

Appendix H

Traffic Impact Study

TRAFFIC IMPACT STUDY
COVINA TOWNHOMES (SITE A) PROJECT
City of Covina, California
May 9, 2018

Prepared for:
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APPENDIX

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TRAFFIC IMPACT STUDY

COVINA TOWNHOMES (SITE A) PROJECT

City of Covina, California
May 9, 2018

1.0 INTRODUCTION

This traffic analysis has been conducted to identify and evaluate the potential traffic impacts of the proposed Covina Townhomes (Site A) Project in the City of Covina, California. The proposed Covina Townhomes (Site A) Project is located at the northwest corner of Citrus Avenue and San Bernardino Road within the Covina Town Center Specific Plan area. The project site location and general vicinity are shown in *Figure 1-1*.

The traffic analysis follows the City of Covina traffic study guidelines¹ and is consistent with traffic impact assessment guidelines set forth in the Los Angeles County Congestion Management Program². This traffic analysis evaluates potential project-related impacts at eleven (11) study intersections in the vicinity of the project site. The study intersections were determined in consultation with City of Covina staff. The Intersection Capacity Utilization method was used to determine Volume-to-Capacity ratios and corresponding Levels of Service at the study intersections. A review was conducted of Los Angeles County Metropolitan Transportation Authority (Metro) freeway and intersection monitoring stations to determine if a Congestion Management Program transportation impact assessment analysis is required for the proposed project.

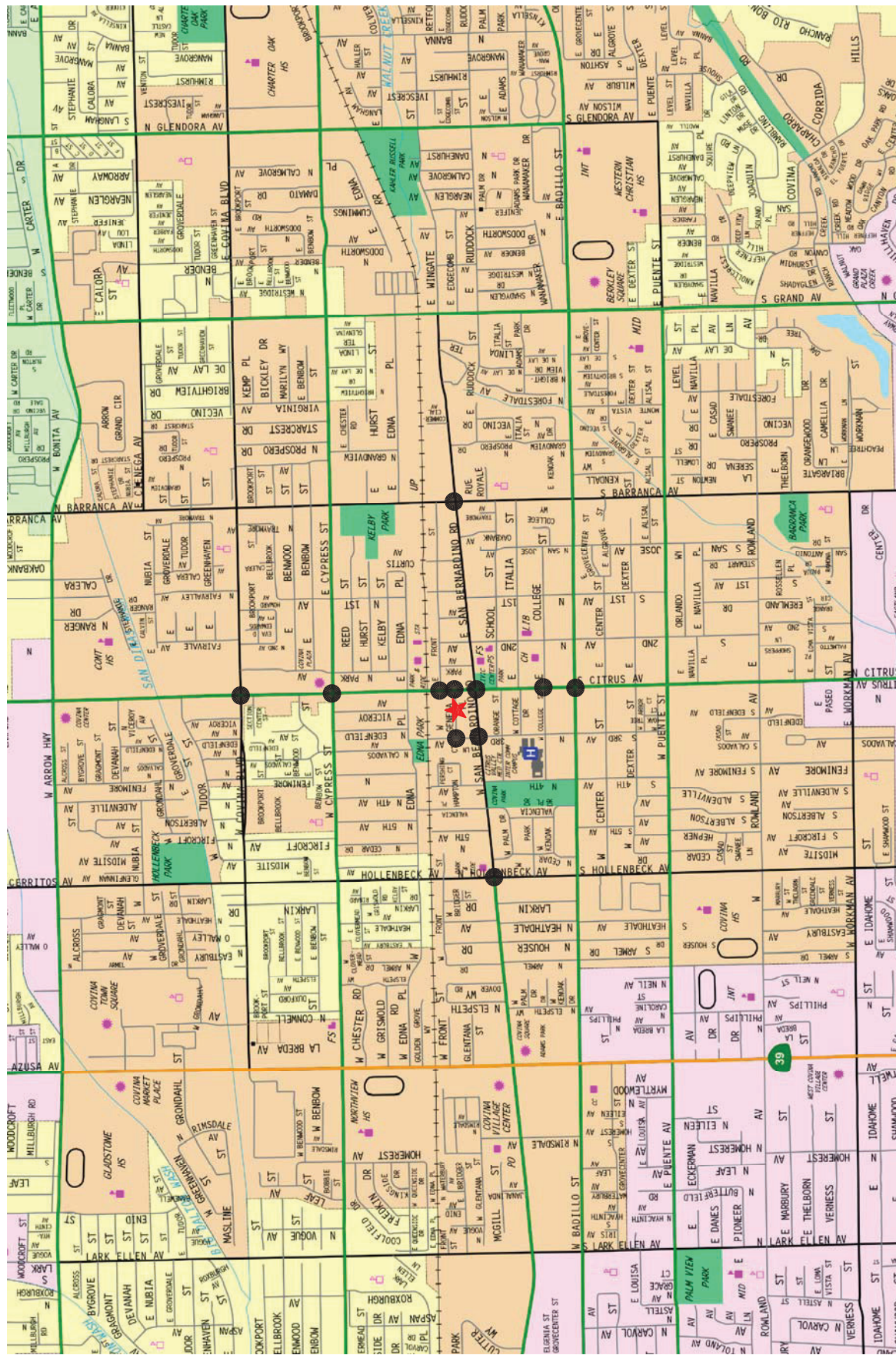
This study (i) presents existing traffic volumes, (ii) evaluates existing-plus-project traffic volumes, (iii) forecasts future traffic volumes without the project, (iv) forecasts future traffic volumes with the proposed project, (v) determines proposed project-related impacts, and (vi) recommends mitigation measures, where necessary.

1.1 Study Area

A total of eleven (11) study intersections have been identified for evaluation during the weekday morning and afternoon peak hours. The eleven study intersections provide local access to the study area and define the extent of the boundaries for this traffic impact analysis. Further discussion of the existing street system and study area is provided in Section 4.0 herein.

¹ *Traffic Impact Analysis Guidelines*, City of Covina, May 2014.

² *2010 Congestion Management Program*, Los Angeles County Metropolitan Transportation Authority, October 2010.



NOT TO SCALE

MAP SOURCE: RAND McNALLY & COMPANY

★ PROJECT SITE

● STUDY INTERSECTION

FIGURE 1-1
VICINITY MAP

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COVINA TOWNHOMES (SITE A) PROJECT

The general location of the project in relation to the study intersections 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 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.

The locations selected for analysis were based on the above criteria, the forecast Covina Townhomes (Site A) Project peak hour vehicle trip generation, anticipated distribution of project vehicular trips, and the existing nearby intersection and corridor operations. The eleven study intersections, located in the City of Covina are as follows:

1. Hollenbeck Avenue/San Bernardino Road
2. Third Avenue/Vintage Walk - Geneva Place (Unsignalized)
3. Third Avenue/San Bernardino Road
4. Citrus Avenue/Covina Boulevard
5. Citrus Avenue/Cypress Street
6. Citrus Avenue/Front Street
7. Citrus Avenue/Geneva Place (Unsignalized)
8. Citrus Avenue/San Bernardino Road
9. Citrus Avenue/College Street
10. Citrus Avenue/Badillo Street
11. Barranca Avenue/San Bernardino Road

Nine of the study intersections selected for analysis are currently controlled by traffic signals, with the remaining two study intersections, Third Avenue/Vintage Walk - Geneva Place and Citrus Avenue/Geneva Place, controlled with two-way stop signs.

It should be noted that additional intersections in the project vicinity were not selected for analysis because they do not satisfy the aforementioned criteria and therefore are not anticipated to experience significant impacts due to project-generated traffic volumes.

2.0 PROJECT DESCRIPTION

2.1 Site Location

The proposed project for Site A is generally bounded by the existing Covina Metrolink Station parking structure and Geneva Place to the north, San Bernardino Road to the south, Citrus Avenue to the east, and Third Avenue to the west. Site A encompasses a portion of Geneva Place, from Third Avenue to approximately 200 feet west of Citrus Avenue, which the project proposes to vacate. Section 2.4 contains further discussion of the proposed partial street vacation. An aerial photograph of the existing project site is contained in *Figure 2-1*.

The project site is located within the boundaries of the Covina Town Center Specific Plan (November 2004). The Covina Town Center Specific Plan envisions downtown Covina as “a place where people can live, work, shop, and play without needing their cars” and was developed with the goal to “encourage more people to live downtown” and to “encourage people to leave their cars behind”³. The project site (Site A) is located within a designated Mixed-Use Focused Activity Area, which emphasizes the “mixing of uses on properties, within buildings, and within blocks.”

The Covina Townhomes project site is well-located to encourage the use of public transit and active transportation modes. The project site is within a quarter-mile radius from the Metrolink Covina Station (located at 600 North Citrus Avenue), which provides commuter rail service into Downtown Los Angeles, while local public transit is provided along Citrus Avenue. The project site is in close proximity to retail, restaurants, and other businesses along Citrus Avenue and San Bernardino Road, permitting easy pedestrian and bicycle trips along these corridors.

