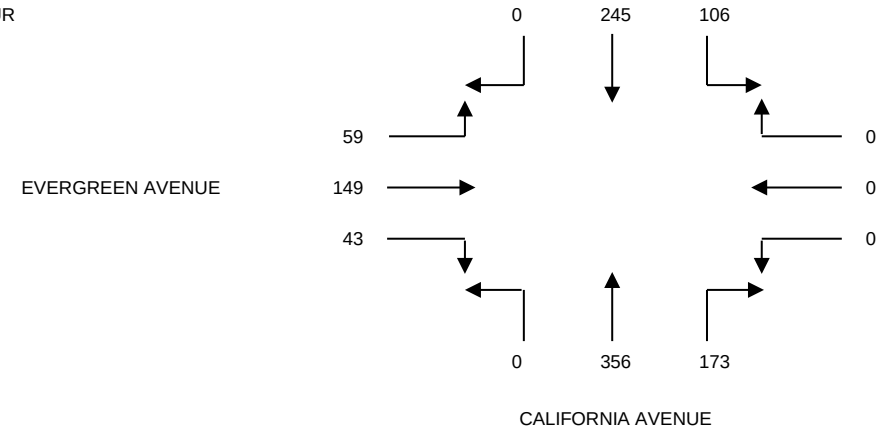
# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF MONROVIA
DATE: WEDNESDAY, AUGUST 29, 2018
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S CALIFORNIA AVENUE
E/W EVERGREEN AVENUE
FILE NUMBER: 3-AM

| 15 MINUTE TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700-0715 | 0 | 38 | 21 | 0 | 0 | 0 | 28 | 64 | 0 | 8 | 18 | 5 |
| 0715-0730 | 0 | 36 | 18 | 0 | 0 | 0 | 44 | 80 | 0 | 13 | 27 | 11 |
| 0730-0745 | 0 | 54 | 25 | 0 | 0 | 0 | 47 | 97 | 0 | 12 | 25 | 15 |
| 0745-0800 | 0 | 72 | 27 | 0 | 0 | 0 | 53 | 102 | 0 | 14 | 44 | 15 |
| 0800-0815 | 0 | 66 | 30 | 0 | 0 | 0 | 40 | 85 | 0 | 8 | 35 | 14 |
| 0815-0830 | 0 | 53 | 24 | 0 | 0 | 0 | 33 | 72 | 0 | 9 | 45 | 15 |
| 0830-0845 | 0 | 47 | 18 | 0 | 0 | 0 | 29 | 62 | 0 | 9 | 35 | 13 |
| 0845-0900 | 0 | 65 | 20 | 0 | 0 | 0 | 19 | 48 | 0 | 6 | 30 | 9 |

| 1 HOUR TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700-0800 | 0 | 200 | 91 | 0 | 0 | 0 | 172 | 343 | 0 | 47 | 114 | 46 | 1013 |
| 0715-0815 | 0 | 228 | 100 | 0 | 0 | 0 | 184 | 364 | 0 | 47 | 131 | 55 | 1109 |
| 0730-0830 | 0 | 245 | 106 | 0 | 0 | 0 | 173 | 356 | 0 | 43 | 149 | 59 | 1131 |
| 0745-0845 | 0 | 238 | 99 | 0 | 0 | 0 | 155 | 321 | 0 | 40 | 159 | 57 | 1069 |
| 0800-0900 | 0 | 231 | 92 | 0 | 0 | 0 | 121 | 267 | 0 | 32 | 145 | 51 | 939 |

A.M. PEAK HOUR
0730-0830

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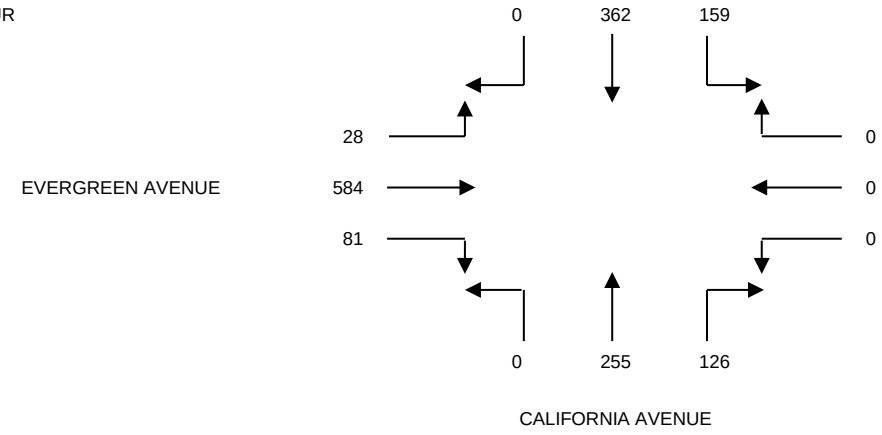
# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF MONROVIA
DATE: WEDNESDAY, AUGUST 29, 2018
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S CALIFORNIA AVENUE
E/W EVERGREEN AVENUE
FILE NUMBER: 3-PM

| 15 MINUTE TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400-0415 | 0 | 53 | 23 | 0 | 0 | 0 | 25 | 67 | 0 | 17 | 97 | 7 |
| 0415-0430 | 0 | 65 | 31 | 0 | 0 | 0 | 31 | 54 | 0 | 31 | 114 | 7 |
| 0430-0445 | 0 | 98 | 47 | 0 | 0 | 0 | 43 | 75 | 0 | 29 | 150 | 8 |
| 0445-0500 | 0 | 103 | 40 | 0 | 0 | 0 | 23 | 60 | 0 | 20 | 129 | 4 |
| 0500-0515 | 0 | 82 | 38 | 0 | 0 | 0 | 30 | 70 | 0 | 18 | 156 | 7 |
| 0515-0530 | 0 | 79 | 34 | 0 | 0 | 0 | 30 | 50 | 0 | 14 | 149 | 9 |
| 0530-0545 | 0 | 109 | 44 | 0 | 0 | 0 | 31 | 76 | 0 | 25 | 142 | 10 |
| 0545-0600 | 0 | 87 | 40 | 0 | 0 | 0 | 29 | 50 | 0 | 16 | 148 | 5 |

| 1 HOUR TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400-0500 | 0 | 319 | 141 | 0 | 0 | 0 | 122 | 256 | 0 | 97 | 490 | 26 | 1451 |
| 0415-0515 | 0 | 348 | 156 | 0 | 0 | 0 | 127 | 259 | 0 | 98 | 549 | 26 | 1563 |
| 0430-0530 | 0 | 362 | 159 | 0 | 0 | 0 | 126 | 255 | 0 | 81 | 584 | 28 | 1595 |
| 0445-0545 | 0 | 373 | 156 | 0 | 0 | 0 | 114 | 256 | 0 | 77 | 576 | 30 | 1582 |
| 0500-0600 | 0 | 357 | 156 | 0 | 0 | 0 | 120 | 246 | 0 | 73 | 595 | 31 | 1578 |

P.M. PEAK HOUR
0430-0530

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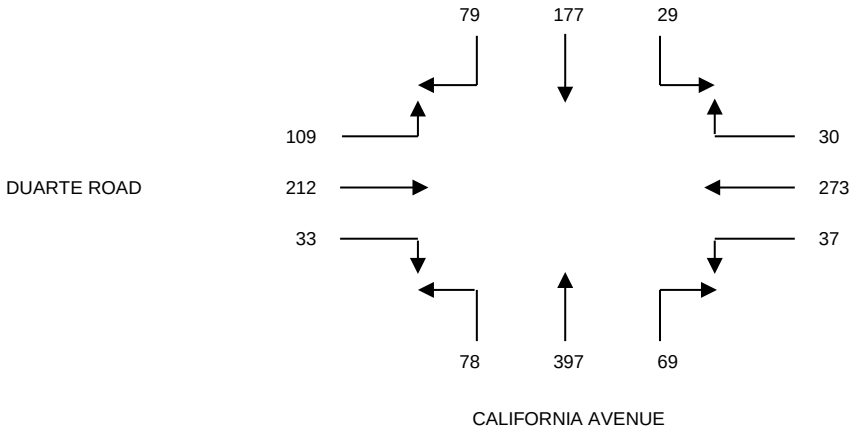
# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF MONROVIA
DATE: WEDNESDAY, AUGUST 29, 2018
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S CALIFORNIA AVENUE
E/W DUARTE ROAD
FILE NUMBER: 4-AM

| 15 MINUTE TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700-0715 | 6 | 35 | 5 | 6 | 58 | 4 | 13 | 82 | 18 | 3 | 21 | 8 |
| 0715-0730 | 10 | 32 | 6 | 6 | 72 | 8 | 12 | 98 | 14 | 5 | 30 | 10 |
| 0730-0745 | 14 | 38 | 9 | 9 | 64 | 7 | 16 | 95 | 22 | 12 | 39 | 30 |
| 0745-0800 | 22 | 58 | 6 | 9 | 77 | 10 | 19 | 130 | 20 | 11 | 57 | 38 |
| 0800-0815 | 23 | 48 | 5 | 5 | 53 | 7 | 18 | 102 | 23 | 6 | 56 | 29 |
| 0815-0830 | 20 | 33 | 9 | 7 | 79 | 13 | 16 | 70 | 13 | 4 | 60 | 12 |
| 0830-0845 | 16 | 42 | 4 | 7 | 70 | 11 | 19 | 54 | 15 | 5 | 55 | 10 |
| 0845-0900 | 10 | 41 | 7 | 6 | 50 | 8 | 23 | 67 | 11 | 3 | 51 | 13 |

| 1 HOUR TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700-0800 | 52 | 163 | 26 | 30 | 271 | 29 | 60 | 405 | 74 | 31 | 147 | 86 | 1374 |
| 0715-0815 | 69 | 176 | 26 | 29 | 266 | 32 | 65 | 425 | 79 | 34 | 182 | 107 | 1490 |
| 0730-0830 | 79 | 177 | 29 | 30 | 273 | 37 | 69 | 397 | 78 | 33 | 212 | 109 | 1523 |
| 0745-0845 | 81 | 181 | 24 | 28 | 279 | 41 | 72 | 356 | 71 | 26 | 228 | 89 | 1476 |
| 0800-0900 | 69 | 164 | 25 | 25 | 252 | 39 | 76 | 293 | 62 | 18 | 222 | 64 | 1309 |

A.M. PEAK HOUR
0730-0830




DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

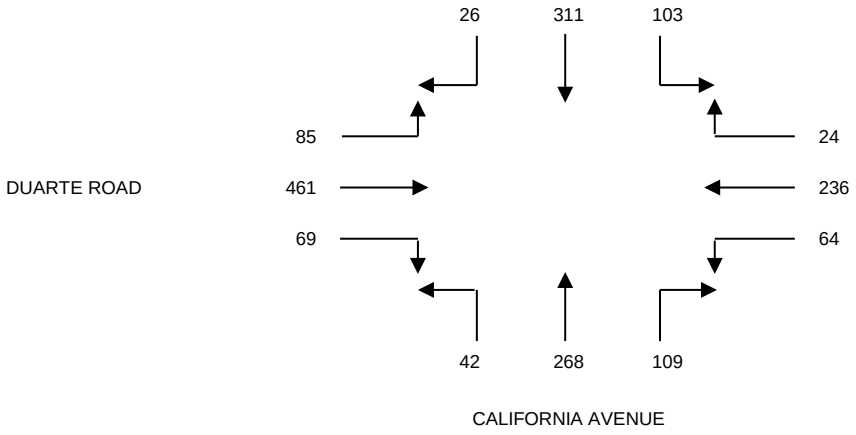
# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF MONROVIA
DATE: WEDNESDAY, AUGUST 29, 2018
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S CALIFORNIA AVENUE
E/W DUARTE ROAD
FILE NUMBER: 4-PM

| 15 MINUTE TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400-0415 | 13 | 53 | 10 | 4 | 51 | 21 | 33 | 68 | 9 | 21 | 94 | 26 |
| 0415-0430 | 7 | 79 | 19 | 6 | 60 | 14 | 23 | 63 | 11 | 15 | 97 | 26 |
| 0430-0445 | 14 | 93 | 15 | 9 | 55 | 16 | 24 | 55 | 12 | 19 | 98 | 22 |
| 0445-0500 | 11 | 77 | 20 | 8 | 45 | 19 | 30 | 62 | 9 | 19 | 112 | 21 |
| 0500-0515 | 7 | 82 | 26 | 5 | 78 | 14 | 29 | 79 | 10 | 18 | 122 | 23 |
| 0515-0530 | 4 | 65 | 25 | 5 | 56 | 19 | 24 | 66 | 13 | 14 | 106 | 23 |
| 0530-0545 | 4 | 87 | 32 | 6 | 57 | 12 | 26 | 61 | 10 | 18 | 121 | 18 |
| 0545-0600 | 9 | 63 | 22 | 9 | 56 | 13 | 18 | 48 | 11 | 15 | 96 | 19 |

| 1 HOUR TOTALS | 1 SBRT | 2 SBTH | 3 SBLT | 4 WBRT | 5 WBTH | 6 WBLT | 7 NBRT | 8 NBTH | 9 NBLT | 10 EBRT | 11 EBTH | 12 EBLT | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400-0500 | 45 | 302 | 64 | 27 | 211 | 70 | 110 | 248 | 41 | 74 | 401 | 95 | 1688 |
| 0415-0515 | 39 | 331 | 80 | 28 | 238 | 63 | 106 | 259 | 42 | 71 | 429 | 92 | 1778 |
| 0430-0530 | 36 | 317 | 86 | 27 | 234 | 68 | 107 | 262 | 44 | 70 | 438 | 89 | 1778 |
| 0445-0545 | 26 | 311 | 103 | 24 | 236 | 64 | 109 | 268 | 42 | 69 | 461 | 85 | 1798 |
| 0500-0600 | 24 | 297 | 105 | 25 | 247 | 58 | 97 | 254 | 44 | 65 | 445 | 83 | 1744 |

P.M. PEAK HOUR
0445-0545

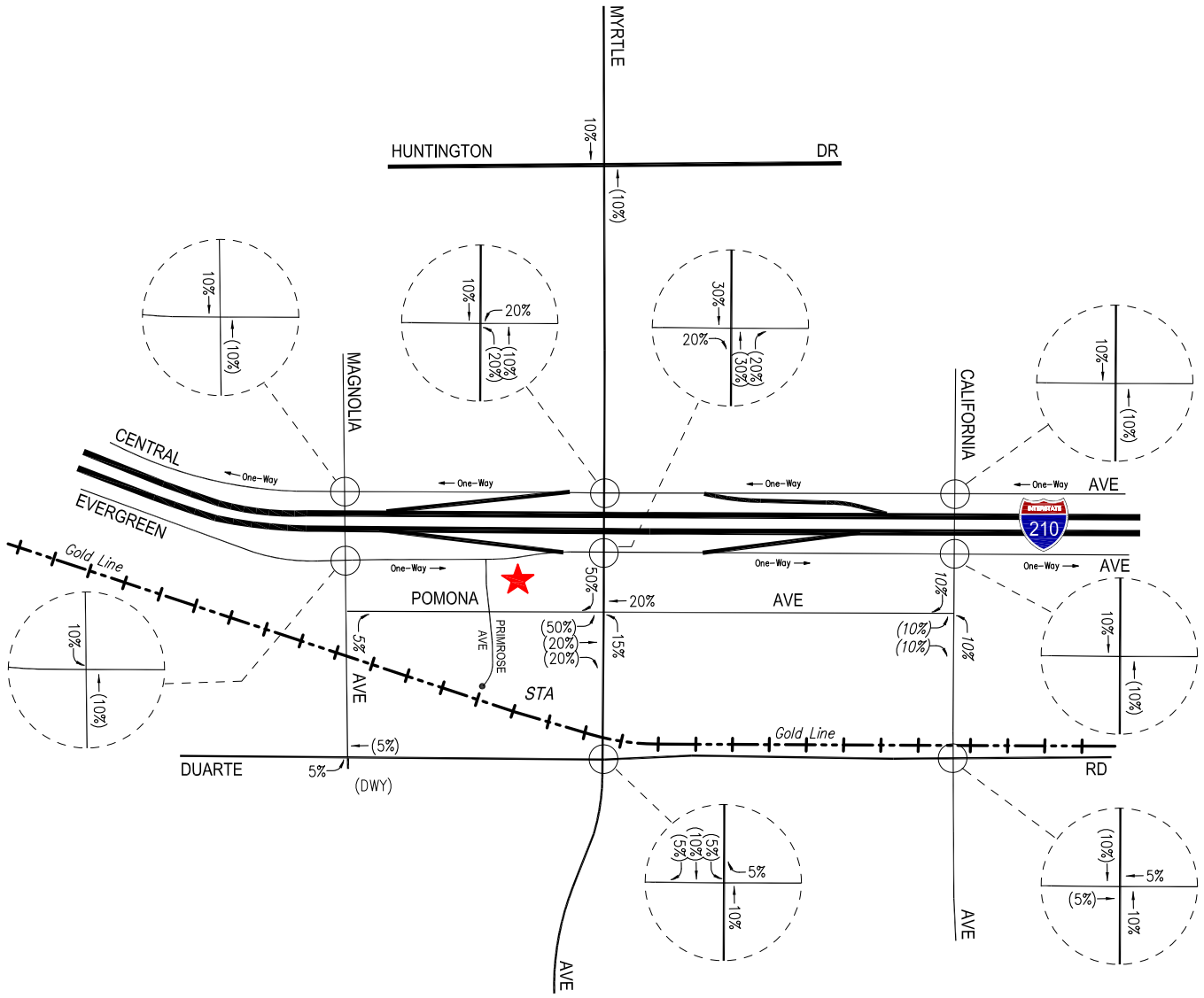



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

# APPENDIX C

## EXISTING USES TRIP DISTRIBUTION/ASSIGNMENT




N

NOT TO SCALE

★ PROJECT SITE

XX = INBOUND PERCENTAGES

(XX) = OUTBOUND PERCENTAGES

# APPENDIX FIGURE C-1
# EXISTING USES TO BE REMOVED

LINSCOTT, LAW & GREENSPAN, engineers

123 W. POMONA PROJECT

# APPENDIX D

## ICU AND LEVELS OF SERVICE EXPLANATION
## HCM AND LEVELS OF SERVICE EXPLANATION

## ICU AND HCM DATA 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 | $\leq 10$ |
| B | $> 10$ and $\leq 15$ |
| C | $> 15$ and $\leq 25$ |
| D | $> 25$ and $\leq 35$ |
| E | $> 35$ and $\leq 50$ |
| 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.

# HCS7 All-Way Stop Control Report

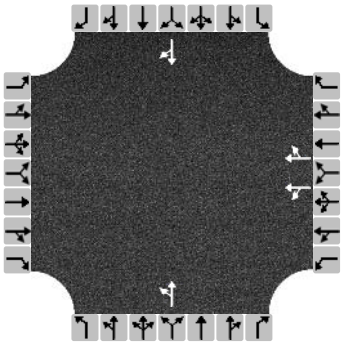
## General Information

| | |
|---|---|
| Analyst | DR |
| Agency/Co. | LLG Engineers |
| Date Performed | 9/26/2018 |
| Analysis Year | 2018 |
| Analysis Time Period (hrs) | 0.25 |
| Time Analyzed | AM PH - Existing |
| Project Description | 123 Pomona Project/1-184299-1 |

## Site Information

| | |
|---|---|
| Intersection | Int-1 |
| Jurisdiction | City of Monrovia |
| East/West Street | Central Avenue |
| North/South Street | Magnolia Avenue |
| Peak Hour Factor | 0.92 |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | | | | 97 | 260 | 36 | 24 | 239 | | | 287 | 9 |
| % Thrus in Shared Lane | | | | 50 | | 50 | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | | | | LT | TR | | LT | | | TR | | |
| Flow Rate, v (veh/h) | | | | 247 | 180 | | 286 | | | 322 | | |
| Percent Heavy Vehicles | | | | 2 | 2 | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | | | | 3.20 | 3.20 | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | | | | 0.219 | 0.160 | | 0.254 | | | 0.286 | | |
| Final Departure Headway, hd (s) | | | | 6.43 | 6.06 | | 5.67 | | | 5.58 | | |
| Final Degree of Utilization, x | | | | 0.441 | 0.304 | | 0.450 | | | 0.499 | | |
| Move-Up Time, m (s) | | | | 2.3 | 2.3 | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | | | | 4.13 | 3.76 | | 3.67 | | | 3.58 | | |

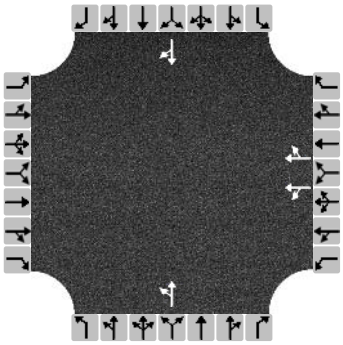
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | 247 | 180 | | 286 | | | 322 | | |
| Capacity | | | | 560 | 594 | | 635 | | | 645 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | | | 2.2 | 1.3 | | 2.3 | | | 2.8 | | |
| Control Delay (s/veh) | | | | 14.1 | 11.4 | | 13.2 | | | 14.0 | | |
| Level of Service, LOS | | | | B | B | | B | | | B | | |
| Approach Delay (s/veh) | | | | 12.9 | | | 13.2 | | | 14.0 | | |
| Approach LOS | | | | B | | | B | | | B | | |
| Intersection Delay, s/veh \| LOS | 13.4 | | | | | | B | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-1 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 9/26/2018 | East/West Street | Central Avenue |
| Analysis Year | 2018 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | PM PH - Existing | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | | | | 128 | 146 | 72 | 30 | 281 | | | 311 | 10 |
| % Thrus in Shared Lane | | | | 50 | | 50 | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | | | | LT | TR | | LT | | | TR | | |
| Flow Rate, v (veh/h) | | | | 218 | 158 | | 338 | | | 349 | | |
| Percent Heavy Vehicles | | | | 2 | 2 | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | | | | 3.20 | 3.20 | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | | | | 0.194 | 0.140 | | 0.300 | | | 0.310 | | |
| Final Departure Headway, hd (s) | | | | 6.72 | 6.05 | | 5.62 | | | 5.56 | | |
| Final Degree of Utilization, x | | | | 0.408 | 0.265 | | 0.527 | | | 0.539 | | |
| Move-Up Time, m (s) | | | | 2.3 | 2.3 | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | | | | 4.42 | 3.75 | | 3.62 | | | 3.56 | | |

## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | 218 | 158 | | 338 | | | 349 | | |
| Capacity | | | | 535 | 595 | | 641 | | | 647 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | | | 2.0 | 1.1 | | 3.1 | | | 3.2 | | |
| Control Delay (s/veh) | | | | 14.0 | 10.9 | | 14.7 | | | 14.9 | | |
| Level of Service, LOS | | | | B | B | | B | | | B | | |
| Approach Delay (s/veh) | | | | 12.7 | | | 14.7 | | | 14.9 | | |
| Approach LOS | | | | B | | | B | | | B | | |
| Intersection Delay, s/veh \| LOS | 14.1 | | | | | | B | | | | | |

# HCS7 All-Way Stop Control Report

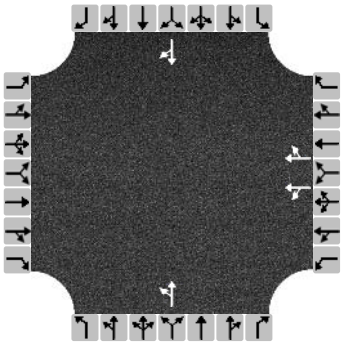
## General Information

| | |
|---|---|
| Analyst | DR |
| Agency/Co. | LLG Engineers |
| Date Performed | 3/13/2019 |
| Analysis Year | 2018 |
| Analysis Time Period (hrs) | 0.25 |
| Time Analyzed | AM PH - Existing + Proj |
| Project Description | 123 Pomona Project/1-184299-1 |

## Site Information

| | |
|---|---|
| Intersection | Int-1 |
| Jurisdiction | City of Monrovia |
| East/West Street | Central Avenue |
| North/South Street | Magnolia Avenue |
| Peak Hour Factor | 0.92 |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | | | | 97 | 260 | 36 | 24 | 239 | | | 289 | 9 |
| % Thrus in Shared Lane | | | | 50 | | 50 | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | | | | LT | TR | | LT | | | TR | | |
| Flow Rate, v (veh/h) | | | | 247 | 180 | | 286 | | | 324 | | |
| Percent Heavy Vehicles | | | | 2 | 2 | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | | | | 3.20 | 3.20 | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | | | | 0.219 | 0.160 | | 0.254 | | | 0.288 | | |
| Final Departure Headway, hd (s) | | | | 6.44 | 6.07 | | 5.67 | | | 5.58 | | |
| Final Degree of Utilization, x | | | | 0.441 | 0.304 | | 0.451 | | | 0.502 | | |
| Move-Up Time, m (s) | | | | 2.3 | 2.3 | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | | | | 4.14 | 3.77 | | 3.67 | | | 3.58 | | |

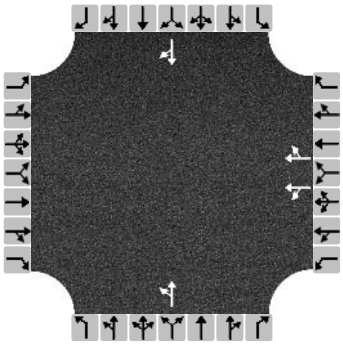
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | 247 | 180 | | 286 | | | 324 | | |
| Capacity | | | | 559 | 593 | | 634 | | | 645 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | | | 2.2 | 1.3 | | 2.3 | | | 2.8 | | |
| Control Delay (s/veh) | | | | 14.1 | 11.4 | | 13.2 | | | 14.1 | | |
| Level of Service, LOS | | | | B | B | | B | | | B | | |
| Approach Delay (s/veh) | | | | 13.0 | | | 13.2 | | | 14.1 | | |
| Approach LOS | | | | B | | | B | | | B | | |
| Intersection Delay, s/veh \| LOS | 13.4 | | | | | | B | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-1 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Central Avenue |
| Analysis Year | 2018 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | PM PH - Existing + Proj | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | | | | 128 | 146 | 72 | 30 | 282 | | | 321 | 10 |
| % Thrus in Shared Lane | | | | 50 | | 50 | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | | | | LT | TR | | LT | | | TR | | |
| Flow Rate, v (veh/h) | | | | 218 | 158 | | 339 | | | 360 | | |
| Percent Heavy Vehicles | | | | 2 | 2 | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | | | | 3.20 | 3.20 | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | | | | 0.194 | 0.140 | | 0.301 | | | 0.320 | | |
| Final Departure Headway, hd (s) | | | | 6.76 | 6.08 | | 5.64 | | | 5.57 | | |
| Final Degree of Utilization, x | | | | 0.410 | 0.266 | | 0.531 | | | 0.557 | | |
| Move-Up Time, m (s) | | | | 2.3 | 2.3 | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | | | | 4.46 | 3.78 | | 3.64 | | | 3.57 | | |

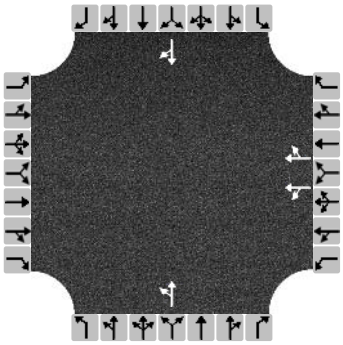
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | 218 | 158 | | 339 | | | 360 | | |
| Capacity | | | | 533 | 592 | | 638 | | | 646 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | | | 2.0 | 1.1 | | 3.1 | | | 3.4 | | |
| Control Delay (s/veh) | | | | 14.1 | 11.0 | | 14.9 | | | 15.4 | | |
| Level of Service, LOS | | | | B | B | | B | | | C | | |
| Approach Delay (s/veh) | | | | 12.8 | | | 14.9 | | | 15.4 | | |
| Approach LOS | | | | B | | | B | | | C | | |
| Intersection Delay, s/veh \| LOS | 14.3 | | | | | | B | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-1 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Central Avenue |
| Analysis Year | 2022 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | AM PH - Future Pre-Proj | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | | | | 102 | 270 | 37 | 30 | 339 | | | 317 | 9 |
| % Thrus in Shared Lane | | | | 50 | | 50 | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | | | | LT | TR | | LT | | | TR | | |
| Flow Rate, v (veh/h) | | | | 258 | 187 | | 401 | | | 354 | | |
| Percent Heavy Vehicles | | | | 2 | 2 | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | | | | 3.20 | 3.20 | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | | | | 0.229 | 0.166 | | 0.357 | | | 0.315 | | |
| Final Departure Headway, hd (s) | | | | 6.88 | 6.51 | | 5.87 | | | 5.92 | | |
| Final Degree of Utilization, x | | | | 0.493 | 0.338 | | 0.654 | | | 0.583 | | |
| Move-Up Time, m (s) | | | | 2.3 | 2.3 | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | | | | 4.58 | 4.21 | | 3.87 | | | 3.92 | | |