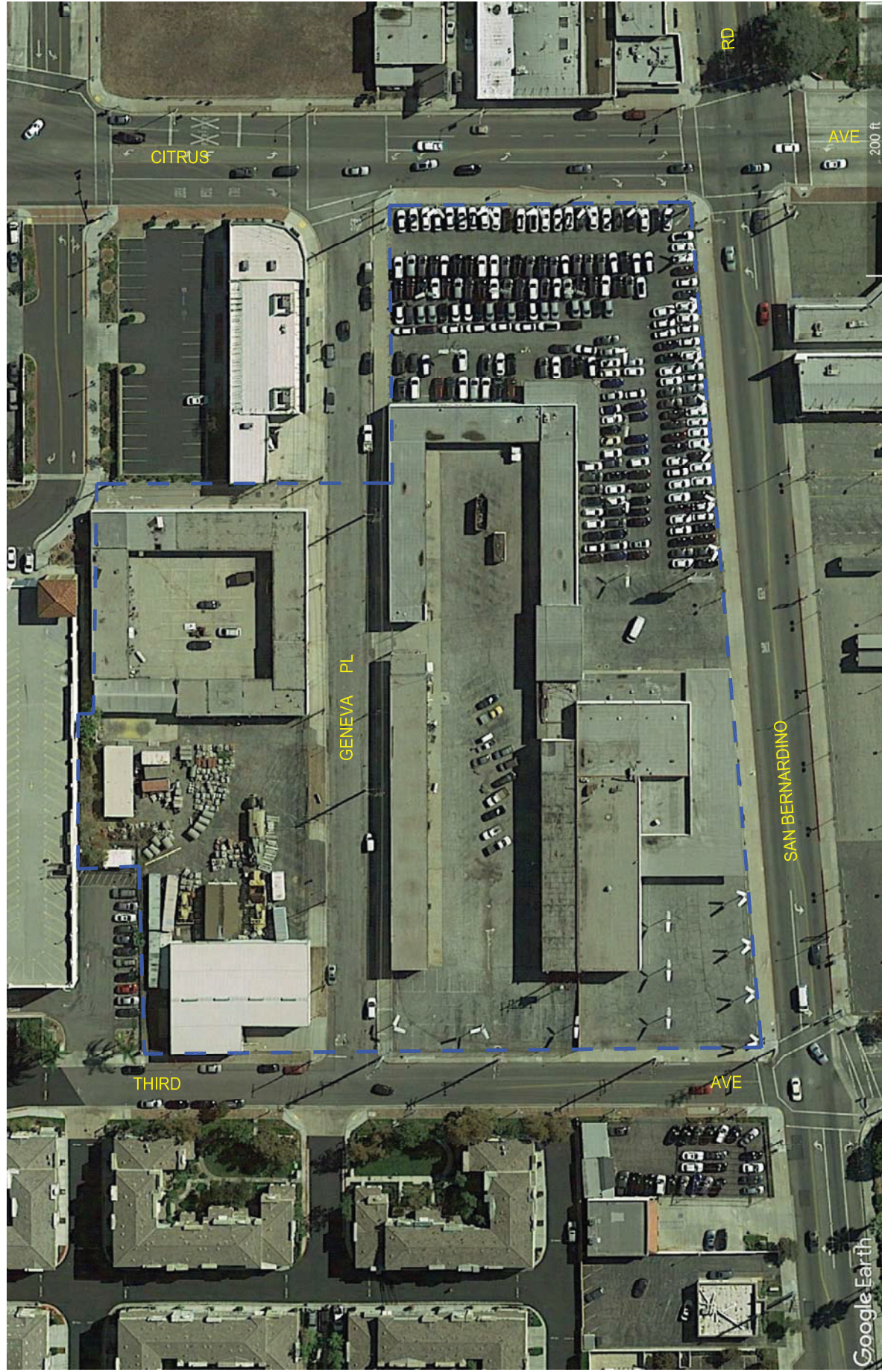
2.2 Existing Project Site

The existing project site is currently occupied by vacant automobile retail businesses, with a combined area of 5.30 acres. All existing buildings and surface parking lots will be removed in order to accommodate the proposed development.

Vehicular access to the project site (Site A) is currently provided by seven driveways: two driveways on Geneva Place along the northerly property frontage, one driveway on San Bernardino Road along the southerly property frontage, and four driveways on Third Avenue along the westerly property frontage. There are six additional driveways providing access to existing businesses along the portion of Geneva Place which the project proposes to vacate.

Pedestrian access is provided to/from the project site by existing sidewalks. Bicycle access is provided by the existing street network, while no formal, designated on-street or off-street bicycle facilities are currently provided directly along the project frontages.

³ *Town Center Specific Plan*, Prepared for the City of Covina by Cotton/Bridges/Associates, November 2004.



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MAP SOURCE: GOOGLE EARTH



PROJECT SITE

FIGURE 2-1
AERIAL PHOTOGRAPH OF EXISTING PROJECT SITE

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COVINA TOWNHOMES (SITE A) PROJECT

2.3 Proposed Project Description

The proposed project consists of the development of residential townhomes, retail and restaurant space on Site A. The 5.30-acre development proposed for Site A consists of 161 townhome units, 13,500 square feet of retail space and 3,800 square feet of restaurant space. The project is planned to provide at least the minimum required by Code in a combination of private residential garages, an on-site parking structure, on-site (on-street) locations, and along some portions of some adjacent streets. Parking for the restaurant/retail project component will be accommodated on the street level and the residential parking will be on the basement level of the parking garage.

Additionally, a portion of Geneva Place is planned to be vacated with the development of Site A. The proposed closure is planned to extend easterly from Third Avenue to approximately 200 feet west of Citrus Avenue. Section 2.4 contains further detail regarding the proposed partial vacation of Geneva Place.

The site plan for the proposed project site (Site A) is illustrated in *Figure 2-2*. Project buildout and occupancy is anticipated in the year 2020.

2.4 Partial Street Vacation of Geneva Place

As part of the Covina Townhomes Project, development of Site A will require a partial street vacation for a portion of Geneva Place which extends east of Third Avenue to approximately 200 feet west of Citrus Avenue. An existing north-south alley west of the Howard's TV & Appliance business (i.e., located at the northwest corner of the Citrus Avenue/Geneva Place intersection) will be maintained as an alley and will not be vacated, nor be a part of the proposed Covina Townhomes project. It should be noted that the existing Howard's TV & Appliance loading access on Geneva Place will also be maintained. Other existing uses (i.e., automobile repair shop) with access on Geneva Place will be removed as part of the proposed development of the Site A project. As part of the partial street vacation, the western terminus of Geneva Place will provide direct access to Site A. A cul-de-sac is proposed to be constructed at the new western terminus of Geneva Place. Eastbound and westbound vehicles observed to utilize Geneva Place at two of the study intersections (i.e., Study Intersection No. 2: Third Avenue/Geneva Place and Study Intersection No. 7: Citrus Avenue/Geneva Place) were redistributed to other east-west oriented streets (i.e., San Bernardino Road or Front Street) in order to account for the partial street vacation of Geneva Place.

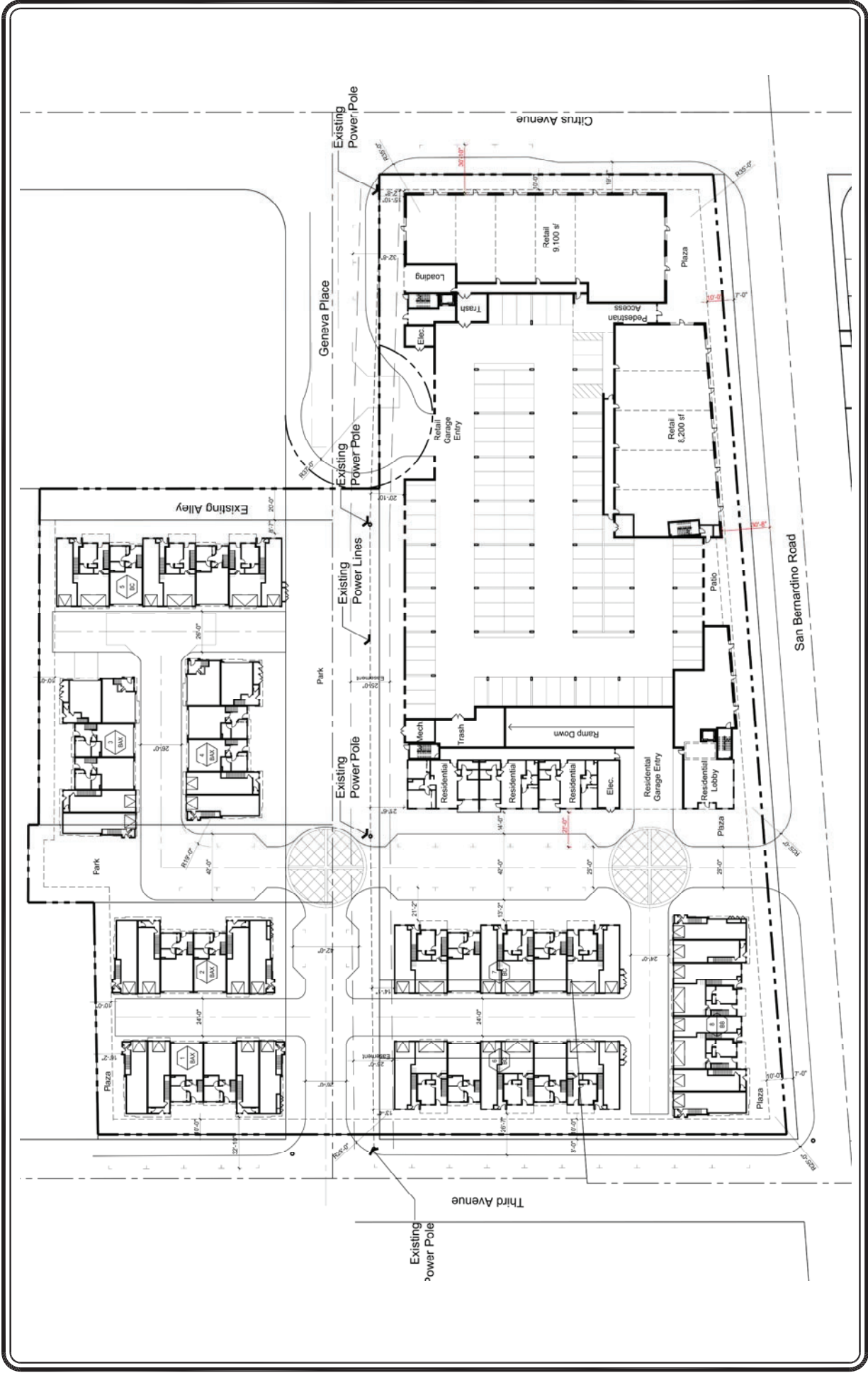


FIGURE 2-2
PROJECT SITE PLAN

MAP SOURCE: KTG ARCHITECTURE + PLANNING



COVINA TOWNHOMES (SITE A) PROJECT

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3.0 SITE ACCESS AND CIRCULATION

The site access scheme for the proposed Covina Townhomes Project is displayed in *Figure 2-2*. Existing and proposed site access and circulation are discussed in the following subsections.

3.1 Vehicular Site Access

Vehicular access to the proposed project site would be provided via three driveways: one driveway at the proposed westerly terminus of Geneva Place (i.e., assuming approval of the partial street vacation), one driveway on San Bernardino Road along the southerly property frontage, and one driveway on Third Avenue along the westerly property frontage. As mentioned previously in Section 2.4, as part of the partial street vacation, the new western terminus of Geneva Place will be reconstructed with a cul-de-sac configuration. Full vehicular access (i.e., right-turn and left-turn ingress and egress turning movements) will be accommodated at all project driveways. Development of the proposed project involves the closure of the seven existing driveways and the construction of three new driveways.

3.2 Pedestrian Access

The project has been designed to encourage pedestrian activity and walking as a transportation mode⁴. 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, and a suitable allocation of space for pedestrians.
- **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.

⁴ For example, refer to <http://www.walkscore.com/>, which generates a walkability score of approximately 89 (Very 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 proposed project pedestrian walkway network indicates that these five primary characteristics are accommodated as part of the proposed project. The project site is planned to provide a combination of landscape and hardscape improvements that facilitate internal accessibility and encourage active transportation. Such improvements reflect the circulation objectives stated in the Covina Town Center Specific Plan. The project site is accessible from nearby commercial uses (e.g., retail, cafes, restaurants, etc.) and other amenities along Citrus Avenue and San Bernardino Road, as well as nearby public transit along Citrus Avenue.