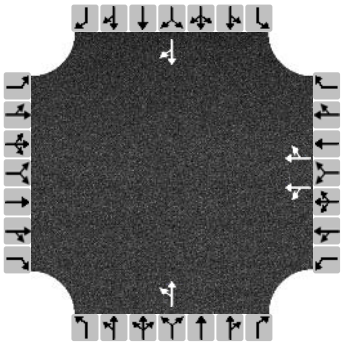
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | 258 | 187 | | 401 | | | 354 | | |
| Capacity | | | | 523 | 553 | | 613 | | | 608 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | | | 2.7 | 1.5 | | 4.8 | | | 3.7 | | |
| Control Delay (s/veh) | | | | 16.1 | 12.5 | | 19.3 | | | 16.9 | | |
| Level of Service, LOS | | | | C | B | | C | | | C | | |
| Approach Delay (s/veh) | | | | 14.6 | | | 19.3 | | | 16.9 | | |
| Approach LOS | | | | B | | | C | | | C | | |
| Intersection Delay, s/veh \| LOS | 16.8 | | | | | | C | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-1 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Central Avenue |
| Analysis Year | 2022 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | PM PH - Future Pre-Proj | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | | | | 158 | 153 | 74 | 33 | 336 | | | 390 | 10 |
| % Thrus in Shared Lane | | | | 50 | | 50 | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | | | | LT | TR | | LT | | | TR | | |
| Flow Rate, v (veh/h) | | | | 255 | 164 | | 401 | | | 435 | | |
| Percent Heavy Vehicles | | | | 2 | 2 | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | | | | 3.20 | 3.20 | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | | | | 0.227 | 0.145 | | 0.357 | | | 0.386 | | |
| Final Departure Headway, hd (s) | | | | 7.23 | 6.53 | | 6.01 | | | 5.92 | | |
| Final Degree of Utilization, x | | | | 0.512 | 0.297 | | 0.669 | | | 0.715 | | |
| Move-Up Time, m (s) | | | | 2.3 | 2.3 | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | | | | 4.93 | 4.23 | | 4.01 | | | 3.92 | | |

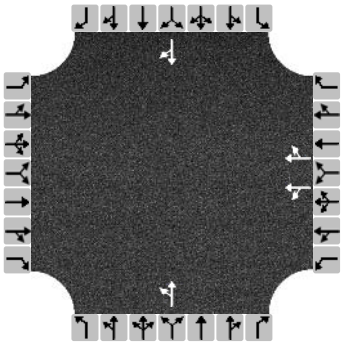
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | 255 | 164 | | 401 | | | 435 | | |
| Capacity | | | | 498 | 551 | | 599 | | | 608 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | | | 2.9 | 1.2 | | 5.0 | | | 5.9 | | |
| Control Delay (s/veh) | | | | 17.3 | 12.0 | | 20.3 | | | 22.4 | | |
| Level of Service, LOS | | | | C | B | | C | | | C | | |
| Approach Delay (s/veh) | | | | 15.2 | | | 20.3 | | | 22.4 | | |
| Approach LOS | | | | C | | | C | | | C | | |
| Intersection Delay, s/veh \| LOS | 19.3 | | | | | | C | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-1 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Central Avenue |
| Analysis Year | 2022 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | AM PH - Future W/Project | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | | | | 102 | 270 | 37 | 30 | 339 | | | 319 | 9 |
| % Thrus in Shared Lane | | | | 50 | | 50 | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | | | | LT | TR | | LT | | | TR | | |
| Flow Rate, v (veh/h) | | | | 258 | 187 | | 401 | | | 357 | | |
| Percent Heavy Vehicles | | | | 2 | 2 | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | | | | 3.20 | 3.20 | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | | | | 0.229 | 0.166 | | 0.357 | | | 0.317 | | |
| Final Departure Headway, hd (s) | | | | 6.89 | 6.52 | | 5.88 | | | 5.92 | | |
| Final Degree of Utilization, x | | | | 0.493 | 0.338 | | 0.655 | | | 0.587 | | |
| Move-Up Time, m (s) | | | | 2.3 | 2.3 | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | | | | 4.59 | 4.22 | | 3.88 | | | 3.92 | | |

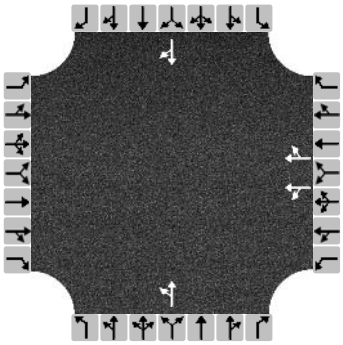
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | 258 | 187 | | 401 | | | 357 | | |
| Capacity | | | | 523 | 552 | | 612 | | | 608 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | | | 2.7 | 1.5 | | 4.8 | | | 3.8 | | |
| Control Delay (s/veh) | | | | 16.1 | 12.5 | | 19.3 | | | 17.0 | | |
| Level of Service, LOS | | | | C | B | | C | | | C | | |
| Approach Delay (s/veh) | | | | 14.6 | | | 19.3 | | | 17.0 | | |
| Approach LOS | | | | B | | | C | | | C | | |
| Intersection Delay, s/veh \| LOS | 16.9 | | | | | | C | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-1 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Central Avenue |
| Analysis Year | 2022 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | PM PH - Future W/Project | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | | | | 158 | 153 | 74 | 33 | 337 | | | 400 | 10 |
| % Thrus in Shared Lane | | | | 50 | | 50 | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | | | | LT | TR | | LT | | | TR | | |
| Flow Rate, v (veh/h) | | | | 255 | 164 | | 402 | | | 446 | | |
| Percent Heavy Vehicles | | | | 2 | 2 | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | | | | 3.20 | 3.20 | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | | | | 0.227 | 0.145 | | 0.357 | | | 0.396 | | |
| Final Departure Headway, hd (s) | | | | 7.26 | 6.57 | | 6.03 | | | 5.93 | | |
| Final Degree of Utilization, x | | | | 0.514 | 0.298 | | 0.674 | | | 0.734 | | |
| Move-Up Time, m (s) | | | | 2.3 | 2.3 | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | | | | 4.96 | 4.27 | | 4.03 | | | 3.93 | | |

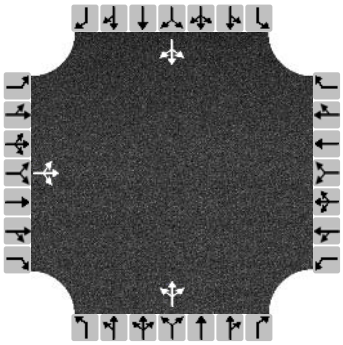
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | 255 | 164 | | 402 | | | 446 | | |
| Capacity | | | | 496 | 548 | | 597 | | | 607 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | | | 2.9 | 1.2 | | 5.1 | | | 6.3 | | |
| Control Delay (s/veh) | | | | 17.4 | 12.0 | | 20.6 | | | 23.5 | | |
| Level of Service, LOS | | | | C | B | | C | | | C | | |
| Approach Delay (s/veh) | | | | 15.3 | | | 20.6 | | | 23.5 | | |
| Approach LOS | | | | C | | | C | | | C | | |
| Intersection Delay, s/veh \| LOS | 19.9 | | | | | | C | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-2 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 9/26/2018 | East/West Street | Evergreen Avenue |
| Analysis Year | 2018 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | AM PH - Existing | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | 17 | 162 | 22 | | | | 36 | 249 | 81 | 119 | 252 | 20 |
| % Thrus in Shared Lane | | | | | | | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | LTR | | | | | | LTR | | | LTR | | |
| Flow Rate, v (veh/h) | 218 | | | | | | 398 | | | 425 | | |
| Percent Heavy Vehicles | 2 | | | | | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | 3.20 | | | | | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | 0.194 | | | | | | 0.354 | | | 0.378 | | |
| Final Departure Headway, hd (s) | 5.93 | | | | | | 5.13 | | | 5.22 | | |
| Final Degree of Utilization, x | 0.360 | | | | | | 0.566 | | | 0.616 | | |
| Move-Up Time, m (s) | 2.0 | | | | | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | 3.93 | | | | | | 3.13 | | | 3.22 | | |

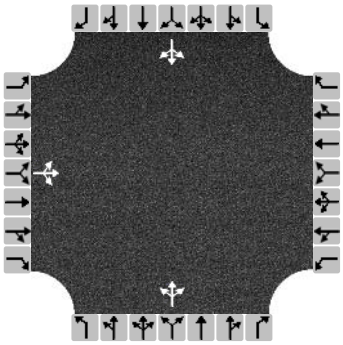
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | 218 | | | | | | 398 | | | 425 | | |
| Capacity | 607 | | | | | | 702 | | | 689 | | |
| 95% Queue Length, $Q_{95}$ (veh) | 1.6 | | | | | | 3.6 | | | 4.3 | | |
| Control Delay (s/veh) | 12.2 | | | | | | 14.6 | | | 16.2 | | |
| Level of Service, LOS | B | | | | | | B | | | C | | |
| Approach Delay (s/veh) | 12.2 | | | | | | 14.6 | | | 16.2 | | |
| Approach LOS | B | | | | | | B | | | C | | |
| Intersection Delay, s/veh \| LOS | 14.8 | | | | | | B | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-2 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 9/26/2018 | East/West Street | Evergreen Avenue |
| Analysis Year | 2018 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | PM PH - Existing | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | 25 | 168 | 23 | | | | 13 | 285 | 88 | 64 | 347 | 12 |
| % Thrus in Shared Lane | | | | | | | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | LTR | | | | | | LTR | | | LTR | | |
| Flow Rate, v (veh/h) | 235 | | | | | | 420 | | | 460 | | |
| Percent Heavy Vehicles | 2 | | | | | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | 3.20 | | | | | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | 0.209 | | | | | | 0.373 | | | 0.409 | | |
| Final Departure Headway, hd (s) | 6.10 | | | | | | 5.26 | | | 5.33 | | |
| Final Degree of Utilization, x | 0.398 | | | | | | 0.612 | | | 0.681 | | |
| Move-Up Time, m (s) | 2.0 | | | | | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | 4.10 | | | | | | 3.26 | | | 3.33 | | |

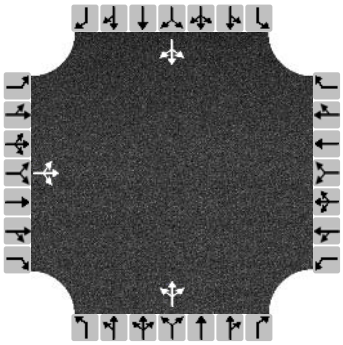
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | 235 | | | | | | 420 | | | 460 | | |
| Capacity | 590 | | | | | | 685 | | | 675 | | |
| 95% Queue Length, $Q_{95}$ (veh) | 1.9 | | | | | | 4.2 | | | 5.3 | | |
| Control Delay (s/veh) | 13.1 | | | | | | 16.2 | | | 18.9 | | |
| Level of Service, LOS | B | | | | | | C | | | C | | |
| Approach Delay (s/veh) | 13.1 | | | | | | 16.2 | | | 18.9 | | |
| Approach LOS | B | | | | | | C | | | C | | |
| Intersection Delay, s/veh \| LOS | 16.7 | | | | | | C | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-2 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Evergreen Avenue |
| Analysis Year | 2018 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | AM PH - Existing + Proj | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | 17 | 162 | 22 | | | | 36 | 249 | 81 | 121 | 252 | 20 |
| % Thrus in Shared Lane | | | | | | | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | LTR | | | | | | LTR | | | LTR | | |
| Flow Rate, v (veh/h) | 218 | | | | | | 398 | | | 427 | | |
| Percent Heavy Vehicles | 2 | | | | | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | 3.20 | | | | | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | 0.194 | | | | | | 0.354 | | | 0.380 | | |
| Final Departure Headway, hd (s) | 5.93 | | | | | | 5.13 | | | 5.22 | | |
| Final Degree of Utilization, x | 0.360 | | | | | | 0.567 | | | 0.620 | | |
| Move-Up Time, m (s) | 2.0 | | | | | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | 3.93 | | | | | | 3.13 | | | 3.22 | | |

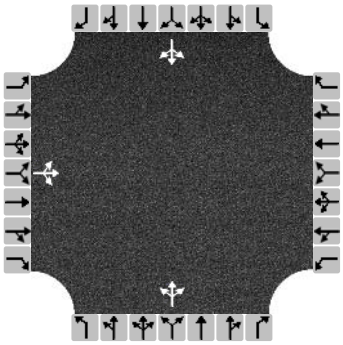
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | 218 | | | | | | 398 | | | 427 | | |
| Capacity | 607 | | | | | | 702 | | | 689 | | |
| 95% Queue Length, $Q_{95}$ (veh) | 1.6 | | | | | | 3.6 | | | 4.3 | | |
| Control Delay (s/veh) | 12.2 | | | | | | 14.6 | | | 16.4 | | |
| Level of Service, LOS | B | | | | | | B | | | C | | |
| Approach Delay (s/veh) | 12.2 | | | | | | 14.6 | | | 16.4 | | |
| Approach LOS | B | | | | | | B | | | C | | |
| Intersection Delay, s/veh \| LOS | 14.8 | | | | | | B | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-2 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Evergreen Avenue |
| Analysis Year | 2018 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | PM PH - Existing + Proj | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | 25 | 168 | 23 | | | | 13 | 286 | 88 | 74 | 347 | 12 |
| % Thrus in Shared Lane | | | | | | | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | LTR | | | | | | LTR | | | LTR | | |
| Flow Rate, v (veh/h) | 235 | | | | | | 421 | | | 471 | | |
| Percent Heavy Vehicles | 2 | | | | | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | 3.20 | | | | | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | 0.209 | | | | | | 0.374 | | | 0.418 | | |
| Final Departure Headway, hd (s) | 6.14 | | | | | | 5.28 | | | 5.35 | | |
| Final Degree of Utilization, x | 0.400 | | | | | | 0.617 | | | 0.699 | | |
| Move-Up Time, m (s) | 2.0 | | | | | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | 4.14 | | | | | | 3.28 | | | 3.35 | | |

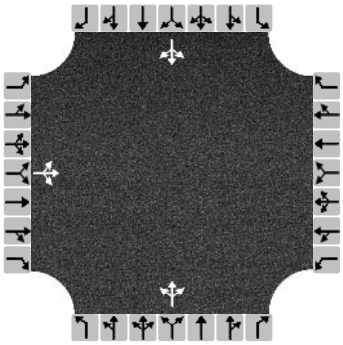
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | 235 | | | | | | 421 | | | 471 | | |
| Capacity | 587 | | | | | | 682 | | | 674 | | |
| 95% Queue Length, $Q_{95}$ (veh) | 1.9 | | | | | | 4.3 | | | 5.7 | | |
| Control Delay (s/veh) | 13.2 | | | | | | 16.4 | | | 19.8 | | |
| Level of Service, LOS | B | | | | | | C | | | C | | |
| Approach Delay (s/veh) | 13.2 | | | | | | 16.4 | | | 19.8 | | |
| Approach LOS | B | | | | | | C | | | C | | |
| Intersection Delay, s/veh \| LOS | 17.1 | | | | | | C | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-2 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Evergreen Avenue |
| Analysis Year | 2022 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | AM PH - Future Pre-Proj | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | 44 | 195 | 23 | | | | 39 | 327 | 91 | 132 | 271 | 23 |
| % Thrus in Shared Lane | | | | | | | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | LTR | | | | | | LTR | | | LTR | | |
| Flow Rate, v (veh/h) | 285 | | | | | | 497 | | | 463 | | |
| Percent Heavy Vehicles | 2 | | | | | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | 3.20 | | | | | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | 0.253 | | | | | | 0.442 | | | 0.412 | | |
| Final Departure Headway, hd (s) | 6.43 | | | | | | 5.59 | | | 5.75 | | |
| Final Degree of Utilization, x | 0.509 | | | | | | 0.771 | | | 0.740 | | |
| Move-Up Time, m (s) | 2.0 | | | | | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | 4.43 | | | | | | 3.59 | | | 3.75 | | |

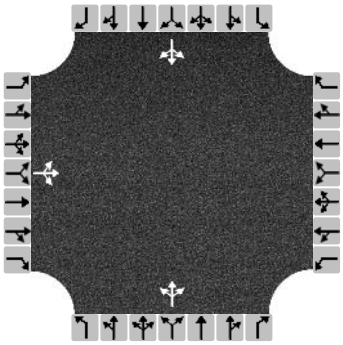
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | 285 | | | | | | 497 | | | 463 | | |
| Capacity | 559 | | | | | | 644 | | | 626 | | |
| 95% Queue Length, $Q_{95}$ (veh) | 2.9 | | | | | | 7.2 | | | 6.5 | | |
| Control Delay (s/veh) | 15.9 | | | | | | 24.8 | | | 23.3 | | |
| Level of Service, LOS | C | | | | | | C | | | C | | |
| Approach Delay (s/veh) | 15.9 | | | | | | 24.8 | | | 23.3 | | |
| Approach LOS | C | | | | | | C | | | C | | |
| Intersection Delay, s/veh \| LOS | 22.2 | | | | | | C | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-2 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Evergreen Avenue |
| Analysis Year | 2022 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | PM PH - Future Pre-Proj | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | 38 | 190 | 24 | | | | 39 | 330 | 94 | 95 | 399 | 38 |
| % Thrus in Shared Lane | | | | | | | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | LTR | | | | | | LTR | | | LTR | | |
| Flow Rate, v (veh/h) | 274 | | | | | | 503 | | | 578 | | |
| Percent Heavy Vehicles | 2 | | | | | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | 3.20 | | | | | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | 0.243 | | | | | | 0.447 | | | 0.514 | | |
| Final Departure Headway, hd (s) | 6.74 | | | | | | 5.78 | | | 5.76 | | |
| Final Degree of Utilization, x | 0.512 | | | | | | 0.808 | | | 0.925 | | |
| Move-Up Time, m (s) | 2.0 | | | | | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | 4.74 | | | | | | 3.78 | | | 3.76 | | |

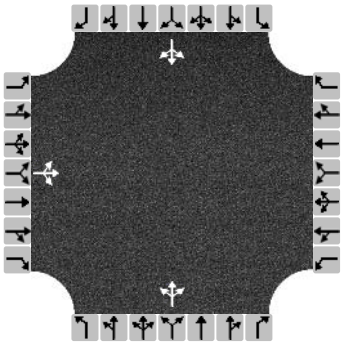
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | 274 | | | | | | 503 | | | 578 | | |
| Capacity | 534 | | | | | | 623 | | | 625 | | |
| 95% Queue Length, $Q_{95}$ (veh) | 2.9 | | | | | | 8.2 | | | 12.1 | | |
| Control Delay (s/veh) | 16.6 | | | | | | 28.6 | | | 43.6 | | |
| Level of Service, LOS | C | | | | | | D | | | E | | |
| Approach Delay (s/veh) | 16.6 | | | | | | 28.6 | | | 43.6 | | |
| Approach LOS | C | | | | | | D | | | E | | |
| Intersection Delay, s/veh \| LOS | 32.6 | | | | | | D | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-2 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Evergreen Avenue |
| Analysis Year | 2022 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | AM PH - Future W/Project | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | 44 | 195 | 23 | | | | 39 | 327 | 91 | 134 | 271 | 23 |
| % Thrus in Shared Lane | | | | | | | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | LTR | | | | | | LTR | | | LTR | | |
| Flow Rate, v (veh/h) | 285 | | | | | | 497 | | | 465 | | |
| Percent Heavy Vehicles | 2 | | | | | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | 3.20 | | | | | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | 0.253 | | | | | | 0.442 | | | 0.414 | | |
| Final Departure Headway, hd (s) | 6.44 | | | | | | 5.59 | | | 5.76 | | |
| Final Degree of Utilization, x | 0.510 | | | | | | 0.772 | | | 0.744 | | |
| Move-Up Time, m (s) | 2.0 | | | | | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | 4.44 | | | | | | 3.59 | | | 3.76 | | |

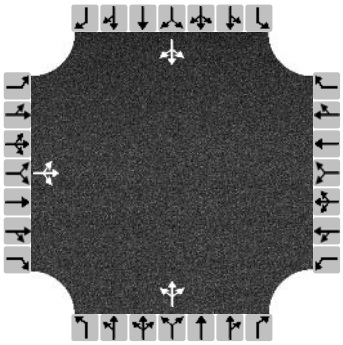
## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | 285 | | | | | | 497 | | | 465 | | |
| Capacity | 559 | | | | | | 644 | | | 625 | | |
| 95% Queue Length, $Q_{95}$ (veh) | 2.9 | | | | | | 7.3 | | | 6.6 | | |
| Control Delay (s/veh) | 15.9 | | | | | | 24.9 | | | 23.6 | | |
| Level of Service, LOS | C | | | | | | C | | | C | | |
| Approach Delay (s/veh) | 15.9 | | | | | | 24.9 | | | 23.6 | | |
| Approach LOS | C | | | | | | C | | | C | | |
| Intersection Delay, s/veh \| LOS | 22.3 | | | | | | C | | | | | |

# HCS7 All-Way Stop Control Report

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | DR | Intersection | Int-2 |
| Agency/Co. | LLG Engineers | Jurisdiction | City of Monrovia |
| Date Performed | 3/13/2019 | East/West Street | Evergreen Avenue |
| Analysis Year | 2022 | North/South Street | Magnolia Avenue |
| Analysis Time Period (hrs) | 0.25 | Peak Hour Factor | 0.92 |
| Time Analyzed | PM PH - Future W/Project | | |
| Project Description | 123 Pomona Project/1-184299-1 | | |

## Lanes



## Vehicle Volume and Adjustments

| Approach | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Volume | 38 | 190 | 24 | | | | 39 | 331 | 94 | 105 | 399 | 38 |
| % Thrus in Shared Lane | | | | | | | | | | | | |
| Lane | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| Configuration | LTR | | | | | | LTR | | | LTR | | |
| Flow Rate, v (veh/h) | 274 | | | | | | 504 | | | 589 | | |
| Percent Heavy Vehicles | 2 | | | | | | 2 | | | 2 | | |

## Departure Headway and Service Time

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Departure Headway, hd (s) | 3.20 | | | | | | 3.20 | | | 3.20 | | |
| Initial Degree of Utilization, x | 0.243 | | | | | | 0.448 | | | 0.524 | | |
| Final Departure Headway, hd (s) | 6.77 | | | | | | 5.81 | | | 5.77 | | |
| Final Degree of Utilization, x | 0.515 | | | | | | 0.813 | | | 0.945 | | |
| Move-Up Time, m (s) | 2.0 | | | | | | 2.0 | | | 2.0 | | |
| Service Time, ts (s) | 4.77 | | | | | | 3.81 | | | 3.77 | | |

## Capacity, Delay and Level of Service

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | 274 | | | | | | 504 | | | 589 | | |
| Capacity | 532 | | | | | | 620 | | | 624 | | |
| 95% Queue Length, $Q_{95}$ (veh) | 2.9 | | | | | | 8.3 | | | 12.9 | | |
| Control Delay (s/veh) | 16.7 | | | | | | 29.2 | | | 47.4 | | |
| Level of Service, LOS | C | | | | | | D | | | E | | |
| Approach Delay (s/veh) | 16.7 | | | | | | 29.2 | | | 47.4 | | |
| Approach LOS | C | | | | | | D | | | E | | |
| Intersection Delay, s/veh \| LOS | 34.5 | | | | | | D | | | | | |

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**INTERSECTION CAPACITY UTILIZATION**

Magnolia Avenue @ Duarte Road

N-S St: Magnolia Avenue
E-W St: Duarte Road
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU3

Peak hr: PM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 6 | 0 | 0.004 | 0 | 6 | 0 | 0.004 | 0 | 6 | 0 | 0.004 | 0 | 0 | 6 | 0 | 0.004 | 0 | 6 | 0 | 0.004 |
| NB Thru | 4 | 1600 | 0.009 * | 0 | 4 | 1600 | 0.009 * | 0 | 4 | 1600 | 0.009 * | 0 | 0 | 4 | 1600 | 0.009 * | 0 | 4 | 1600 | 0.009 * |
| NB Right | 4 | 0 | 0.000 | 0 | 4 | 0 | 0.000 | 0 | 4 | 0 | 0.000 | 0 | 0 | 4 | 0 | 0.000 | 0 | 4 | 0 | 0.000 |
| SB Left | 192 | 0 | 0.120 * | 0 | 192 | 0 | 0.120 * | 0 | 192 | 0 | 0.120 * | 6 | 6 | 204 | 0 | 0.128 * | 0 | 204 | 0 | 0.128 * |
| SB Thru | 1 | 1600 | 0.121 | 0 | 1 | 1600 | 0.121 | 0 | 1 | 1600 | 0.121 | 0 | 0 | 1 | 1600 | 0.128 | 0 | 1 | 1600 | 0.128 |
| SB Right | 186 | 1600 | 0.116 | 0 | 186 | 1600 | 0.116 | 0 | 186 | 1600 | 0.116 | 6 | 2 | 194 | 1600 | 0.121 | 0 | 194 | 1600 | 0.121 |
| EB Left | 249 | 1600 | 0.156 * | 4 | 253 | 1600 | 0.158 * | 0 | 253 | 1600 | 0.158 * | 8 | 25 | 282 | 1600 | 0.176 * | 4 | 286 | 1600 | 0.179 * |
| EB Thru | 710 | 3200 | 0.222 | 0 | 710 | 3200 | 0.222 | 0 | 710 | 3200 | 0.222 | 24 | 87 | 821 | 3200 | 0.257 | 0 | 821 | 3200 | 0.257 |
| EB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Left | 2 | 1600 | 0.001 | 0 | 2 | 1600 | 0.001 | 0 | 2 | 1600 | 0.001 | 0 | 0 | 2 | 1600 | 0.001 | 0 | 2 | 1600 | 0.001 |
| WB Thru | 522 | 3200 | 0.206 * | 2 | 524 | 3200 | 0.206 * | 0 | 524 | 3200 | 0.206 * | 17 | 98 | 637 | 3200 | 0.247 * | 2 | 639 | 3200 | 0.248 * |
| WB Right | 136 | 0 | 0.000 | 0 | 136 | 0 | 0.000 | 0 | 136 | 0 | 0.000 | 5 | 13 | 154 | 0 | 0.000 | 0 | 154 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.590 | | | | 0.593 | | | | 0.593 | | | | | 0.660 | | | | 0.663 |
| LOS | | | A | | | | A | | | | A | | | | | B | | | | B |

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

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Huntington Drive

N-S St: Myrtle Avenue
E-W St: Huntington Drive
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU4