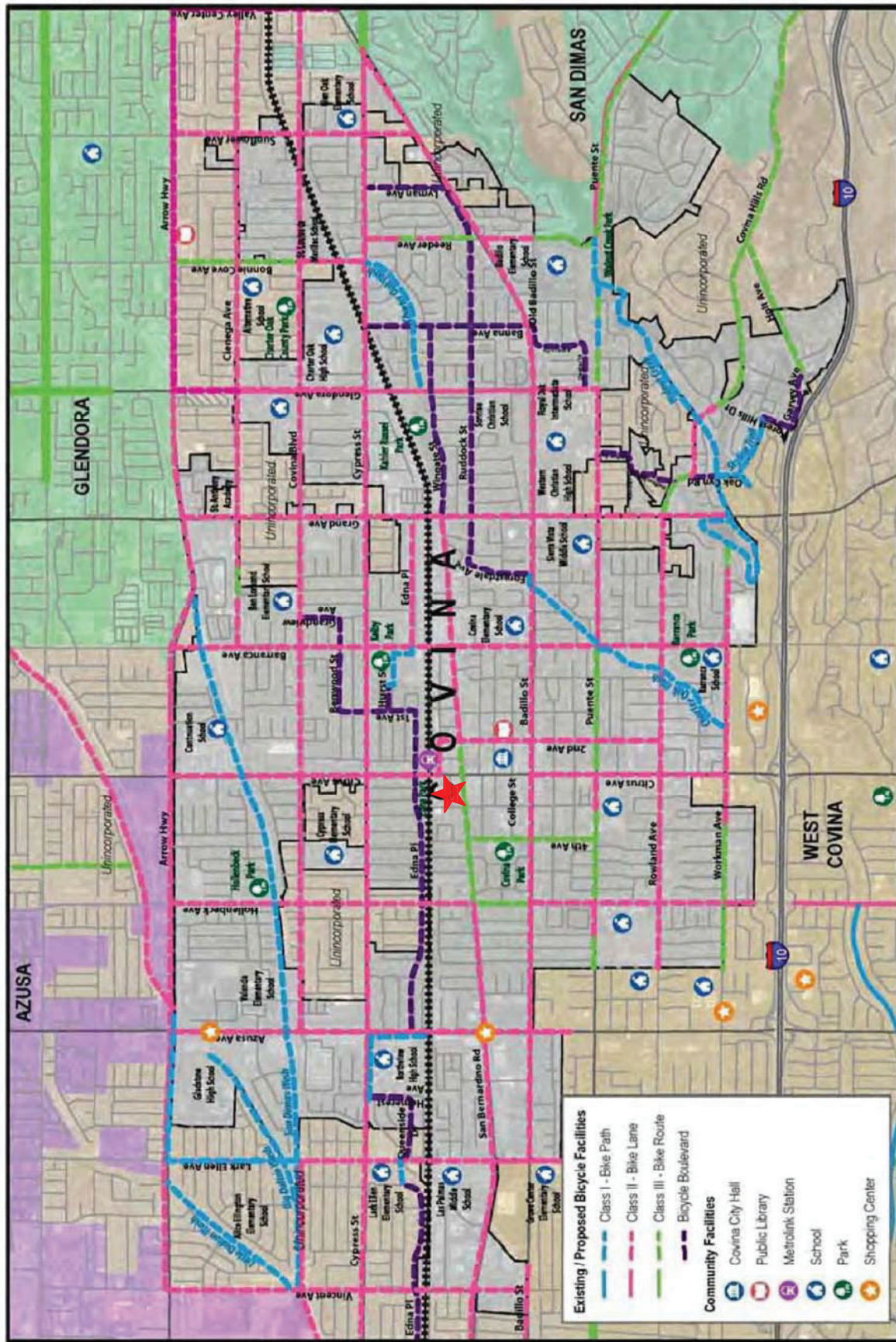
3.3 Bicycle Access

Bicycle access to the proposed project will be provided by the existing street network. Currently, there are no formal, designated on-street or off-street bicycle facilities in the project vicinity, although bicycle parking is provided along major corridors in the vicinity such as Citrus Avenue and Badillo Street. The City of Covina Bicycle Master Plan⁵ proposes a number of bicycle facilities near to or immediately adjacent to the project site. The proposed facilities within a quarter-mile radius include:

- Fourth Avenue: Class III Bike Route from San Bernardino Road to Puente Street
- Citrus Avenue: Class II Bike Lane north of Front Street and south of Badillo Street
- Second Avenue: Class II Bike Lane from Front Street to Rowland Avenue
- Edna Place: Bicycle Boulevard from Azusa Avenue to First Avenue
- Front Street: Class II Bike Lane from Citrus Avenue to Second Avenue
- San Bernardino Road: Class II Bike Lane west of Hollenbeck Avenue and east of Second Avenue, Class III Bike Route from Hollenbeck Avenue to Second Avenue
- Badillo Street: Class II Bike Lane from Lark Ellen Avenue to Cypress Street

The project is well-located to further facilitate and encourage bicycling as a mode of transportation as these facilities are constructed. The existing and proposed bicycle facilities in the project vicinity are illustrated in **Figure 3-1**. While the project is not required to provide bicycle parking pursuant to the City's Municipal Code, the project will provide bicycle parking in order to promote bicycle trips to and from the retail and restaurant components of the project site. Based on coordination with City staff, it is recommended that two bicycle racks providing three bicycle parking spaces each, for a total of six bicycle parking spaces, be installed along the project frontages on Citrus Avenue and San Bernardino Road. Bicycle parking for the residential component of the project site will be accommodated via private garages.

⁵ City of Covina Bicycle Master Plan, Prepared by Alta Planning + Design, September 2011.



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PROJECT SITE

SOURCE: CITY OF COVINA BICYCLE MASTER PLAN, SEPTEMBER 2011

FIGURE 3-1
CITYWIDE BICYCLE NETWORK

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COVINA TOWNHOMES (SITE A) PROJECT

4.0 EXISTING STREET SYSTEM

4.1 Regional Highway System

Regional access to the project site is provided by the San Bernardino (I-10) and Foothill (I-210) Freeways. A brief description of the I-10 and I-210 Freeways is provided in the following paragraphs.

San Bernardino (I-10) Freeway is a major east-west freeway located approximately one mile south of the project site. The I-10 Freeway connects the City of Santa Monica with the City of Los Angeles and the municipalities of the San Gabriel Valley and San Bernardino County to the east. In the project vicinity, four mixed-flow mainline lanes are provided in each direction on the I-10 Freeway with auxiliary merge/weave lanes provided between some interchanges. Full access interchanges (i.e., eastbound and westbound on- and off-ramps) are provided at Citrus Avenue and Barranca Avenue.

Foothill (I-210) Freeway is a major east-west freeway located approximately two miles 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 Citrus Avenue.

4.2 Local Street System

Immediate access to the project site is provided via Citrus Avenue, San Bernardino Road, and Third Avenue. The following study intersections were selected for analysis in consultation with the City of Covina staff in order to determine potential impacts related to the proposed project:

1. Hollenbeck Avenue/San Bernardino Road
2. Third Avenue/Vintage Walk - Geneva Place (Unsignalized)
3. Third Avenue/San Bernardino Road
4. Citrus Avenue/Covina Boulevard
5. Citrus Avenue/Cypress Street
6. Citrus Avenue/Front Street
7. Citrus Avenue/Geneva Place (Unsignalized)
8. Citrus Avenue/San Bernardino Road
9. Citrus Avenue/College Street
10. Citrus Avenue/Badillo Street
11. Barranca Avenue/San Bernardino Road

Nine of the study intersections selected for analysis are currently controlled by traffic signals, with the remaining two study intersections, Third Avenue/Vintage Walk - Geneva Place and Citrus Avenue/Geneva Place, controlled with two-way stop signs. The existing lane configurations at the eleven (11) study intersections are displayed in **Figure 4-1**.

4.3 Roadway Classifications

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

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

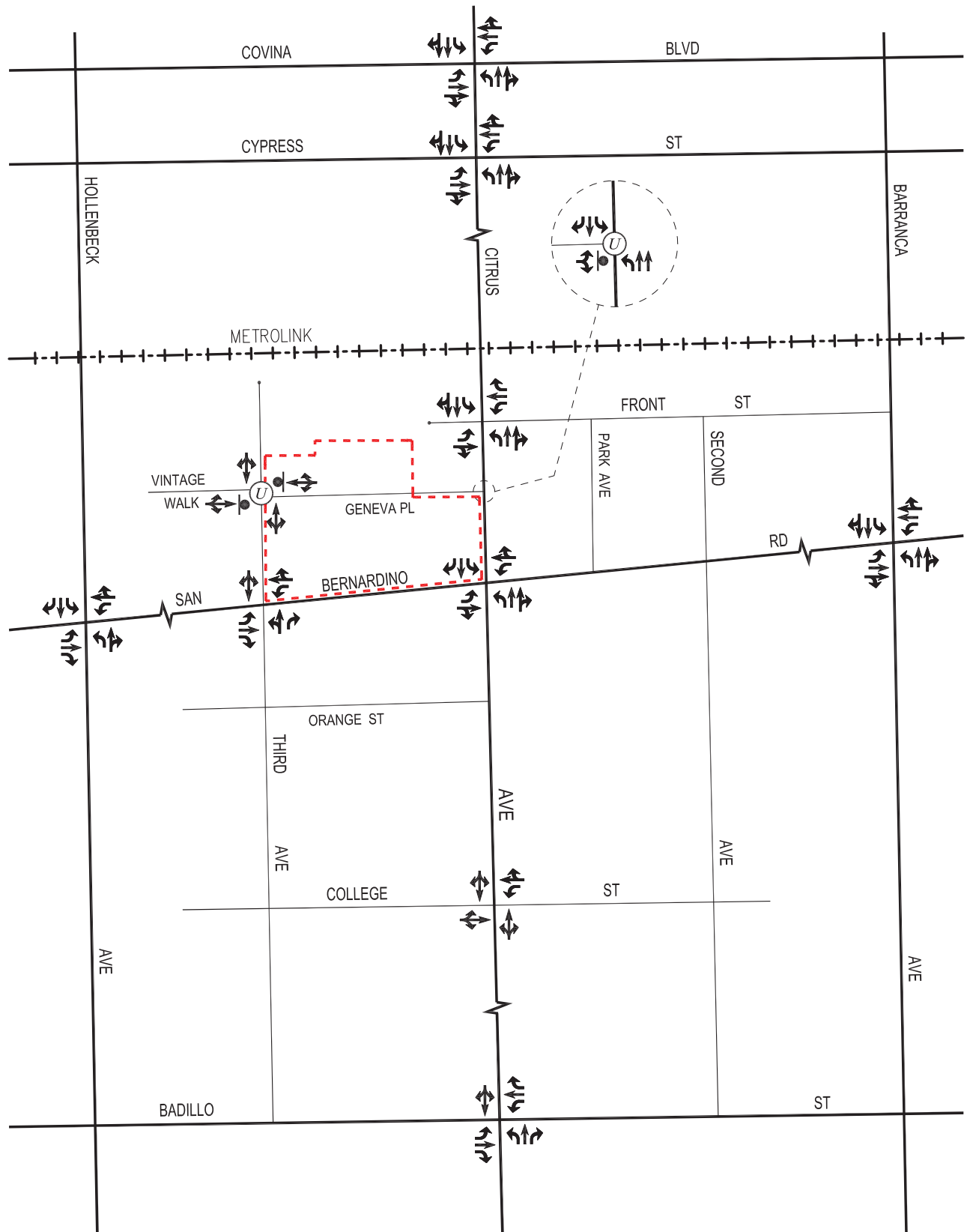
4.4 Roadway Descriptions

Brief descriptions of the important roadways in the project vicinity are provided in the following paragraphs.