Peak hr: AM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 197 | 1600 | 0.123 | 6 | 203 | 1600 | 0.127 | 0 | 203 | 1600 | 0.127 | 7 | 51 | 255 | 1600 | 0.159 * | 6 | 261 | 1600 | 0.163 * |
| NB Thru | 560 | 3200 | 0.209 * | 7 | 567 | 3200 | 0.212 * | 0 | 567 | 3200 | 0.212 * | 19 | 21 | 600 | 3200 | 0.226 | 7 | 607 | 3200 | 0.229 |
| NB Right | 108 | 0 | 0.000 | 3 | 111 | 0 | 0.000 | 0 | 111 | 0 | 0.000 | 4 | 12 | 124 | 0 | 0.000 | 3 | 127 | 0 | 0.000 |
| SB Left | 37 | 1600 | 0.023 * | 0 | 37 | 1600 | 0.023 * | 0 | 37 | 1600 | 0.023 * | 1 | 8 | 46 | 1600 | 0.029 | 0 | 46 | 1600 | 0.029 |
| SB Thru | 291 | 3200 | 0.099 | 0 | 291 | 3200 | 0.100 | 0 | 291 | 3200 | 0.100 | 10 | 38 | 339 | 3200 | 0.119 * | 0 | 339 | 3200 | 0.119 * |
| SB Right | 27 | 0 | 0.000 | 1 | 28 | 0 | 0.000 | 0 | 28 | 0 | 0.000 | 1 | 13 | 41 | 0 | 0.000 | 1 | 42 | 0 | 0.000 |
| EB Left | 42 | 1600 | 0.026 * | 0 | 42 | 1600 | 0.026 * | 0 | 42 | 1600 | 0.026 * | 1 | 3 | 46 | 1600 | 0.029 * | 0 | 46 | 1600 | 0.029 * |
| EB Thru | 391 | 3200 | 0.122 | 0 | 391 | 3200 | 0.122 | 0 | 391 | 3200 | 0.122 | 13 | 124 | 528 | 3200 | 0.165 | 0 | 528 | 3200 | 0.165 |
| EB Right | 112 | 1600 | 0.070 | 0 | 112 | 1600 | 0.070 | 0 | 112 | 1600 | 0.070 | 4 | 21 | 137 | 1600 | 0.086 | 0 | 137 | 1600 | 0.086 |
| WB Left | 113 | 1600 | 0.071 | 1 | 114 | 1600 | 0.071 | 0 | 114 | 1600 | 0.071 | 4 | 8 | 125 | 1600 | 0.078 | 1 | 126 | 1600 | 0.079 |
| WB Thru | 1201 | 3200 | 0.398 * | 0 | 1201 | 3200 | 0.398 * | 0 | 1201 | 3200 | 0.398 * | 40 | 77 | 1318 | 3200 | 0.436 * | 0 | 1318 | 3200 | 0.436 * |
| WB Right | 74 | 0 | 0.000 | 0 | 74 | 0 | 0.000 | 0 | 74 | 0 | 0.000 | 2 | 1 | 77 | 0 | 0.000 | 0 | 77 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.757 | | | | 0.760 | | | | 0.760 | | | | | 0.843 | | | | 0.847 |
| LOS | | | C | | | | C | | | | C | | | | | D | | | | D |

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

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Huntington Drive

N-S St: Myrtle Avenue
E-W St: Huntington Drive
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU4

Peak hr: PM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 141 | 1600 | 0.088 * | 4 | 145 | 1600 | 0.091 * | 0 | 145 | 1600 | 0.091 * | 5 | 36 | 182 | 1600 | 0.114 * | 4 | 186 | 1600 | 0.116 * |
| NB Thru | 366 | 3200 | 0.158 | 4 | 370 | 3200 | 0.160 | 0 | 370 | 3200 | 0.160 | 12 | 44 | 422 | 3200 | 0.179 | 4 | 426 | 3200 | 0.181 |
| NB Right | 139 | 0 | 0.000 | 2 | 141 | 0 | 0.000 | 0 | 141 | 0 | 0.000 | 5 | 8 | 152 | 0 | 0.000 | 2 | 154 | 0 | 0.000 |
| SB Left | 126 | 1600 | 0.079 | 0 | 126 | 1600 | 0.079 | 0 | 126 | 1600 | 0.079 | 4 | 3 | 133 | 1600 | 0.083 | 0 | 133 | 1600 | 0.083 |
| SB Thru | 542 | 3200 | 0.188 * | 4 | 546 | 3200 | 0.190 * | 0 | 546 | 3200 | 0.190 * | 18 | 28 | 588 | 3200 | 0.206 * | 4 | 592 | 3200 | 0.208 * |
| SB Right | 59 | 0 | 0.000 | 3 | 62 | 0 | 0.000 | 0 | 62 | 0 | 0.000 | 2 | 9 | 70 | 0 | 0.000 | 3 | 73 | 0 | 0.000 |
| EB Left | 78 | 1600 | 0.049 | 0 | 78 | 1600 | 0.049 | 0 | 78 | 1600 | 0.049 | 3 | 16 | 97 | 1600 | 0.061 | 0 | 97 | 1600 | 0.061 |
| EB Thru | 940 | 3200 | 0.294 * | 0 | 940 | 3200 | 0.294 * | 0 | 940 | 3200 | 0.294 * | 31 | 104 | 1075 | 3200 | 0.336 * | 0 | 1075 | 3200 | 0.336 * |
| EB Right | 152 | 1600 | 0.095 | 0 | 152 | 1600 | 0.095 | 0 | 152 | 1600 | 0.095 | 5 | 15 | 172 | 1600 | 0.108 | 0 | 172 | 1600 | 0.108 |
| WB Left | 139 | 1600 | 0.087 * | 3 | 142 | 1600 | 0.089 * | 0 | 142 | 1600 | 0.089 * | 5 | 16 | 160 | 1600 | 0.100 * | 3 | 163 | 1600 | 0.102 * |
| WB Thru | 696 | 3200 | 0.234 | 0 | 696 | 3200 | 0.234 | 0 | 696 | 3200 | 0.234 | 23 | 136 | 855 | 3200 | 0.287 | 0 | 855 | 3200 | 0.287 |
| WB Right | 52 | 0 | 0.000 | 0 | 52 | 0 | 0.000 | 0 | 52 | 0 | 0.000 | 2 | 8 | 62 | 0 | 0.000 | 0 | 62 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.757 | | | | 0.763 | | | | 0.763 | | | | | 0.855 | | | | 0.862 |
| LOS | | | C | | | | C | | | | C | | | | | D | | | | D |

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

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Central Avenue/I-210 Fwy. WB Ramps

N-S St: Myrtle Avenue
E-W St: Central Avenue/I-210 Fwy. WB Ramps
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU5

Peak hr: AM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 235 | 1600 | 0.147 * | 15 | 250 | 1600 | 0.156 * | 0 | 250 | 1600 | 0.156 * | 8 | 54 | 297 | 1600 | 0.186 * | 15 | 312 | 1600 | 0.195 * |
| NB Thru | 600 | 3200 | 0.188 | 16 | 616 | 3200 | 0.193 | 0 | 616 | 3200 | 0.193 | 20 | 64 | 684 | 3200 | 0.214 | 16 | 700 | 3200 | 0.219 |
| NB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| SB Left | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| SB Thru | 474 | 3200 | 0.173 * | 1 | 475 | 3200 | 0.173 * | 0 | 475 | 3200 | 0.173 * | 16 | 52 | 542 | 3200 | 0.207 * | 1 | 543 | 3200 | 0.207 * |
| SB Right | 79 | 0 | 0.000 | 0 | 79 | 0 | 0.000 | 0 | 79 | 0 | 0.000 | 3 | 38 | 120 | 0 | 0.000 | 0 | 120 | 0 | 0.000 |
| EB Left | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * |
| EB Thru | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| EB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Left | 222 | 1600 | 0.139 | 3 | 225 | 1600 | 0.141 | 0 | 225 | 1600 | 0.141 | 7 | 13 | 242 | 1600 | 0.151 | 3 | 245 | 1600 | 0.153 |
| WB Thru | 567 | 1600 | 0.354 * | 0 | 567 | 1600 | 0.354 * | 0 | 567 | 1600 | 0.354 * | 19 | 2 | 588 | 1600 | 0.368 * | 0 | 588 | 1600 | 0.368 * |
| WB Right[3] | 328 | 1600 | 0.205 | 0 | 328 | 1600 | 0.205 | 0 | 328 | 1600 | 0.205 | 11 | 19 | 358 | 1600 | 0.224 | 0 | 358 | 1600 | 0.224 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.774 | | | | 0.784 | | | | 0.784 | | | | | 0.860 | | | | 0.870 |
| LOS | | | C | | | | C | | | | C | | | | | D | | | | D |

** Key conflicting movement as a part of ICU*
*1 Counts conducted by: NDS*
*2 Capacity expressed in veh/hour of green*
*3 No right-turn on red.*

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Central Avenue/I-210 Fwy. WB Ramps

N-S St: Myrtle Avenue
E-W St: Central Avenue/I-210 Fwy. WB Ramps
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU5

Peak hr: PM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 290 | 1600 | 0.181 * | 9 | 299 | 1600 | 0.187 * | 0 | 299 | 1600 | 0.187 * | 10 | 29 | 329 | 1600 | 0.206 * | 9 | 338 | 1600 | 0.211 * |
| NB Thru | 393 | 3200 | 0.123 | 10 | 403 | 3200 | 0.126 | 0 | 403 | 3200 | 0.126 | 13 | 53 | 459 | 3200 | 0.143 | 10 | 469 | 3200 | 0.147 |
| NB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| SB Left | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| SB Thru | 691 | 3200 | 0.278 * | 7 | 698 | 3200 | 0.281 * | 0 | 698 | 3200 | 0.281 * | 23 | 53 | 767 | 3200 | 0.310 * | 7 | 774 | 3200 | 0.313 * |
| SB Right | 200 | 0 | 0.000 | 0 | 200 | 0 | 0.000 | 0 | 200 | 0 | 0.000 | 7 | 19 | 226 | 0 | 0.000 | 0 | 226 | 0 | 0.000 |
| EB Left | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * |
| EB Thru | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| EB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Left | 202 | 1600 | 0.126 | 16 | 218 | 1600 | 0.136 | 0 | 218 | 1600 | 0.136 | 7 | 49 | 258 | 1600 | 0.161 | 16 | 274 | 1600 | 0.171 |
| WB Thru | 507 | 1600 | 0.317 * | 0 | 507 | 1600 | 0.317 * | 0 | 507 | 1600 | 0.317 * | 17 | 27 | 551 | 1600 | 0.344 * | 0 | 551 | 1600 | 0.344 * |
| WB Right[3] | 288 | 1600 | 0.180 | 0 | 288 | 1600 | 0.180 | 0 | 288 | 1600 | 0.180 | 10 | 27 | 325 | 1600 | 0.203 | 0 | 325 | 1600 | 0.203 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.877 | | | | 0.884 | | | | 0.884 | | | | | 0.960 | | | | 0.968 |
| LOS | | | D | | | | D | | | | D | | | | | E | | | | E |

** Key conflicting movement as a part of ICU*
*1 Counts conducted by: NDS*
*2 Capacity expressed in veh/hour of green*
*3 No right-turn on red.*

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Evergreen Avenue/I-210 Fwy. EB Ramps

N-S St: Myrtle Avenue
E-W St: Evergreen Avenue/I-210 Fwy. EB Ramps
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU6

Peak hr: AM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| NB Thru | 480 | 3200 | 0.196 * | 0 | 480 | 3200 | 0.196 * | 0 | 480 | 3200 | 0.196 * | 16 | 43 | 539 | 3200 | 0.221 * | 0 | 539 | 3200 | 0.221 * |
| NB Right | 146 | 0 | 0.000 | 0 | 146 | 0 | 0.000 | 0 | 146 | 0 | 0.000 | 5 | 18 | 169 | 0 | 0.000 | 0 | 169 | 0 | 0.000 |
| SB Left | 247 | 1600 | 0.154 * | 0 | 247 | 1600 | 0.154 * | 0 | 247 | 1600 | 0.154 * | 8 | 30 | 285 | 1600 | 0.178 * | 0 | 285 | 1600 | 0.178 * |
| SB Thru | 446 | 3200 | 0.139 | 4 | 450 | 3200 | 0.141 | 0 | 450 | 3200 | 0.141 | 15 | 35 | 496 | 3200 | 0.155 | 4 | 500 | 3200 | 0.156 |
| SB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| EB Left | 346 | 1600 | 0.216 | 31 | 377 | 1600 | 0.236 | 0 | 377 | 1600 | 0.236 | 11 | 79 | 436 | 1600 | 0.273 | 31 | 467 | 1600 | 0.292 |
| EB Thru | 445 | 3200 | 0.221 * | 15 | 460 | 3200 | 0.227 | 0 | 460 | 3200 | 0.227 | 15 | 59 | 519 | 3200 | 0.252 | 15 | 534 | 3200 | 0.258 |
| EB Right [3] | 263 | 0 | 0.000 | 3 | 266 | 0 | 0.000 | 0 | 266 | 0 | 0.000 | 9 | 16 | 288 | 0 | 0.000 | 3 | 291 | 0 | 0.000 |
| WB Left | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Thru | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.671 | | | | 0.686 | | | | 0.686 | | | | | 0.772 | | | | 0.791 |
| LOS | | | B | | | | B | | | | B | | | | | C | | | | C |

** Key conflicting movement as a part of ICU*
*1 Counts conducted by: NDS*
*2 Capacity expressed in veh/hour of green*
*3 No right-turn on red.*

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Evergreen Avenue/I-210 Fwy. EB Ramps

N-S St: Myrtle Avenue
E-W St: Evergreen Avenue/I-210 Fwy. EB Ramps
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU6

Peak hr: PM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| NB Thru | 529 | 3200 | 0.224 * | -1 | 528 | 3200 | 0.223 * | 0 | 528 | 3200 | 0.223 * | 18 | 35 | 582 | 3200 | 0.246 * | -1 | 581 | 3200 | 0.245 * |
| NB Right | 188 | 0 | 0.000 | -1 | 187 | 0 | 0.000 | 0 | 187 | 0 | 0.000 | 6 | 10 | 204 | 0 | 0.000 | -1 | 203 | 0 | 0.000 |
| SB Left | 313 | 1600 | 0.196 * | 0 | 313 | 1600 | 0.196 * | 0 | 313 | 1600 | 0.196 * | 10 | 16 | 339 | 1600 | 0.212 * | 0 | 339 | 1600 | 0.212 * |
| SB Thru | 593 | 3200 | 0.185 | 23 | 616 | 3200 | 0.193 | 0 | 616 | 3200 | 0.193 | 20 | 86 | 699 | 3200 | 0.218 | 23 | 722 | 3200 | 0.226 |
| SB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| EB Left | 158 | 1600 | 0.099 | 20 | 178 | 1600 | 0.111 | 0 | 178 | 1600 | 0.111 | 5 | 50 | 213 | 1600 | 0.133 | 20 | 233 | 1600 | 0.146 |
| EB Thru | 816 | 3200 | 0.316 * | 10 | 826 | 3200 | 0.324 * | 0 | 826 | 3200 | 0.324 * | 27 | 30 | 873 | 3200 | 0.361 * | 10 | 883 | 3200 | 0.369 * |
| EB Right [3] | 194 | 0 | 0.000 | 17 | 211 | 0 | 0.000 | 0 | 211 | 0 | 0.000 | 6 | 82 | 282 | 0 | 0.000 | 17 | 299 | 0 | 0.000 |
| WB Left | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * |
| WB Thru | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.835 | | | | 0.843 | | | | 0.843 | | | | | 0.918 | | | | 0.926 |
| LOS | | | D | | | | D | | | | D | | | | | E | | | | E |

** Key conflicting movement as a part of ICU*
*1 Counts conducted by: NDS*
*2 Capacity expressed in veh/hour of green*
*3 No right-turn on red.*

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Pomona Avenue

N-S St: Myrtle Avenue
E-W St: Pomona Avenue
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU7

Peak hr: AM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 32 | 1600 | 0.020 * | 2 | 34 | 1600 | 0.021 * | 0 | 34 | 1600 | 0.021 * | 1 | 17 | 50 | 1600 | 0.031 * | 2 | 52 | 1600 | 0.033 * |
| NB Thru | 452 | 3200 | 0.145 | 0 | 452 | 3200 | 0.145 | 0 | 452 | 3200 | 0.145 | 15 | 53 | 520 | 3200 | 0.166 | 0 | 520 | 3200 | 0.166 |
| NB Right | 12 | 0 | 0.000 | 0 | 12 | 0 | 0.000 | 0 | 12 | 0 | 0.000 | 0 | 0 | 12 | 0 | 0.000 | 0 | 12 | 0 | 0.000 |
| SB Left | 38 | 1600 | 0.024 | 0 | 38 | 1600 | 0.024 | 0 | 38 | 1600 | 0.024 | 1 | 0 | 39 | 1600 | 0.024 | 0 | 39 | 1600 | 0.024 |
| SB Thru | 646 | 3200 | 0.221 * | 0 | 646 | 3200 | 0.223 * | 0 | 646 | 3200 | 0.223 * | 21 | 23 | 690 | 3200 | 0.244 * | 0 | 690 | 3200 | 0.246 * |
| SB Right | 60 | 0 | 0.000 | 7 | 67 | 0 | 0.000 | 0 | 67 | 0 | 0.000 | 2 | 28 | 90 | 0 | 0.000 | 7 | 97 | 0 | 0.000 |
| EB Left | 40 | 0 | 0.025 * | 0 | 40 | 0 | 0.025 | 0 | 40 | 0 | 0.025 | 1 | 8 | 49 | 0 | 0.031 | 0 | 49 | 0 | 0.031 |
| EB Thru | 28 | 1600 | 0.068 | 3 | 31 | 1600 | 0.078 * | 0 | 31 | 1600 | 0.078 * | 1 | 17 | 46 | 1600 | 0.120 * | 3 | 49 | 1600 | 0.130 * |
| EB Right | 40 | 0 | 0.000 | 13 | 53 | 0 | 0.000 | 0 | 53 | 0 | 0.000 | 1 | 56 | 97 | 0 | 0.000 | 13 | 110 | 0 | 0.000 |
| WB Left | 14 | 0 | 0.009 | 0 | 14 | 0 | 0.009 * | 0 | 14 | 0 | 0.009 * | 0 | 0 | 14 | 0 | 0.009 * | 0 | 14 | 0 | 0.009 * |
| WB Thru | 47 | 1600 | 0.058 * | -1 | 46 | 1600 | 0.058 | 0 | 46 | 1600 | 0.058 | 2 | 7 | 56 | 1600 | 0.064 | -1 | 55 | 1600 | 0.064 |
| WB Right | 32 | 0 | 0.000 | 0 | 32 | 0 | 0.000 | 0 | 32 | 0 | 0.000 | 1 | 0 | 33 | 0 | 0.000 | 0 | 33 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.424 | | | | 0.430 | | | | 0.430 | | | | | 0.504 | | | | 0.517 |
| LOS | | | A | | | | A | | | | A | | | | | A | | | | A |

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

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Pomona Avenue

N-S St: Myrtle Avenue
E-W St: Pomona Avenue
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU7

Peak hr: PM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 37 | 1600 | 0.023 * | 12 | 49 | 1600 | 0.031 * | 0 | 49 | 1600 | 0.031 * | 1 | 39 | 77 | 1600 | 0.048 * | 12 | 89 | 1600 | 0.056 * |
| NB Thru | 615 | 3200 | 0.199 | 0 | 615 | 3200 | 0.199 | 0 | 615 | 3200 | 0.199 | 20 | 33 | 668 | 3200 | 0.216 | 0 | 668 | 3200 | 0.216 |
| NB Right | 22 | 0 | 0.000 | 0 | 22 | 0 | 0.000 | 0 | 22 | 0 | 0.000 | 1 | 0 | 23 | 0 | 0.000 | 0 | 23 | 0 | 0.000 |
| SB Left | 50 | 1600 | 0.031 | 0 | 50 | 1600 | 0.031 | 0 | 50 | 1600 | 0.031 | 2 | 0 | 52 | 1600 | 0.033 | 0 | 52 | 1600 | 0.033 |
| SB Thru | 745 | 3200 | 0.248 * | 0 | 745 | 3200 | 0.261 * | 0 | 745 | 3200 | 0.261 * | 25 | 50 | 820 | 3200 | 0.309 * | 0 | 820 | 3200 | 0.322 * |
| SB Right | 50 | 0 | 0.000 | 40 | 90 | 0 | 0.000 | 0 | 90 | 0 | 0.000 | 2 | 117 | 169 | 0 | 0.000 | 40 | 209 | 0 | 0.000 |
| EB Left | 75 | 0 | 0.047 | -2 | 73 | 0 | 0.046 | 0 | 73 | 0 | 0.046 | 2 | 11 | 88 | 0 | 0.055 | -2 | 86 | 0 | 0.054 |
| EB Thru | 88 | 1600 | 0.144 * | 2 | 90 | 1600 | 0.149 * | 0 | 90 | 1600 | 0.149 * | 3 | 11 | 102 | 1600 | 0.184 * | 2 | 104 | 1600 | 0.190 * |
| EB Right | 67 | 0 | 0.000 | 9 | 76 | 0 | 0.000 | 0 | 76 | 0 | 0.000 | 2 | 36 | 105 | 0 | 0.000 | 9 | 114 | 0 | 0.000 |
| WB Left | 30 | 0 | 0.019 * | 0 | 30 | 0 | 0.019 * | 0 | 30 | 0 | 0.019 * | 1 | 0 | 31 | 0 | 0.019 * | 0 | 31 | 0 | 0.019 * |
| WB Thru | 36 | 1600 | 0.060 | 5 | 41 | 1600 | 0.063 | 0 | 41 | 1600 | 0.063 | 1 | 18 | 55 | 1600 | 0.073 | 5 | 60 | 1600 | 0.076 |
| WB Right | 30 | 0 | 0.000 | 0 | 30 | 0 | 0.000 | 0 | 30 | 0 | 0.000 | 1 | 0 | 31 | 0 | 0.000 | 0 | 31 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.534 | | | | 0.560 | | | | 0.560 | | | | | 0.661 | | | | 0.687 |
| LOS | | | A | | | | A | | | | A | | | | | B | | | | B |

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

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Duarte Road

N-S St: Myrtle Avenue
E-W St: Duarte Road
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU8

Peak hr: AM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 130 | 1600 | 0.081 * | 0 | 130 | 1600 | 0.081 * | 0 | 130 | 1600 | 0.081 * | 4 | 7 | 141 | 1600 | 0.088 * | 0 | 141 | 1600 | 0.088 * |
| NB Thru | 451 | 3200 | 0.156 | 1 | 452 | 3200 | 0.156 | 0 | 452 | 3200 | 0.156 | 15 | 15 | 481 | 3200 | 0.169 | 1 | 482 | 3200 | 0.170 |
| NB Right | 48 | 0 | 0.000 | 0 | 48 | 0 | 0.000 | 0 | 48 | 0 | 0.000 | 2 | 11 | 61 | 0 | 0.000 | 0 | 61 | 0 | 0.000 |
| SB Left | 32 | 1600 | 0.020 | 3 | 35 | 1600 | 0.022 | 0 | 35 | 1600 | 0.022 | 1 | 17 | 50 | 1600 | 0.031 | 3 | 53 | 1600 | 0.033 |
| SB Thru | 523 | 3200 | 0.212 * | 7 | 530 | 3200 | 0.215 * | 0 | 530 | 3200 | 0.215 * | 17 | 28 | 568 | 3200 | 0.239 * | 7 | 575 | 3200 | 0.242 * |
| SB Right | 156 | 0 | 0.000 | 3 | 159 | 0 | 0.000 | 0 | 159 | 0 | 0.000 | 5 | 36 | 197 | 0 | 0.000 | 3 | 200 | 0 | 0.000 |
| EB Left | 122 | 1600 | 0.076 * | 0 | 122 | 1600 | 0.076 * | 0 | 122 | 1600 | 0.076 * | 4 | 48 | 174 | 1600 | 0.109 * | 0 | 174 | 1600 | 0.109 * |
| EB Thru | 288 | 3200 | 0.126 | 0 | 288 | 3200 | 0.126 | 0 | 288 | 3200 | 0.126 | 10 | 63 | 361 | 3200 | 0.157 | 0 | 361 | 3200 | 0.157 |
| EB Right | 115 | 0 | 0.000 | 0 | 115 | 0 | 0.000 | 0 | 115 | 0 | 0.000 | 4 | 23 | 142 | 0 | 0.000 | 0 | 142 | 0 | 0.000 |
| WB Left | 55 | 1600 | 0.034 | 0 | 55 | 1600 | 0.034 | 0 | 55 | 1600 | 0.034 | 2 | 4 | 61 | 1600 | 0.038 | 0 | 61 | 1600 | 0.038 |
| WB Thru | 286 | 3200 | 0.098 * | 0 | 286 | 3200 | 0.098 * | 0 | 286 | 3200 | 0.098 * | 9 | 26 | 321 | 3200 | 0.112 * | 0 | 321 | 3200 | 0.112 * |
| WB Right | 28 | 0 | 0.000 | 1 | 29 | 0 | 0.000 | 0 | 29 | 0 | 0.000 | 1 | 7 | 36 | 0 | 0.000 | 1 | 37 | 0 | 0.000 |
| Yellow Allowance [3] | | | 0.300 * | | | | 0.300 * | | | | 0.300 * | | | | | 0.300 * | | | | 0.300 * |
| ICU | | | 0.768 | | | | 0.771 | | | | 0.771 | | | | | 0.848 | | | | 0.851 |
| LOS | | | C | | | | C | | | | C | | | | | D | | | | D |

** Key conflicting movement as a part of ICU*
*1 Counts conducted by: The Traffic Solution*
*2 Capacity expressed in veh/hour of green*
*3 Accounts for the addit* ional delay/loss time due to the Metro Gold Line train which crosses at the north leg of the intersection as cited in the *Traffic Impact Analysis for 1625 Magnolia Avenue* , prepared by LSA, May 2018.

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**INTERSECTION CAPACITY UTILIZATION**

Myrtle Avenue @ Duarte Road

N-S St: Myrtle Avenue
E-W St: Duarte Road
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU8

Peak hr: PM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 94 | 1600 | 0.059 * | 0 | 94 | 1600 | 0.059 * | 0 | 94 | 1600 | 0.059 * | 3 | 24 | 121 | 1600 | 0.076 * | 0 | 121 | 1600 | 0.076 * |
| NB Thru | 434 | 3200 | 0.150 | 8 | 442 | 3200 | 0.153 | 0 | 442 | 3200 | 0.153 | 14 | 27 | 475 | 3200 | 0.165 | 8 | 483 | 3200 | 0.168 |
| NB Right | 46 | 0 | 0.000 | 0 | 46 | 0 | 0.000 | 0 | 46 | 0 | 0.000 | 2 | 5 | 53 | 0 | 0.000 | 0 | 53 | 0 | 0.000 |
| SB Left | 44 | 1600 | 0.028 | 2 | 46 | 1600 | 0.029 | 0 | 46 | 1600 | 0.029 | 1 | 11 | 56 | 1600 | 0.035 | 2 | 58 | 1600 | 0.036 |
| SB Thru | 618 | 3200 | 0.244 * | 5 | 623 | 3200 | 0.247 * | 0 | 623 | 3200 | 0.247 * | 21 | 17 | 656 | 3200 | 0.276 * | 5 | 661 | 3200 | 0.278 * |
| SB Right | 164 | 0 | 0.000 | 2 | 166 | 0 | 0.000 | 0 | 166 | 0 | 0.000 | 5 | 59 | 228 | 0 | 0.000 | 2 | 230 | 0 | 0.000 |
| EB Left | 145 | 1600 | 0.091 | 0 | 145 | 1600 | 0.091 | 0 | 145 | 1600 | 0.091 | 5 | 26 | 176 | 1600 | 0.110 | 0 | 176 | 1600 | 0.110 |
| EB Thru | 471 | 3200 | 0.231 * | 0 | 471 | 3200 | 0.231 * | 0 | 471 | 3200 | 0.231 * | 16 | 45 | 532 | 3200 | 0.257 * | 0 | 532 | 3200 | 0.257 * |
| EB Right | 267 | 0 | 0.000 | 0 | 267 | 0 | 0.000 | 0 | 267 | 0 | 0.000 | 9 | 14 | 290 | 0 | 0.000 | 0 | 290 | 0 | 0.000 |
| WB Left | 66 | 1600 | 0.041 * | 0 | 66 | 1600 | 0.041 * | 0 | 66 | 1600 | 0.041 * | 2 | 11 | 79 | 1600 | 0.049 * | 0 | 79 | 1600 | 0.049 * |
| WB Thru | 313 | 3200 | 0.107 | 0 | 313 | 3200 | 0.108 | 0 | 313 | 3200 | 0.108 | 10 | 72 | 395 | 3200 | 0.138 | 0 | 395 | 3200 | 0.139 |
| WB Right | 28 | 0 | 0.000 | 4 | 32 | 0 | 0.000 | 0 | 32 | 0 | 0.000 | 1 | 18 | 47 | 0 | 0.000 | 4 | 51 | 0 | 0.000 |
| Yellow Allowance [3] | | | 0.300 * | | | | 0.300 * | | | | 0.300 * | | | | | 0.300 * | | | | 0.300 * |
| ICU | | | 0.875 | | | | 0.877 | | | | 0.877 | | | | | 0.958 | | | | 0.960 |
| LOS | | | D | | | | D | | | | D | | | | | E | | | | E |