Hollenbeck Avenue is a north-south oriented roadway that is located west of the project site. Hollenbeck Avenue is designated as a Collector road in the City of Covina General Plan⁶. Two through travel lanes are provided in each direction north of San Bernardino Road, and one

⁶ City of Covina General Plan, Land Use Element, approved April 18, 2000.

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 PROJECT SITE

 UNSIGNALIZED INTERSECTION

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FIGURE 4-1 EXISTING LANE CONFIGURATIONS

COVINA TOWNHOMES (SITE A) PROJECT

through travel lane is provided in each direction south of San Bernardino Road in the study area. Hollenbeck Avenue is posted for a speed limit of 35 miles per hour in the project vicinity.

Third Avenue is a north-south oriented roadway that borders the project site to the west. Third Avenue is designated as a Local Street in the City of Covina General Plan. One through travel lane is provided in each direction on Third Avenue in the study area. No speed limit is posted on Third Avenue in the project vicinity thus a prima facia speed limit of 25 miles per hour is assumed.

Citrus Avenue is a north-south oriented roadway that borders the project site to the east. Citrus Avenue is designated as a Secondary Arterial in the City of Covina General Plan, except between Orange Street and Badillo Street where it is designated as a Collector road. Two through travel lanes are provided in each direction on Citrus Avenue north of San Bernardino Avenue, and one through travel lane is provided in each direction south of San Bernardino Avenue in the study area. Citrus Avenue is posted for a speed limit of 35 to 40 miles per hour within the project vicinity.

Barranca Avenue is a north-south oriented roadway that is located east of the project site. Barranca Avenue is designated as a Collector road north of San Bernardino Road and a Primary Arterial south of San Bernardino Road in the City of Covina General Plan. Two through travel lanes are provided in each direction on Barranca Avenue in the study area. Barranca Avenue is posted for a speed limit of 35 miles per hour in the project vicinity.

Covina Boulevard is an east-west oriented roadway located north of the project site. Covina Boulevard is designated as a Collector road in the City of Covina General Plan. Two through travel lanes are provided in each direction on Covina Boulevard in the study area with two-way left-turn lane painted median east of Citrus Avenue. Covina Boulevard is posted for a speed limit of 40 miles per hour in the project vicinity.

Cypress Street is an east-west oriented roadway located north of the project site. Cypress Street is designated as a Collector road in the City of Covina General Plan. Two through travel lanes are provided in each direction on Cypress Street in the study area. Cypress Street is posted for a speed limit of 35 miles per hour in the project vicinity.

Front Street is an east-west oriented roadway located north of the project site. Front Street is designated as a Local street in the City of Covina General Plan. One through travel lane is provided in each direction on Front Street in the study area. No speed limit is posted on Front Street in the project vicinity thus a prima facia speed limit of 25 miles per hour is assumed.

Geneva Place is an east-west oriented roadway located partially within the project site. Geneva Place is designated as a Local street in the City of Covina General Plan. One through travel lane is provided in each direction on Geneva Place in the study area. Geneva Place is planned to be partially vacated to accommodate the development of Site A, with a closure extending east from Third Avenue to approximately 200 feet west of Citrus Avenue. No speed limit is posted on

Geneva Place in the project vicinity thus a prima facia speed limit of 25 miles per hour is assumed.

San Bernardino Road is an east-west oriented roadway that borders the project site to the south. San Bernardino Road is designated as a Collector road in the City of Covina General Plan. One through travel lane is provided in each direction west of Citrus Avenue, and one to two through travel lanes are provided in each direction east of Citrus Avenue in the study area. San Bernardino Road is posted for a speed limit of 35 to 30 miles per hour east and west of the project vicinity, respectively.

College Street is an east-west oriented roadway located south of the project site. College Street is designated as a Local street in the City of Covina General Plan. One through travel lane is provided in each direction on College Street in the study area. No speed limit is posted on College Street in the project vicinity thus a prima facia speed limit of 25 miles per hour is assumed.

Badillo Street is an east-west oriented roadway located south of the project site. Badillo Street is designated as a Secondary Arterial in the City of Covina General Plan. One through travel lane is provided in each direction on Badillo Street between Hollenbeck Avenue and Second Avenue, and two through travel lanes are provided in each direction west of Hollenbeck Avenue and east of Second Avenue in the study area. Badillo Street is posted for a speed limit of 30 miles per hour between Hollenbeck Avenue and Second Avenue, and a speed limit of 40 miles per hour west of Hollenbeck Avenue and east of Second Avenue in the project vicinity.

4.5 Existing Public Transit Service

Public transit service within the project study area is currently provided by the Foothill Transit Authority, the Los Angeles County Metropolitan Transportation Authority (Metro), the City of Glendora transit system, and Metrolink, as described in the following sections. A summary of the existing transit services, including the transit routes, destinations and number of trains and buses during the weekday AM and PM peak hours is presented in *Table 4-1*.

4.5.1 Public Bus Transit

Public bus transit service in the project study area is provided by Foothill Transit, Metro, and the City of Glendora. Foothill Transit operates one north-south route along Citrus Avenue. Line 281 connects the City of Industry to the City of Glendora, providing two northbound and two southbound buses in the project study area during the AM and PM peak hours. Metro operates one east-west route along Badillo Street and Citrus Avenue. Line 190 connects the City of El Monte to Cal Poly Pomona, providing up to four eastbound and five westbound buses in the project study area during the AM and PM peak hours. The City of Glendora operates a Commuter Shuttle that connects to the Covina Metrolink station via Front Street and Citrus Avenue, providing up to two buses in the AM and PM peak hours. The existing public transit routes in the project site vicinity are illustrated in *Figure 4-2*.

**Table 4-1
EXISTING TRANSIT ROUTES [1]**

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
Metrolink San Bernardino Line	San Bernardino to Union Station via Rialto, Fontana, Rancho Cucamonga, Upland, Montclair, Claremont, Pomona, Covina, Baldwin Park, El Monte, Cal State LA	Citrus Avenue	EB	1	3
			WB	4	1
Foothill Transit 281	Industry to Glendora via Puente Hills Mall, Eastland Center, Covina Metrolink, Citrus College	Citrus Avenue, Second Avenue, Cypress Avenue, Front Street, San Bernardino Road	NB	2	2
			SB	2	2
Metro 190-194	El Monte to Cal Poly Pomona via Baldwin Park, Covina, West Covina, La Puente, Walnut, Mt. San Antonio College	Citrus Avenue, Badillo Street	EB	3	4
			WB	5	2
Glendora Metrolink Commuter Shuttle	Glendora to Covina Metrolink Station	Citrus Avenue, Front Street	NB	0	1
			SB	2	0
Total			19	15	

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

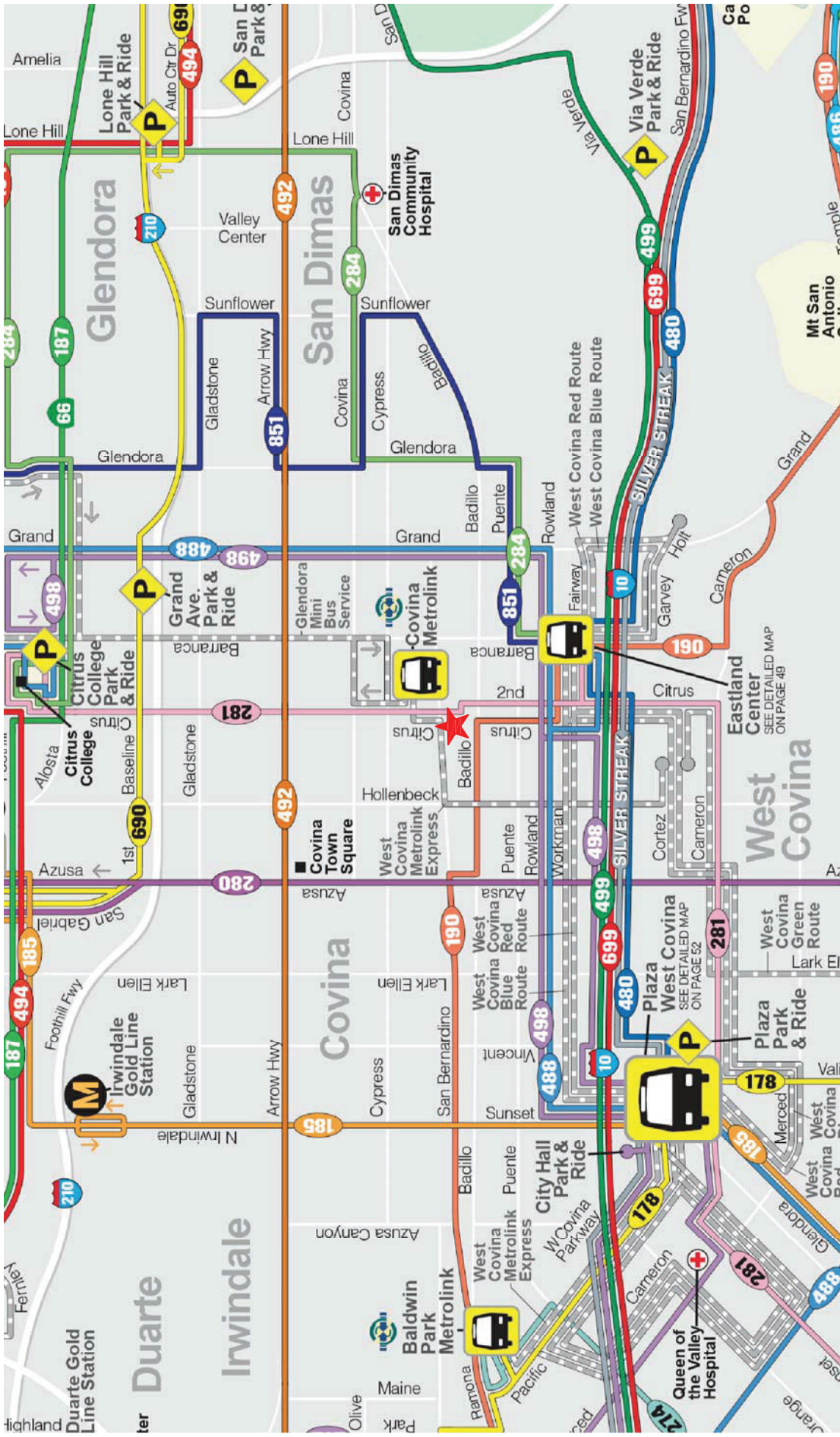


FIGURE 4-2 EXISTING PUBLIC TRANSIT ROUTES

IMAGE SOURCE: FOOTHILL TRANSIT WEBSITE, 2018



PROJECT SITE



NOT TO SCALE

LINSCOTT, LAW & GREENSPAN, engineers

COVINA TOWNHOMES (SITE A) PROJECT

4.5.2 Regional Rail Transit

Metrolink provides a rail stop within a quarter mile of the project site for the San Bernardino Line, which extends between Union Station in Downtown Los Angeles and the City of San Bernardino. This Metrolink stop provides connectivity between the proposed project and the regional network of rail lines operated by Amtrak, Metro and SCRRA. The Covina station is located north of Front Street on the east side of Citrus Avenue and connects with the public bus transit services provided on Citrus Avenue. During the weekday AM peak hour, five trains per hour are provided at the Covina station: four travel westbound to Los Angeles Union Station, and one travels eastbound to the City of San Bernardino. During the weekday PM peak hour, four trains per hour are provided at the Covina station: three travel eastbound to the City of San Bernardino, and one travels westbound to Los Angeles Union Station. An illustration of the regional rail network serving the greater Los Angeles area is presented in **Figure 4-3**.