** Key conflicting movement as a part of ICU*
*1 Counts conducted by: The Traffic Solution*
*2 Capacity expressed in veh/hour of green*
*3 Accounts for the additional delay/loss time due to the Metro Gold Line train which crosses at the north leg of the intersection as cited in the Traffic Impact Analysis for 1625 Magnolia Avenue, prepared by LSA, May 2018.*

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**INTERSECTION CAPACITY UTILIZATION**

California Avenue @ Central Avenue

| | | | |
|---|---|---|---|
| N-S St: | California Avenue | Peak hr: | AM |
| E-W St: | Central Avenue | Annual Growth: | 0.82% |
| Project: | 123 W. Pomona Project/1-18-4299-1 | | |
| File: | ICU9 | | |

| | | |
|---|---|---|
| Date: | 3/12/2019 | |
| Date of Count: | 2018 | |
| Projection Year: | 2022 | |

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 89 | 1600 | 0.056 * | 0 | 89 | 1600 | 0.056 * | 0 | 89 | 1600 | 0.056 * | 3 | 0 | 92 | 1600 | 0.058 * | 0 | 92 | 1600 | 0.058 * |
| NB Thru | 324 | 3200 | 0.101 | 3 | 327 | 3200 | 0.102 | 0 | 327 | 3200 | 0.102 | 11 | 8 | 343 | 3200 | 0.107 | 3 | 346 | 3200 | 0.108 |
| NB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| SB Left | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| SB Thru | 231 | 3200 | 0.088 * | -1 | 230 | 3200 | 0.088 * | 0 | 230 | 3200 | 0.088 * | 8 | 5 | 244 | 3200 | 0.093 * | -1 | 243 | 3200 | 0.093 * |
| SB Right | 52 | 0 | 0.000 | 1 | 53 | 0 | 0.000 | 0 | 53 | 0 | 0.000 | 2 | 1 | 55 | 0 | 0.000 | 1 | 56 | 0 | 0.000 |
| EB Left | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * |
| EB Thru | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| EB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Left | 94 | 0 | 0.020 | 0 | 94 | 0 | 0.020 | 0 | 94 | 0 | 0.020 | 3 | 2 | 99 | 0 | 0.021 | 0 | 99 | 0 | 0.021 |
| WB Thru | 306 | 4800 | 0.113 * | 0 | 306 | 4800 | 0.113 * | 0 | 306 | 4800 | 0.113 * | 10 | 0 | 316 | 4800 | 0.118 * | 0 | 316 | 4800 | 0.118 * |
| WB Right | 144 | 0 | 0.000 | 0 | 144 | 0 | 0.000 | 0 | 144 | 0 | 0.000 | 5 | 0 | 149 | 0 | 0.000 | 0 | 149 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.357 | | | | 0.357 | | | | 0.357 | | | | | 0.368 | | | | 0.368 |
| LOS | | | A | | | | A | | | | A | | | | | A | | | | A |

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

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**INTERSECTION CAPACITY UTILIZATION**

California Avenue @ Central Avenue

| | | | |
|---|---|---|---|
| N-S St: | California Avenue | Peak hr: | PM |
| E-W St: | Central Avenue | Annual Growth: | 0.82% |
| Project: | 123 W. Pomona Project/1-18-4299-1 | | |
| File: | ICU9 | | |

| | | |
|---|---|---|
| Date: | 3/12/2019 | |
| Date of Count: | 2018 | |
| Projection Year: | 2022 | |

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 40 | 1600 | 0.025 * | 0 | 40 | 1600 | 0.025 * | 0 | 40 | 1600 | 0.025 * | 1 | 0 | 41 | 1600 | 0.026 * | 0 | 41 | 1600 | 0.026 * |
| NB Thru | 251 | 3200 | 0.078 | 2 | 253 | 3200 | 0.079 | 0 | 253 | 3200 | 0.079 | 8 | 9 | 268 | 3200 | 0.084 | 2 | 270 | 3200 | 0.084 |
| NB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| SB Left | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| SB Thru | 449 | 3200 | 0.158 * | 1 | 450 | 3200 | 0.160 * | 0 | 450 | 3200 | 0.160 * | 15 | 6 | 470 | 3200 | 0.167 * | 1 | 471 | 3200 | 0.168 * |
| SB Right | 58 | 0 | 0.000 | 3 | 61 | 0 | 0.000 | 0 | 61 | 0 | 0.000 | 2 | 5 | 65 | 0 | 0.000 | 3 | 68 | 0 | 0.000 |
| EB Left | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * |
| EB Thru | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| EB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Left | 85 | 0 | 0.018 | 0 | 85 | 0 | 0.018 | 0 | 85 | 0 | 0.018 | 3 | 2 | 90 | 0 | 0.019 | 0 | 90 | 0 | 0.019 |
| WB Thru | 160 | 4800 | 0.059 * | 0 | 160 | 4800 | 0.059 * | 0 | 160 | 4800 | 0.059 * | 5 | 0 | 165 | 4800 | 0.061 * | 0 | 165 | 4800 | 0.061 * |
| WB Right | 39 | 0 | 0.000 | 0 | 39 | 0 | 0.000 | 0 | 39 | 0 | 0.000 | 1 | 0 | 40 | 0 | 0.000 | 0 | 40 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.343 | | | | 0.344 | | | | 0.344 | | | | | 0.354 | | | | 0.356 |
| LOS | | | A | | | | A | | | | A | | | | | A | | | | A |

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

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**INTERSECTION CAPACITY UTILIZATION**

California Avenue @ Evergreen Avenue

N-S St: California Avenue
E-W St: Evergreen Avenue
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU10

Peak hr: AM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| NB Thru | 356 | 3200 | 0.165 * | 0 | 356 | 3200 | 0.165 * | 0 | 356 | 3200 | 0.165 * | 12 | 3 | 371 | 3200 | 0.172 * | 0 | 371 | 3200 | 0.172 * |
| NB Right | 173 | 0 | 0.000 | 0 | 173 | 0 | 0.000 | 0 | 173 | 0 | 0.000 | 6 | 1 | 180 | 0 | 0.000 | 0 | 180 | 0 | 0.000 |
| SB Left | 106 | 1600 | 0.066 * | 0 | 106 | 1600 | 0.066 * | 0 | 106 | 1600 | 0.066 * | 4 | 0 | 110 | 1600 | 0.069 * | 0 | 110 | 1600 | 0.069 * |
| SB Thru | 245 | 3200 | 0.077 | -1 | 244 | 3200 | 0.076 | 0 | 244 | 3200 | 0.076 | 8 | 7 | 260 | 3200 | 0.081 | -1 | 259 | 3200 | 0.081 |
| SB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| EB Left | 59 | 0 | 0.012 | 3 | 62 | 0 | 0.013 | 0 | 62 | 0 | 0.013 | 2 | 5 | 66 | 0 | 0.014 | 3 | 69 | 0 | 0.014 |
| EB Thru | 149 | 4800 | 0.052 * | 0 | 149 | 4800 | 0.053 * | 0 | 149 | 4800 | 0.053 * | 5 | 0 | 154 | 4800 | 0.055 * | 0 | 154 | 4800 | 0.056 * |
| EB Right | 43 | 0 | 0.000 | 0 | 43 | 0 | 0.000 | 0 | 43 | 0 | 0.000 | 1 | 0 | 44 | 0 | 0.000 | 0 | 44 | 0 | 0.000 |
| WB Left | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * |
| WB Thru | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.384 | | | | 0.384 | | | | 0.384 | | | | | 0.396 | | | | 0.397 |
| LOS | | | A | | | | A | | | | A | | | | | A | | | | A |

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

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**INTERSECTION CAPACITY UTILIZATION**

California Avenue @ Evergreen Avenue

N-S St: California Avenue
E-W St: Evergreen Avenue
Project: 123 W. Pomona Project/1-18-4299-1
File: ICU10

Peak hr: PM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| NB Thru | 255 | 3200 | 0.119 * | 0 | 255 | 3200 | 0.119 * | 0 | 255 | 3200 | 0.119 * | 8 | 6 | 269 | 3200 | 0.125 * | 0 | 269 | 3200 | 0.125 * |
| NB Right | 126 | 0 | 0.000 | 0 | 126 | 0 | 0.000 | 0 | 126 | 0 | 0.000 | 4 | 2 | 132 | 0 | 0.000 | 0 | 132 | 0 | 0.000 |
| SB Left | 159 | 1600 | 0.099 * | 0 | 159 | 1600 | 0.099 * | 0 | 159 | 1600 | 0.099 * | 5 | 0 | 164 | 1600 | 0.103 * | 0 | 164 | 1600 | 0.103 * |
| SB Thru | 362 | 3200 | 0.113 | 1 | 363 | 3200 | 0.113 | 0 | 363 | 3200 | 0.113 | 12 | 7 | 381 | 3200 | 0.119 | 1 | 382 | 3200 | 0.119 |
| SB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| EB Left | 28 | 0 | 0.006 | 2 | 30 | 0 | 0.006 | 0 | 30 | 0 | 0.006 | 1 | 3 | 32 | 0 | 0.007 | 2 | 34 | 0 | 0.007 |
| EB Thru | 584 | 4800 | 0.144 * | 0 | 584 | 4800 | 0.145 * | 0 | 584 | 4800 | 0.145 * | 19 | 0 | 603 | 4800 | 0.150 * | 0 | 603 | 4800 | 0.150 * |
| EB Right | 81 | 0 | 0.000 | 0 | 81 | 0 | 0.000 | 0 | 81 | 0 | 0.000 | 3 | 0 | 84 | 0 | 0.000 | 0 | 84 | 0 | 0.000 |
| WB Left | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0 | 0.000 * | 0 | 0 | 0 | 0.000 * |
| WB Thru | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| WB Right | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.463 | | | | 0.463 | | | | 0.463 | | | | | 0.478 | | | | 0.478 |
| LOS | | | A | | | | A | | | | A | | | | | A | | | | A |

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

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**INTERSECTION CAPACITY UTILIZATION**

California Avenue @ Duarte Road

N-S St: California Avenue
E-W St: Duarte Road
Project: 123 & 137 W. Pomona Avenue TOD Project/1-184299-1
File: ICU11

Peak hr: AM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 78 | 1600 | 0.049 | 0 | 78 | 1600 | 0.049 | 0 | 78 | 1600 | 0.049 | 3 | 0 | 81 | 1600 | 0.051 | 0 | 81 | 1600 | 0.051 |
| NB Thru | 397 | 3200 | 0.146 * | 0 | 397 | 3200 | 0.146 * | 0 | 397 | 3200 | 0.146 * | 13 | 4 | 414 | 3200 | 0.155 * | 0 | 414 | 3200 | 0.155 * |
| NB Right | 69 | 0 | 0.000 | 0 | 69 | 0 | 0.000 | 0 | 69 | 0 | 0.000 | 2 | 11 | 82 | 0 | 0.000 | 0 | 82 | 0 | 0.000 |
| SB Left | 29 | 1600 | 0.018 * | 0 | 29 | 1600 | 0.018 * | 0 | 29 | 1600 | 0.018 * | 1 | 0 | 30 | 1600 | 0.019 * | 0 | 30 | 1600 | 0.019 * |
| SB Thru | 177 | 3200 | 0.080 | 3 | 180 | 3200 | 0.081 | 0 | 180 | 3200 | 0.081 | 6 | 16 | 199 | 3200 | 0.088 | 3 | 202 | 3200 | 0.089 |
| SB Right [3] | 79 | 0 | 0.000 | 0 | 79 | 0 | 0.000 | 0 | 79 | 0 | 0.000 | 3 | 0 | 82 | 0 | 0.000 | 0 | 82 | 0 | 0.000 |
| EB Left | 109 | 1600 | 0.068 * | 0 | 109 | 1600 | 0.068 * | 0 | 109 | 1600 | 0.068 * | 4 | 0 | 113 | 1600 | 0.071 * | 0 | 113 | 1600 | 0.071 * |
| EB Thru | 212 | 1600 | 0.153 | 3 | 215 | 1600 | 0.155 | 0 | 215 | 1600 | 0.155 | 7 | 92 | 311 | 1600 | 0.216 | 3 | 314 | 1600 | 0.218 |
| EB Right | 33 | 0 | 0.000 | 0 | 33 | 0 | 0.000 | 0 | 33 | 0 | 0.000 | 1 | 0 | 34 | 0 | 0.000 | 0 | 34 | 0 | 0.000 |
| WB Left | 37 | 1600 | 0.023 | 0 | 37 | 1600 | 0.023 | 0 | 37 | 1600 | 0.023 | 1 | 4 | 42 | 1600 | 0.026 | 0 | 42 | 1600 | 0.026 |
| WB Thru | 273 | 1600 | 0.189 * | 1 | 274 | 1600 | 0.190 * | 0 | 274 | 1600 | 0.190 * | 9 | 37 | 319 | 1600 | 0.219 * | 1 | 320 | 1600 | 0.219 * |
| WB Right | 30 | 0 | 0.000 | 0 | 30 | 0 | 0.000 | 0 | 30 | 0 | 0.000 | 1 | 0 | 31 | 0 | 0.000 | 0 | 31 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.521 | | | | 0.522 | | | | 0.522 | | | | | 0.563 | | | | 0.564 |
| LOS | | | A | | | | A | | | | A | | | | | A | | | | A |