FIGURE 4-3
REGIONAL RAIL NETWORK

MAP SOURCE: METROLINK, 2018



NOT TO SCALE

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COVINA TOWNHOMES (SITE A) PROJECT

5.0 TRAFFIC COUNTS

Existing manual counts of vehicular turning movements were conducted for a typical weekday at each of the eleven (11) study intersections during the morning (AM) and afternoon (PM) commute periods to determine the peak hour traffic volumes. The manual counts were conducted in March 2018 by a traffic count subconsultant, City Traffic Counters, from 7:00 AM to 9:00 AM to determine the weekday AM peak commute hour and from 4:00 PM to 6:00 PM to determine the weekday PM peak commute hour. 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 morning and afternoon peak periods typically associated with the peak commute hours in the metropolitan area.

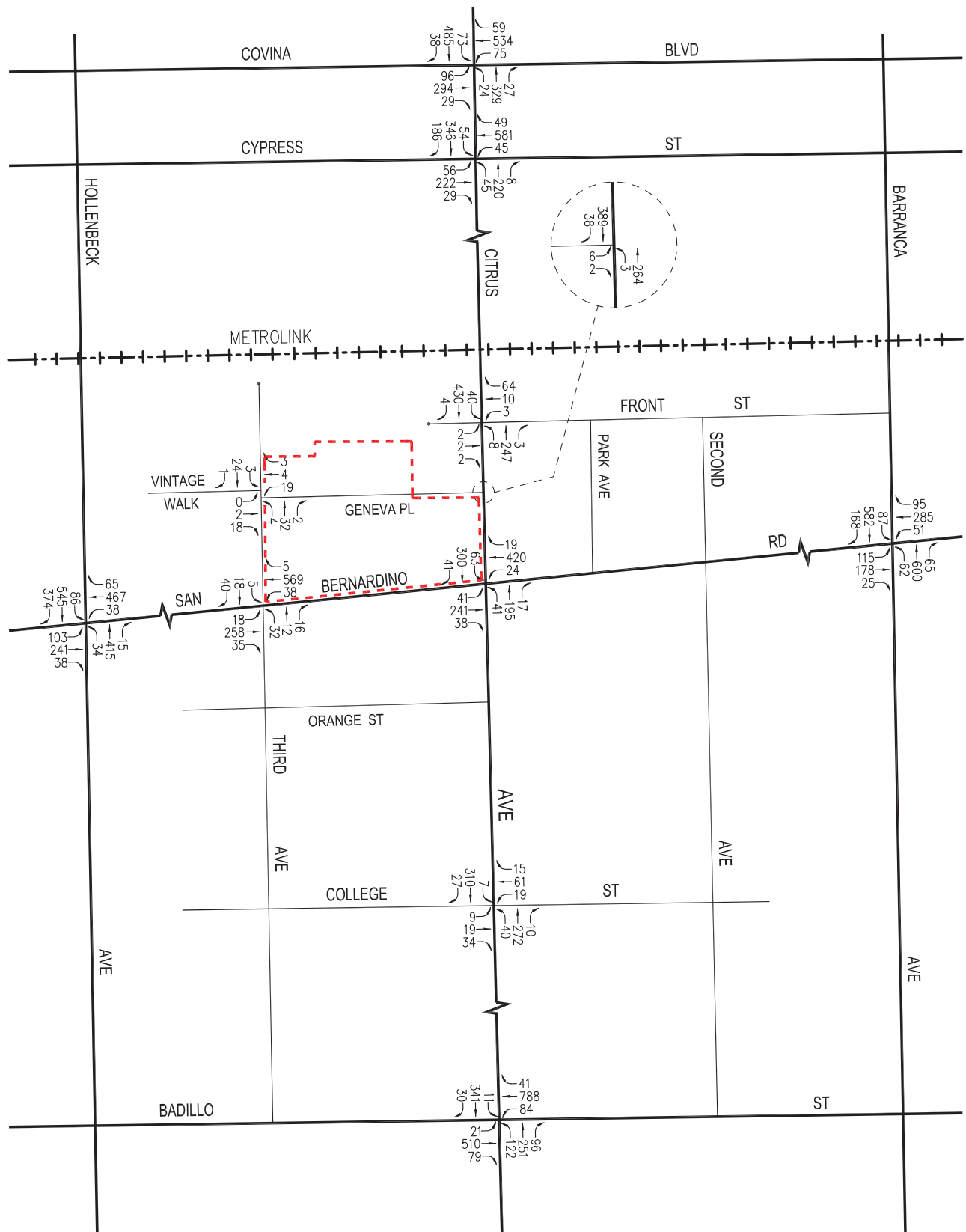
The existing weekday AM and PM peak hour manual counts of vehicle movements at the study intersections are summarized in **Table 5-1**. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are shown in **Figures 5-1** and **5-2**, respectively. For each study 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 vehicle, pedestrian and bicycle counts of the study intersections are contained in **Appendix A**.

**Table 5-1
EXISTING TRAFFIC VOLUMES [1]**

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
1	Hollenbeck Avenue/ San Bernardino Road	03/20/2018	NB SB EB WB	7:15	464 1,005 382 570	4:30	667 715 796 535
2	Third Avenue/ Vintage Walk - Geneva Place	03/20/2018	NB SB EB WB	7:00	38 28 20 26	4:15	26 33 8 48
3	Third Avenue/ San Bernardino Road	03/20/2018	NB SB EB WB	7:00	60 63 311 612	4:45	142 59 716 429
4	Citrus Avenue/ Covina Boulevard	03/20/2018	NB SB EB WB	7:30	380 596 419 668	4:45	673 663 545 518
5	Citrus Avenue/ Cypress Street	03/20/2018	NB SB EB WB	7:15	273 586 307 675	4:30	588 564 795 419
6	Citrus Avenue/ Front Street	03/20/2018	NB SB EB WB	7:30	258 474 6 77	4:15	485 500 63 137
7	Citrus Avenue/ Geneva Place	03/20/2018	NB SB EB WB	7:45	267 427 8 0	4:15	477 477 17 0
8	Citrus Avenue/ San Bernardino Road	03/20/2018	NB SB EB WB	7:30	253 404 320 463	4:45	416 440 723 386
9	Citrus Avenue/ College Street	03/20/2018	NB SB EB WB	7:45	322 344 62 95	4:30	414 392 228 149
10	Citrus Avenue/ Badillo Street	03/20/2018	NB SB EB WB	7:30	469 382 610 913	5:00	645 459 854 663
11	Barranca Avenue/ San Bernardino Road	03/20/2018	NB SB EB WB	7:30	727 837 318 431	4:30	804 799 668 358

[1] Counts conducted by City Traffic Counters.

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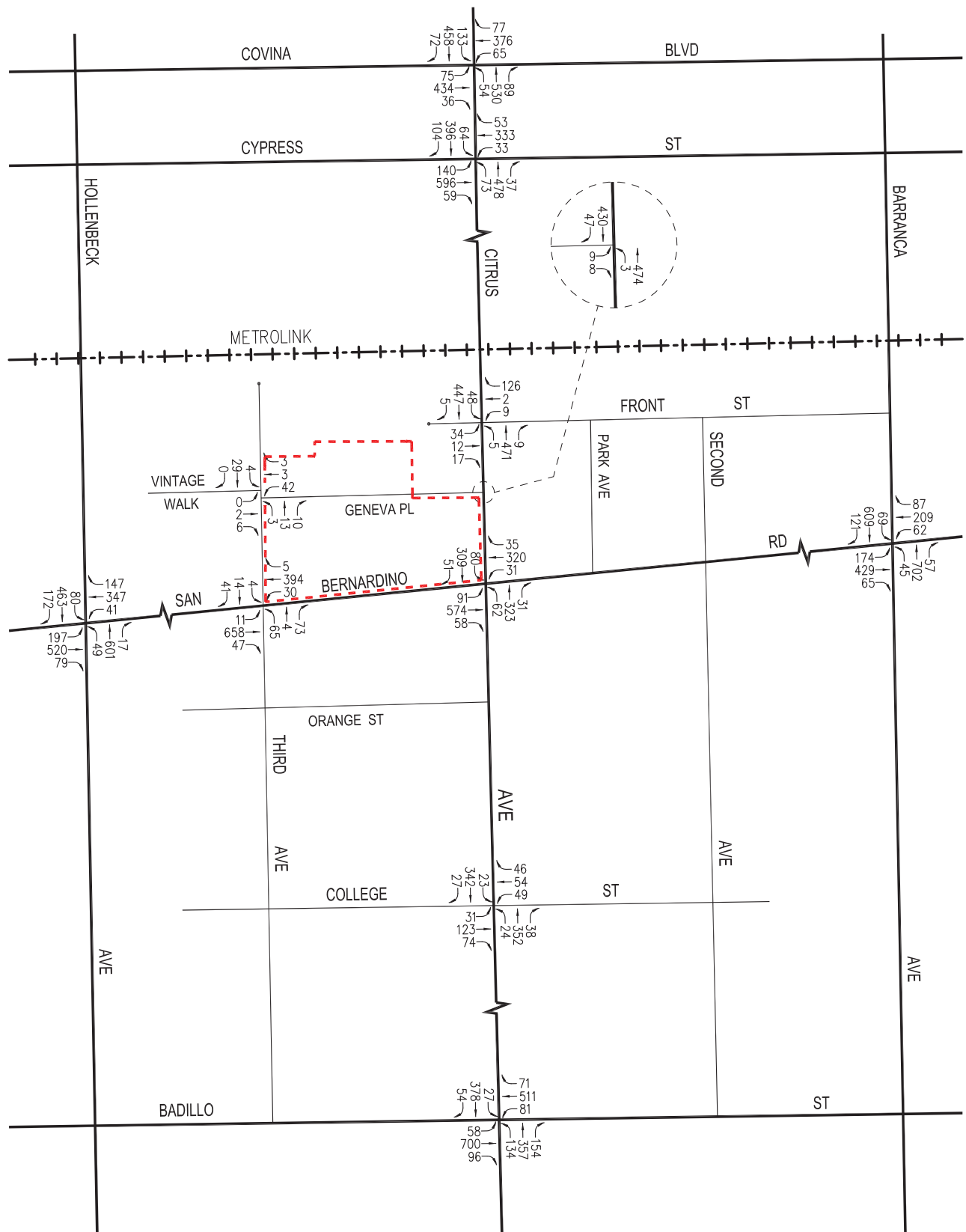


PROJECT SITE

LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 5-1
EXISTING TRAFFIC VOLUMES
 WEEKDAY AM PEAK HOUR
 COVINA TOWNHOMES (SITE A) PROJECT

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PROJECT SITE

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FIGURE 5-2
EXISTING TRAFFIC VOLUMES
 WEEKDAY PM PEAK HOUR
 COVINA TOWNHOMES (SITE A) PROJECT

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 Covina Community Development Department and the City of West Covina Planning Department. The related projects in the study area are presented in **Table 6-1**. The locations of the related projects are shown in **Figure 6-1**.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the ITE *Trip Generation Manual*⁷. The related project’s 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**. As shown in **Table 6-1**, the related projects are expected to generate a combined total of 14,134 daily trips during a typical weekday, 1,199 vehicle trips (678 inbound trips and 521 outbound trips) during the weekday AM peak hour, and 1,125 vehicle trips (502 inbound trips and 623 outbound trips) during the weekday PM peak hour. The anticipated distribution of the related projects traffic volumes to the study intersections during the weekday AM and PM peak hours is displayed in **Figures 6-2** and **6-3**, respectively.

⁷ 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]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
1	Approved	City Ventures Covina 3 400 Block North Citrus Avenue	Condominium Retail	68 DU 5,794 GLSF	[3] [4]	395 247	5 4	25 2	30 6	23 10	12 11	35 21
2	Proposed	Covina Park View Hotel Park View Drive south of Holt Avenue	Hotel	130 Rooms	[5]	1,062	41	28	69	40	38	78
3	Built	166 East Center Street	Apartment	5 DU	[6]	33	1	2	3	2	1	3
4	Built	269-275 West Center Street	Apartment	8 DU	[6]	53	1	3	4	3	2	5
5	Proposed	Covina Assembly of God 250 East San Bernardino Road	Church Addition	9,400 GSF	[7]	86	3	2	5	2	3	5
6	Built	Citrus Valley Medical Hospital 210 West San Bernardino Road	Hospital Addition	3,000 GSF	[8]	40	2	1	3	1	2	3
7	Built	500 West San Bernardino Road	Medical Office	9,000 GSF	[9]	325	17	5	22	9	23	32
8	Built	Starbucks Coffee 611 South Citrus Avenue	Coffee Shop with Drive-Through	1,867 GSF	[10]	1,528	96	92	188	40	40	80
9	Built	Starbucks Coffee 108 East Arrow Highway	Coffee Shop with Drive-Through	1,840 GSF	[10]	1,506	94	91	185	40	39	79
10	Built	Sage Chevrolet 635 South Citrus Avenue	Automobile Sales	30,000 GSF	[11]	744	29	1	30	13	32	45
11	Under Construction	800 North Banna Avenue	Single-Family Residential Public Park	63 DU 2 Acres	[12] [13]	600 4	12 5	35 4	47 9	40 4	23 3	63 7
12	Approved	1732 East Ruddock Street	Single-Family Residential	4 DU	[12]	38	1	2	3	3	1	4
13	Under Construction	777 Enda Place	Light Industrial	99,272 GSF	[14]	692	80	11	91	12	84	96
14b 14c	Proposed	Covina Townhomes (Sites B1, B2 & C)	Townhomes Retail Office	18 DU 3,370 GLSF 1,030 GSF		219	6	7	13	11	10	21
15	Graded	1162 North Citrus Avenue	Condominium Retail Office Event Center	117 DU 4,800 GLSF 15,000 GSF 25,000 GSF	[3] [4] [16] [17]	680 205 165 846	9 3 20 34	42 2 3 17	51 5 23 51	41 9 4 34	20 9 4 35	61 18 22 69

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]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
16	Approved	1650 East Old Badillo	Assisted Living	32 Occ. Beds	[18]	88	4	2	6	5	4	9
17	Built	308 Barranca Avenue	Townhomes	5 DU	[3]	29	0	2	2	2	1	3
18	Approved	276 West Dexter Street	Condominium	3 DU	[3]	17	0	1	1	1	1	2
19	Under Construction	172 East Center Street	Apartment	5 DU	[6]	33	1	2	3	2	1	3
20	Approved	525 South Citrus Avenue	Retail/Office Restaurant	5,900 GLSF 5,000 GSF	[4] [19]	252 2,481	4 116	2 111	6 227	11 85	11 78	22 163
21	Proposed	Kaiser Permanente 1123 Park View Drive	Medical Office	42,000 GSF	[9]	1,517	79	21	100	42	108	150
22	Proposed	Southeast corner of Park View Drive and Holt Avenue	Assisted Living	91 Occ. Beds	[18]	249	11	5	16	13	13	26
TOTAL						14,134	678	521	1,199	502	623	1,125

[1] Source: City of Covina Community Development Department. Trip generation for the related projects are based on ITE "Trip Generation Manual", 9th Edition, 2012 (as referenced in the Project Data Source column), except as noted.

City of West Covina Planning Department was also contacted and no related projects within the study area were identified.

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

[3] ITE Land Use Code 230 (Residential Condominium/Townhouse) trip generation average rates.

[4] ITE Land Use Code 820 (Shopping Center) trip generation average rates.

[5] Source: "Covina Park View Hotel Traffic Impact Study", prepared by Hartzog & Crabill, Inc., July 10, 2017.

[6] ITE Land Use Code 220 (Apartment) trip generation average rates.

[7] ITE Land Use Code 560 (Church) trip generation average rates.

[8] ITE Land Use Code 610 (Hospital) trip generation average rates.

[9] ITE Land Use Code 720 (Medical-Dental Office Building) trip generation average rates.

[10] ITE Land Use Code 937 (Coffee/Donut Shop with Drive-Through Window) trip generation average rates.

[11] Source: "G35 South Citrus Avenue Project Traffic Impact Study", prepared by LLG Engineers, August 27, 2014.

[12] ITE Land Use Code 210 (Single-Family Residential) trip generation average rates.

[13] ITE Land Use Code 411 (City Park) trip generation average rates.

[14] ITE Land Use Code 110 (Light Industrial) trip generation average rates.

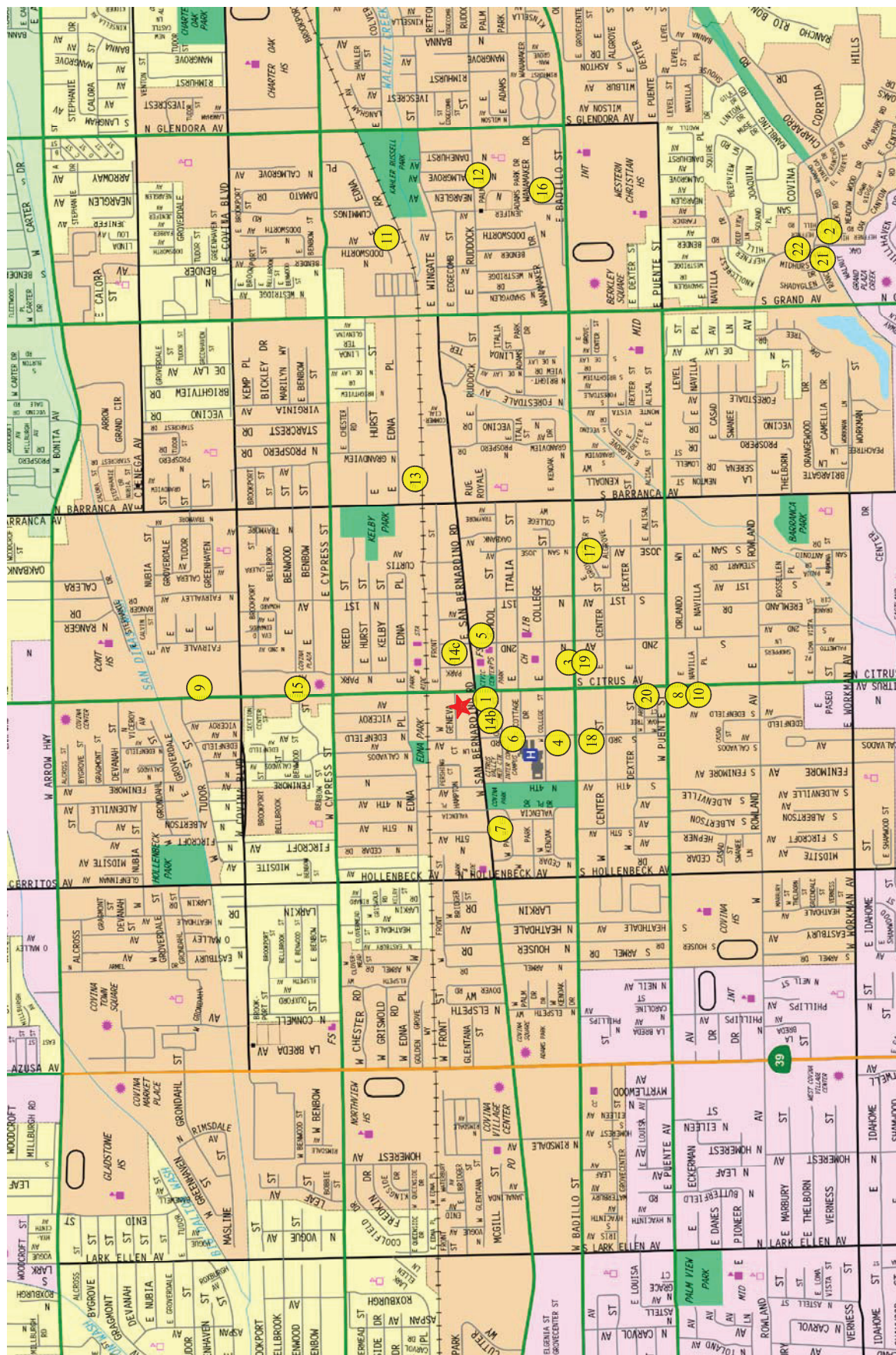
[15] ITE Land Use Code 932 (High-Turnover (Sit-Down) Restaurant) trip generation average rates.

[16] ITE Land Use Code 710 (General Office) trip generation average rates.

[17] ITE Land Use Code 495 (Recreational Community Center) trip generation average rates.

[18] ITE Land Use Code 254 (Assisted Living) trip generation average rates.

[19] ITE Land Use Code 934 (Fast-Food Restaurant with Drive-Through) trip generation average rates.