** Key conflicting movement as a part of ICU*
*1 Counts conducted by: The Traffic Solution*
*2 Capacity expressed in veh/hour of green*
*3 No right-turn on red.*

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**INTERSECTION CAPACITY UTILIZATION**

California Avenue @ Duarte Road

N-S St: California Avenue
E-W St: Duarte Road
Project: 123 & 137 W. Pomona Avenue TOD Project/1-184299-1
File: ICU11

Peak hr: PM
Annual Growth: 0.82%

Date: 3/12/2019
Date of Count: 2018
Projection Year: 2022

| | 2018 EXISTING TRAFFIC | | | 2018 EXISTING WITH PROJECT | | | | 2018 EXISTING W/ PROJECT + MITIGATION | | | | 2022 FUTURE PRE-PROJECT | | | | | 2022 FUTURE WITH PROJECT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | 1 Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio | Added Amb. Grow. Volume | Added Rel. Proj. Volume | Total Volume | 2 Capacity | V/C Ratio | Added Volume | Total Volume | 2 Capacity | V/C Ratio |
| NB Left | 42 | 1600 | 0.026 | 0 | 42 | 1600 | 0.026 | 0 | 42 | 1600 | 0.026 | 1 | 0 | 43 | 1600 | 0.027 | 0 | 43 | 1600 | 0.027 |
| NB Thru | 268 | 3200 | 0.118 * | 4 | 272 | 3200 | 0.119 * | 0 | 272 | 3200 | 0.119 * | 9 | 16 | 293 | 3200 | 0.128 * | 4 | 297 | 3200 | 0.130 * |
| NB Right | 109 | 0 | 0.000 | 0 | 109 | 0 | 0.000 | 0 | 109 | 0 | 0.000 | 4 | 5 | 118 | 0 | 0.000 | 0 | 118 | 0 | 0.000 |
| SB Left | 103 | 1600 | 0.064 * | 0 | 103 | 1600 | 0.064 * | 0 | 103 | 1600 | 0.064 * | 3 | 0 | 106 | 1600 | 0.066 * | 0 | 106 | 1600 | 0.066 * |
| SB Thru | 311 | 3200 | 0.105 | 2 | 313 | 3200 | 0.106 | 0 | 313 | 3200 | 0.106 | 10 | 8 | 329 | 3200 | 0.111 | 2 | 331 | 3200 | 0.112 |
| SB Right [3] | 26 | 0 | 0.000 | 0 | 26 | 0 | 0.000 | 0 | 26 | 0 | 0.000 | 1 | 0 | 27 | 0 | 0.000 | 0 | 27 | 0 | 0.000 |
| EB Left | 85 | 1600 | 0.053 | 0 | 85 | 1600 | 0.053 | 0 | 85 | 1600 | 0.053 | 3 | 0 | 88 | 1600 | 0.055 | 0 | 88 | 1600 | 0.055 |
| EB Thru | 461 | 1600 | 0.331 * | 2 | 463 | 1600 | 0.333 * | 0 | 463 | 1600 | 0.333 * | 15 | 61 | 537 | 1600 | 0.380 * | 2 | 539 | 1600 | 0.381 * |
| EB Right | 69 | 0 | 0.000 | 0 | 69 | 0 | 0.000 | 0 | 69 | 0 | 0.000 | 2 | 0 | 71 | 0 | 0.000 | 0 | 71 | 0 | 0.000 |
| WB Left | 64 | 1600 | 0.040 * | 0 | 64 | 1600 | 0.040 * | 0 | 64 | 1600 | 0.040 * | 2 | 11 | 77 | 1600 | 0.048 * | 0 | 77 | 1600 | 0.048 * |
| WB Thru | 236 | 1600 | 0.163 | 4 | 240 | 1600 | 0.165 | 0 | 240 | 1600 | 0.165 | 8 | 101 | 345 | 1600 | 0.231 | 4 | 349 | 1600 | 0.234 |
| WB Right | 24 | 0 | 0.000 | 0 | 24 | 0 | 0.000 | 0 | 24 | 0 | 0.000 | 1 | 0 | 25 | 0 | 0.000 | 0 | 25 | 0 | 0.000 |
| Yellow Allowance | | | 0.100 * | | | | 0.100 * | | | | 0.100 * | | | | | 0.100 * | | | | 0.100 * |
| ICU | | | 0.653 | | | | 0.656 | | | | 0.656 | | | | | 0.723 | | | | 0.725 |
| LOS | | | B | | | | B | | | | B | | | | | C | | | | C |

** Key conflicting movement as a part of ICU*
*1 Counts conducted by: The Traffic Solution*
*2 Capacity expressed in veh/hour of green*
*3 No right-turn on red.*

# APPENDIX E

## CALTRANS HCM FREEWAY SEGMENT ANALYSIS WORKSHEETS

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/5/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6577 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.923 |
| Peak Hour Factor | 0.97 | Flow Rate ($V_p$), pc/h/ln | 1836 |
| Total Trucks, % | 8.30 | Capacity (c), pc/h/ln | 2369 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2369 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.78 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 63.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 28.9 |
| Total Ramp Density Adjustment | 6.6 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.9 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/5/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 | | I-210 Freeway west of Myrtle Avenue - WB |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4285 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.905 |
| Peak Hour Factor | 0.99 | Flow Rate ($V_p$), pc/h/ln | 1196 |
| Total Trucks, % | 10.50 | Capacity (c), pc/h/ln | 2362 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2362 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.51 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.1 |
| Total Ramp Density Adjustment | 7.3 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.2 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/5/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 5004 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.964 |
| Peak Hour Factor | 0.89 | Flow Rate ($V_p$), pc/h/ln | 1458 |
| Total Trucks, % | 3.70 | Capacity (c), pc/h/ln | 2369 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2369 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.62 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 21.9 |
| Total Ramp Density Adjustment | 6.6 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.9 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/5/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 5380 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.969 |
| Peak Hour Factor | 0.94 | Flow Rate ($V_p$), pc/h/ln | 1477 |
| Total Trucks, % | 3.20 | Capacity (c), pc/h/ln | 2362 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2362 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.63 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.4 |
| Total Ramp Density Adjustment | 7.3 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.2 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing with Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6580 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.923 |
| Peak Hour Factor | 0.97 | Flow Rate ($V_p$), pc/h/ln | 1837 |
| Total Trucks, % | 8.30 | Capacity (c), pc/h/ln | 2369 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2369 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.78 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 63.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 28.9 |
| Total Ramp Density Adjustment | 6.6 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.9 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing with Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4301 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.905 |
| Peak Hour Factor | 0.99 | Flow Rate ($V_p$), pc/h/ln | 1200 |
| Total Trucks, % | 10.50 | Capacity (c), pc/h/ln | 2362 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2362 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.51 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.1 |
| Total Ramp Density Adjustment | 7.3 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.2 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing with Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 5022 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.964 |
| Peak Hour Factor | 0.89 | Flow Rate ($V_p$), pc/h/ln | 1463 |
| Total Trucks, % | 3.70 | Capacity (c), pc/h/ln | 2369 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2369 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.62 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.6 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.0 |
| Total Ramp Density Adjustment | 6.6 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.9 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing with Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 5389 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.969 |
| Peak Hour Factor | 0.94 | Flow Rate ($V_p$), pc/h/ln | 1479 |
| Total Trucks, % | 3.20 | Capacity (c), pc/h/ln | 2362 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2362 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.63 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.4 |
| Total Ramp Density Adjustment | 7.3 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.2 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future Pre-Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6795 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.923 |
| Peak Hour Factor | 0.97 | Flow Rate ($V_p$), pc/h/ln | 1898 |
| Total Trucks, % | 8.30 | Capacity (c), pc/h/ln | 2369 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2369 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.80 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 62.6 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 30.3 |
| Total Ramp Density Adjustment | 6.6 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.9 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future Pre-Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4427 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.905 |
| Peak Hour Factor | 0.99 | Flow Rate ($V_p$), pc/h/ln | 1235 |
| Total Trucks, % | 10.50 | Capacity (c), pc/h/ln | 2362 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2362 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.52 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.7 |
| Total Ramp Density Adjustment | 7.3 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.2 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future Pre-Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 5170 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.964 |
| Peak Hour Factor | 0.89 | Flow Rate ($V_p$), pc/h/ln | 1506 |
| Total Trucks, % | 3.70 | Capacity (c), pc/h/ln | 2369 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2369 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.64 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.6 |
| Total Ramp Density Adjustment | 6.6 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.9 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future Pre-Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 5559 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.969 |
| Peak Hour Factor | 0.94 | Flow Rate ($V_p$), pc/h/ln | 1526 |
| Total Trucks, % | 3.20 | Capacity (c), pc/h/ln | 2362 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2362 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.65 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 65.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 23.2 |
| Total Ramp Density Adjustment | 7.3 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.2 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future with Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6798 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.923 |
| Peak Hour Factor | 0.97 | Flow Rate ($V_p$), pc/h/ln | 1898 |
| Total Trucks, % | 8.30 | Capacity (c), pc/h/ln | 2369 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2369 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.80 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 62.6 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 30.3 |
| Total Ramp Density Adjustment | 6.6 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.9 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future with Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4443 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.905 |
| Peak Hour Factor | 0.99 | Flow Rate ($V_p$), pc/h/ln | 1240 |
| Total Trucks, % | 10.50 | Capacity (c), pc/h/ln | 2362 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2362 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.52 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.7 |
| Total Ramp Density Adjustment | 7.3 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.2 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future with Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 5188 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.964 |
| Peak Hour Factor | 0.89 | Flow Rate ($V_p$), pc/h/ln | 1512 |
| Total Trucks, % | 3.70 | Capacity (c), pc/h/ln | 2369 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2369 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.64 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.8 |
| Total Ramp Density Adjustment | 6.6 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.9 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future with Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway west of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 5568 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.969 |
| Peak Hour Factor | 0.94 | Flow Rate ($V_p$), pc/h/ln | 1528 |
| Total Trucks, % | 3.20 | Capacity (c), pc/h/ln | 2362 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2362 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.65 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 65.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 23.2 |
| Total Ramp Density Adjustment | 7.3 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.2 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/5/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6268 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.974 |
| Peak Hour Factor | 0.90 | Flow Rate ($V_p$), pc/h/ln | 1788 |
| Total Trucks, % | 2.70 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.76 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 63.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 28.0 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/5/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4822 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor | 0.96 | Flow Rate ($V_p$), pc/h/ln | 1288 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.54 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.4 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/5/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 | | I-210 Freeway east of Myrtle Avenue - EB |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4757 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.928 |
| Peak Hour Factor | 0.95 | Flow Rate ($V_p$), pc/h/ln | 1349 |
| Total Trucks, % | 7.80 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.57 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 20.3 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/5/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 | | I-210 Freeway east of Myrtle Avenue - WB |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6278 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.940 |
| Peak Hour Factor | 0.98 | Flow Rate ($V_p$), pc/h/ln | 1704 |
| Total Trucks, % | 6.40 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.72 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 64.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 26.3 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing with Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6280 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.974 |
| Peak Hour Factor | 0.90 | Flow Rate ($V_p$), pc/h/ln | 1791 |
| Total Trucks, % | 2.70 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.76 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 63.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 28.1 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing with Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 | | I-210 Freeway east of Myrtle Avenue - WB |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4823 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor | 0.96 | Flow Rate ($V_p$), pc/h/ln | 1288 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.54 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.4 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing with Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4763 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.928 |
| Peak Hour Factor | 0.95 | Flow Rate ($V_p$), pc/h/ln | 1351 |
| Total Trucks, % | 7.80 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.57 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 20.3 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2018 |
| Jurisdiction | Caltrans | Time Period Analyzed | Existing with Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 | | I-210 Freeway east of Myrtle Avenue - WB |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6291 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.940 |
| Peak Hour Factor | 0.98 | Flow Rate ($V_p$), pc/h/ln | 1707 |
| Total Trucks, % | 6.40 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.72 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 64.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 26.4 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future Pre-Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6476 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.974 |
| Peak Hour Factor | 0.90 | Flow Rate ($V_p$), pc/h/ln | 1847 |
| Total Trucks, % | 2.70 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.78 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 63.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 29.3 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future Pre-Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4982 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor | 0.96 | Flow Rate ($V_p$), pc/h/ln | 1331 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.56 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 20.0 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future Pre-Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4915 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.928 |
| Peak Hour Factor | 0.95 | Flow Rate ($V_p$), pc/h/ln | 1394 |
| Total Trucks, % | 7.80 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.59 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 21.0 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future Pre-Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6486 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.940 |
| Peak Hour Factor | 0.98 | Flow Rate ($V_p$), pc/h/ln | 1760 |
| Total Trucks, % | 6.40 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.74 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 64.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 27.4 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future with Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6488 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.974 |
| Peak Hour Factor | 0.90 | Flow Rate ($V_p$), pc/h/ln | 1850 |
| Total Trucks, % | 2.70 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.78 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 63.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 29.4 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future with Project AM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 | | I-210 Freeway east of Myrtle Avenue - WB |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4983 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor | 0.96 | Flow Rate ($V_p$), pc/h/ln | 1331 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.56 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 20.0 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future with Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - EB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 4921 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.928 |
| Peak Hour Factor | 0.95 | Flow Rate ($V_p$), pc/h/ln | 1396 |
| Total Trucks, % | 7.80 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.59 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 21.0 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | GT | Date | 11/6/2018 |
| Agency | LLG Engineers | Analysis Year | 2022 |
| Jurisdiction | Caltrans | Time Period Analyzed | Future with Project PM |
| Project Description | 123 W. Pomona Project/1-18-4299-1 I-210 Freeway east of Myrtle Avenue - WB | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes, ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 66.5 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Demand Volume veh/h | 6499 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.940 |
| Peak Hour Factor | 0.98 | Flow Rate ($V_p$), pc/h/ln | 1764 |
| Total Trucks, % | 6.40 | Capacity (c), pc/h/ln | 2365 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2365 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.75 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 1.9 | Average Speed (S), mi/h | 64.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 27.5 |
| Total Ramp Density Adjustment | 7.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 66.5 | | |