NOT TO SCALE

MAP SOURCE: RAND MCNALLY & COMPANY



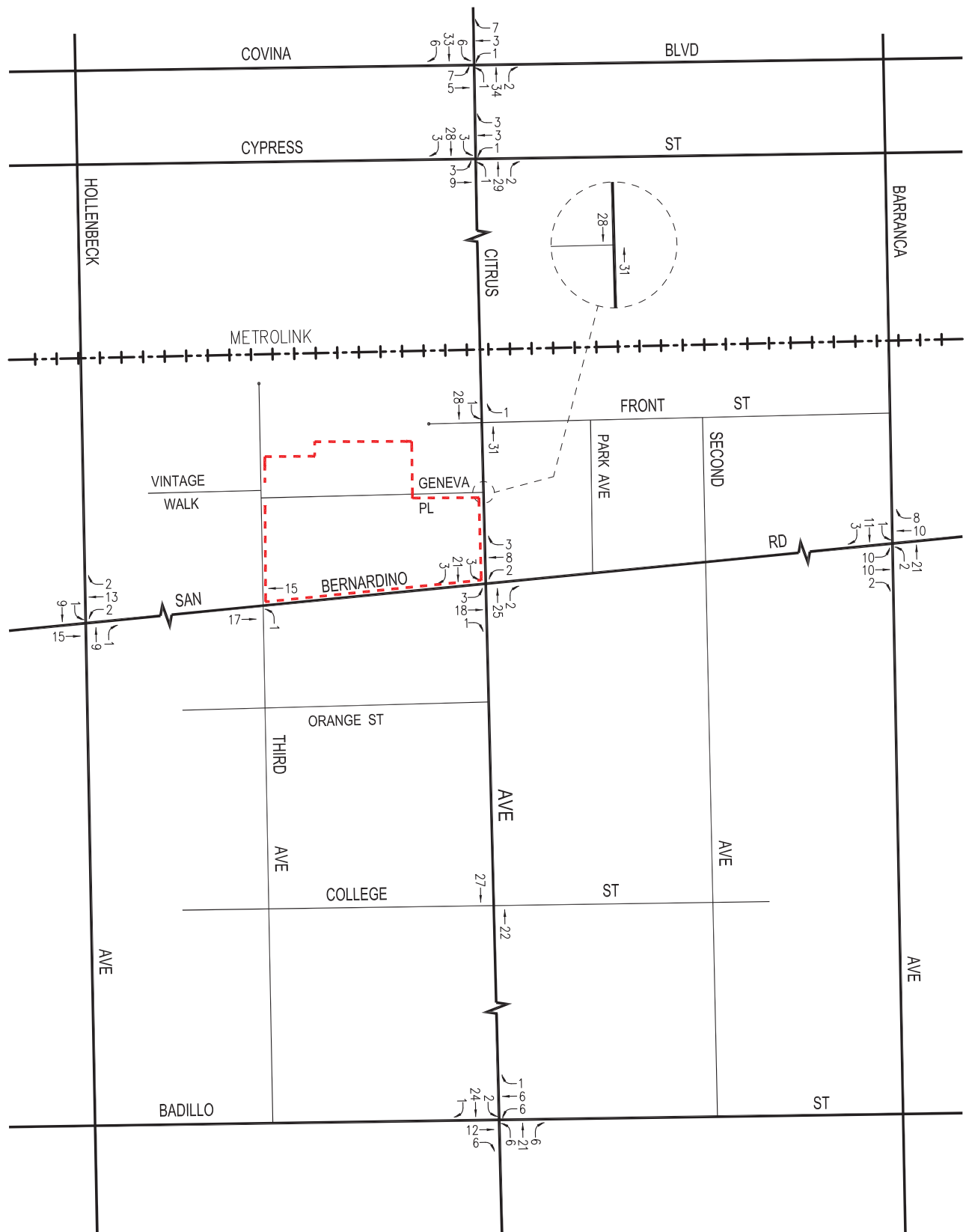
PROJECT SITE

FIGURE 6-1
LOCATION OF RELATED PROJECTS

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COVINA TOWNHOMES (SITE A) PROJECT

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PROJECT SITE

FIGURE 6-2
RELATED PROJECTS TRAFFIC VOLUMES
 WEEKDAY AM PEAK HOUR
 COVINA TOWNHOMES (SITE A) PROJECT

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PROJECT SITE

FIGURE 6-3
RELATED PROJECTS TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR
COVINA TOWNHOMES (SITE A) PROJECT

6.2 Ambient Traffic Growth Factor

In order to account for unknown related projects not included in this analysis, the existing traffic volumes were increased at an annual rate of one percent (1.0%) per year to the year 2020 (i.e., the anticipated year of project build-out). The ambient growth factor was based on general traffic growth factors provided in the *2010 Congestion Management Program* (the “CMP manual”). The general traffic growth factors provided in the CMP manual for the Regional Statistical Area (RSA) 26, which includes the Covina and West Covina areas, has an annual traffic volume growth rate of approximately 0.46% per year between years 2010 and 2020. Thus, application of a one percent (1.0%) annual growth factor allows for a conservative, worst-case forecast of future traffic volumes in the area. Further, it is noted that the CMP manual’s 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 the 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 proposed Covina Townhomes (Site A) Project, a multi-step process has been utilized. The first step of the forecasting process is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. The traffic generation potential is typically 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 of the forecasting process 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 selected key intersections using existing and expected future traffic volumes with and without forecast project traffic. The need for site-specific traffic improvements can then be evaluated and the significance of the project's impacts identified.

7.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. 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 for a weekday, were estimated using rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*⁸. Traffic volumes expected to be generated by the proposed project were based upon rates per dwelling unit or gross square-footage, as appropriate. ITE Land Use Code 230 (Residential Condominium/Townhouse), ITE Land Use Code 820 (Shopping Center), and ITE Land Use Code 932 (High-Turnover [Sit-Down] Restaurant) trip generation average rates were used to forecast the traffic volumes expected to be generated by the proposed project for Site A.

In addition to the ITE trip generation forecast, a forecast was made of likely pass-by 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. In this instance, the adjacent roadway to the existing project site includes Citrus Avenue and San Bernardino Road. Accordingly, a 10

⁸ Institute of Transportation Engineers *Trip Generation Manual*, 9th Edition, 2012.

percent (10%) pass-by trip reduction adjustment was applied only to the retail and restaurant land use components.

The ITE manual contains trip rates for a variety of land uses (including condominiums, offices, shopping centers, 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 the City of Covina's Town Center. Thus, the trip rates provided in the ITE *Trip Generation Manual* (derived from traffic counts at suburban projects) would be expected to overstate the trip generation potential of projects located in and near the town center, including the proposed Covina Townhomes project.

As stated on page 1 of the ITE *Trip Generation, 9th Edition, User's Guide*: "Data were primarily collected at suburban locations having little or no transit service, nearby pedestrian amenities, or travel demand management (TDM) programs. At specific sites, the user may wish to modify trip generation rates presented in this document to reflect the presence of public transportation service, ridesharing, or other TDM measures; enhanced pedestrian and bicycle trip-making opportunities; or other special characteristics of the site or surrounding area. When practical, the user is encouraged to supplement the data in this document with local data that have been collected at similar sites." The area adjacent to the project site provides public transportation service, as well as enhanced pedestrian and bicycle trip-making opportunities. Accordingly, as encouraged by ITE, additional trip generation data was reviewed at existing development sites in urban areas similar to Covina. Two recent research efforts by the Transportation Research Board⁹ (the "TRB" report) and California Department of Transportation¹⁰ (the "Caltrans report") have been conducted for purposes of evaluating the trip generation characteristics at development sites located in urban areas in close proximity to transit stations/hubs.

The TRB report evaluated trip generation at 17 transit-oriented development (TOD) sites, generally defined as mixed-use developments within easy walking distance of a transit station, in four urbanized areas of the country: Philadelphia/Northeast New Jersey; Portland, Oregon; metropolitan Washington, D.C.; and the San Francisco East Bay area. The 17 TOD sites studied are residential developments. Driveway traffic counts conducted at the TOD sites were compared to the forecast trip generation that would be calculated using applicable and unadjusted trip rates from the ITE *Trip Generation Manual*. Based on the traffic count data collected at the TODs, the TRB report concludes the following:

- Daily (24-hour): 44% fewer vehicle trips at TODs as compared to ITE trip rates
- AM peak hour: 49% fewer vehicle trips at TODs as compared to ITE trip rates

⁹ TCRP [Transit Cooperative Research Program] *Report 128 – Effects of TOD on Housing, Parking, and Travel* published by the Transportation Research Board in 2008.

¹⁰ *Trip-Generation Rates for Urban Infill Land Uses in California* prepared for Caltrans by the Association of Bay Area Governments in April 2008.

- PM peak hour: 48% fewer vehicle trips at TODs as compared to ITE trip rates

The Caltrans report evaluated trip generation at eight urban infill sites located in close proximity to transit stations and/or transit hubs in the Berkeley and San Diego areas. The eight sites studied are residential developments. Driveway traffic counts conducted at the sites were compared to the forecast trip generation that would be calculated using applicable and unadjusted trip rates from the ITE *Trip Generation Manual*. Based on the traffic count data collected at the sites, the Caltrans report concludes the following:

- AM peak hour: 61% fewer vehicle trips at TOD sites as compared to ITE trip rates
- PM peak hour: 60% fewer vehicle trips at TOD sites as compared to ITE trip rates

It is therefore demonstrated in the TRB and Caltrans reports that vehicular trip generation is substantially reduced at urban and transit-adjacent sites as compared to what would otherwise be forecast through use of the ITE trip rates (derived from studies of generally suburban and stand-alone development projects). Further, it is reasonable to conclude that travel related to the sites studied in the TRB and Caltrans reports comprised a mixture of trips by walking, bicycling and taking public transit, with reduced emphasis on travel by the automobile. Also, as the sites studied by TRB and Caltrans were residential projects, it is reasonable to assume that the sites studied in the TRB and Caltrans reports were passively managed from a traffic management standpoint. That is, travelers used travel modes other than the automobile based on convenience and/or cost savings.

For the Covina Townhomes project, it is reasonable to conclude that its design and location within Covina's Town Center Specific Plan area and within a quarter-mile radius of the Covina Metrolink station would result in reductions 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. An actively managed site could be expected to yield additional trip reductions. To provide a conservative analysis, only a ten percent (10%) reduction has been assumed. The transit trip adjustment was applied after the pass-by trip adjustments were applied.

The trip generation rates and forecast of the vehicular trips anticipated to be generated by the proposed project are presented in **Table 7-1**. The project trip generation forecast was submitted for review and approval by City staff. As summarized in *Table 7-1*, the proposed project for Site A is expected to generate a net increase of 108 vehicle trips (36 inbound trips and 72 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate a net increase of 145 vehicle trips (87 inbound trips and 58 outbound trips). Over a 24-hour period, the proposed project is forecast to generate a net increase of 1,700 daily vehicle trip ends (850 inbound trips and 850 outbound trips) during a typical weekday.

**Table 7-1
PROJECT TRIP GENERATION [1]**

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
<i>Site A</i>								
Residential Townhome [3]	161 DU	936	12	59	71	56	28	84
Restaurant [4]	3,800 GSF	483	23	18	41	22	15	37
Retail [5]	13,500 GLSF	576	8	5	13	24	26	50
Less Pass-by Adjustment (10%) [6]		(106)	(3)	(2)	(5)	(5)	(4)	(9)
Less Transit Adjustment (10%) [7]		(189)	(4)	(8)	(12)	(10)	(7)	(17)
TOTAL FOR SITE A		1,700	36	72	108	87	58	145

[1] Source: ITE "Trip Generation Manual", 9th Edition, 2012.

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

[3] ITE Land Use Code 230 (Residential Condominium/Townhouse) trip generation average rates.

- Daily Trip Rate: 5.81 trips/dwelling unit; 50% inbound/50% outbound

- AM Peak Hour Trip Rate: 0.44 trips/dwelling unit; 17% inbound/83% outbound

- PM Peak Hour Trip Rate: 0.52 trips/dwelling unit; 67% inbound/33% outbound

[4] ITE Land Use Code 932 (High-Turnover [Sit-Down] Restaurant) trip generation average rates.

- Daily Trip Rate: 127.15 trips/1,000 SF of floor area; 50% inbound/50% outbound

- AM Peak Hour Trip Rate: 10.81 trips/1,000 SF of floor area; 55% inbound/45% outbound

- PM Peak Hour Trip Rate: 9.85 trips/1,000 SF of floor area; 60% inbound/40% outbound

[5] ITE Land Use Code 820 (Shopping Center) trip generation average rates.

- Daily Trip Rate: 42.7 trips/1,000 SF of gross leasable floor area; 50% inbound/50% outbound

- AM Peak Hour Trip Rate: 0.96 trips/1,000 SF of gross leasable floor area; 62% inbound/38% outbound

- PM Peak Hour Trip Rate: 3.71 trips/1,000 SF of gross 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. A pass-by adjustment factor of 10% was only applied to the retail and restaurant land use components for the weekday daily, AM peak hour, and PM peak hour trip generation forecasts.

[7] A transit adjustment of 10% was applied to all the land use components due to the proximity to the Metrolink

Covina station located at 600 N. Citrus Avenue. The transit adjustments were applied after the pass-by adjustments were applied.

7.2 Project Traffic Distribution and Assignment

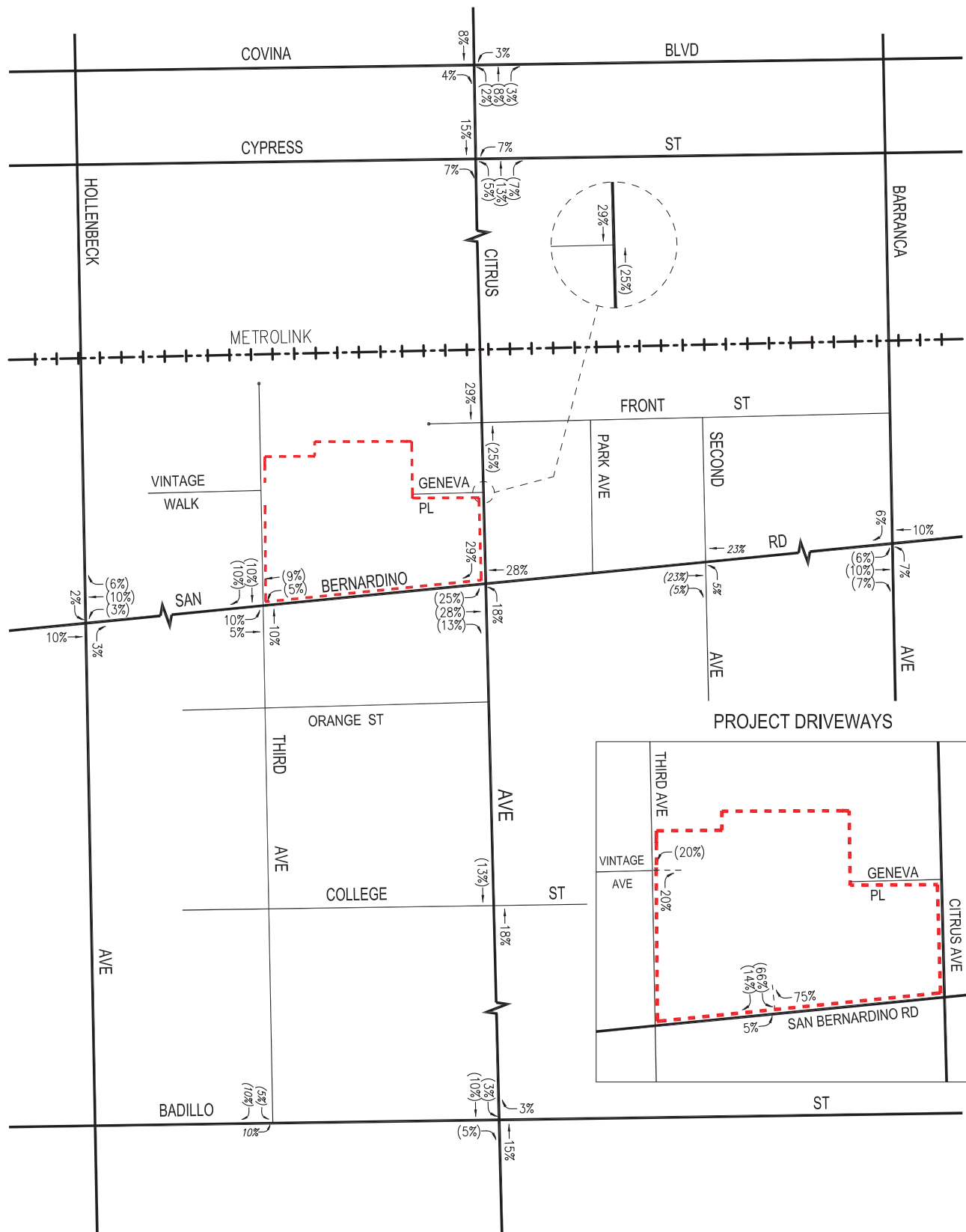
Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to major traffic corridors (i.e., Hollenbeck Avenue, Citrus Avenue, Barranca Avenue, Covina Boulevard, Cypress Street, San Bernardino Road, Badillo Street, etc.);
- Expected traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes;
- Proposed ingress/egress schemes at the project site;
- Nearby population and employment centers;
- Input from City staff.

A general, directional traffic distribution pattern was prepared for the residential and commercial components of the proposed project. The distribution pattern for the residential component of the proposed project is presented in **Figure 7-1**, and the distribution pattern for the retail and restaurant components is presented in **Figure 7-2**. The forecast net new weekday AM and PM peak hour project traffic volumes associated with the build-out of Site A are presented in **Figures 7-3** and **7-4**, respectively. The net new project traffic volume assignments presented in **Figures 7-3** and **7-4** reflect the traffic distribution characteristics shown in **Figures 7-1** and **7-2** and the project traffic generation forecast presented in **Table 7-1**.

As noted previously, existing morning and afternoon peak period traffic counts were conducted at the two study intersections on Geneva Place (i.e., Study Intersection No. 2: Third Avenue/Vintage Walk-Geneva Place and Study Intersection No. 7: Citrus Avenue/Geneva Place). Eastbound and westbound vehicles observed to utilize Geneva Place at these two intersections were redistributed to other east-west oriented streets (i.e., San Bernardino Road or Front Street) in order to account for the partial street vacation of Geneva Place. The net new project traffic volume assignments presented in **Figures 7-3** and **7-4** reflect the traffic distribution characteristics shown in **Figures 7-1** and **Figure 7-2**, the project traffic generation forecast presented in **Table 7-1**, and the redistribution of existing traffic volumes due to the partial vacation of Geneva Place.

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 NOT TO SCALE

 PROJECT SITE

 XX = INBOUND PERCENTAGES

 (XX) = OUTBOUND PERCENTAGES

FIGURE 7-1

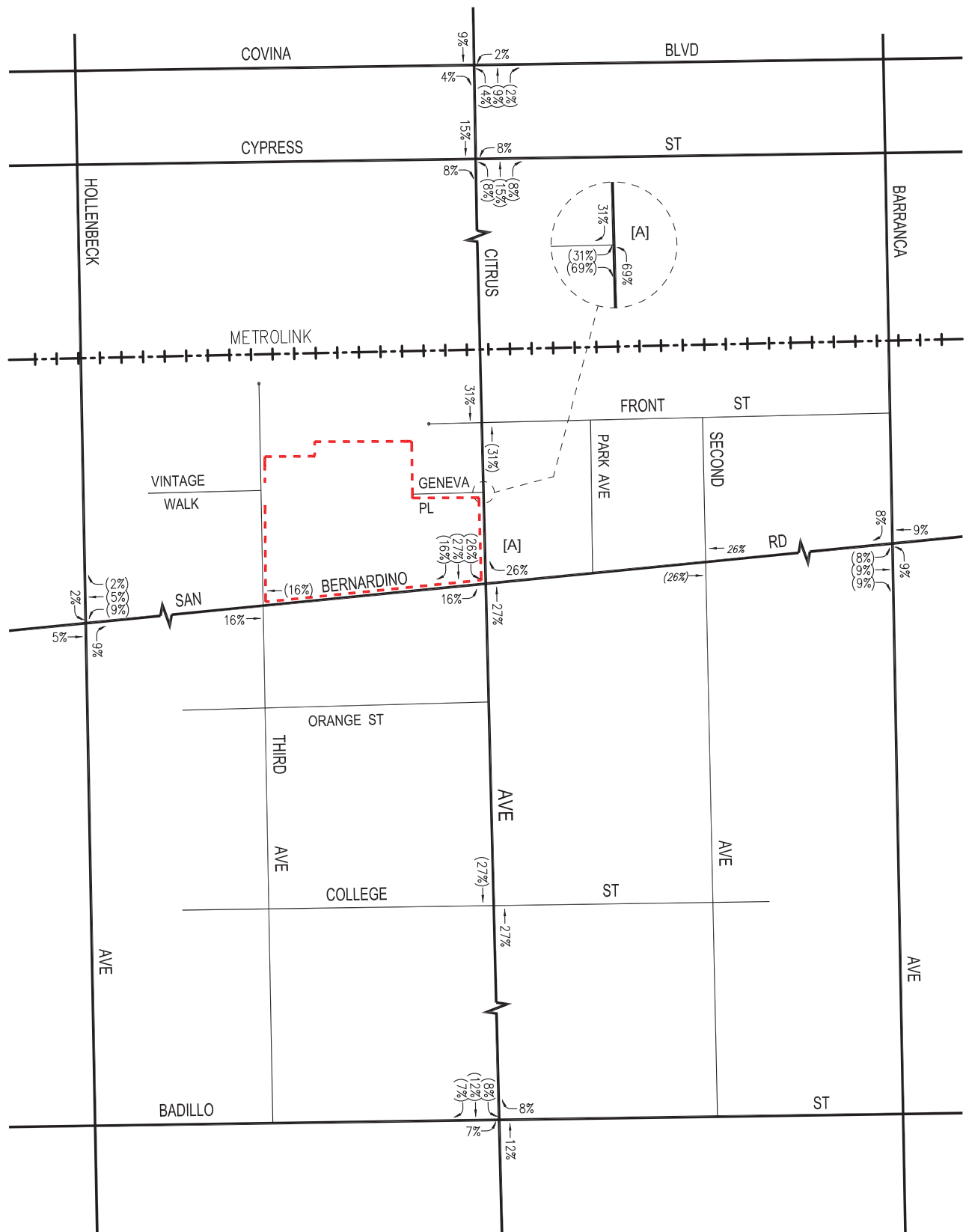
 PROJECT TRIP DISTRIBUTION

 RESIDENTIAL COMPONENT

 COVINA TOWNHOMES (SITE A) PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

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PROJECT SITE

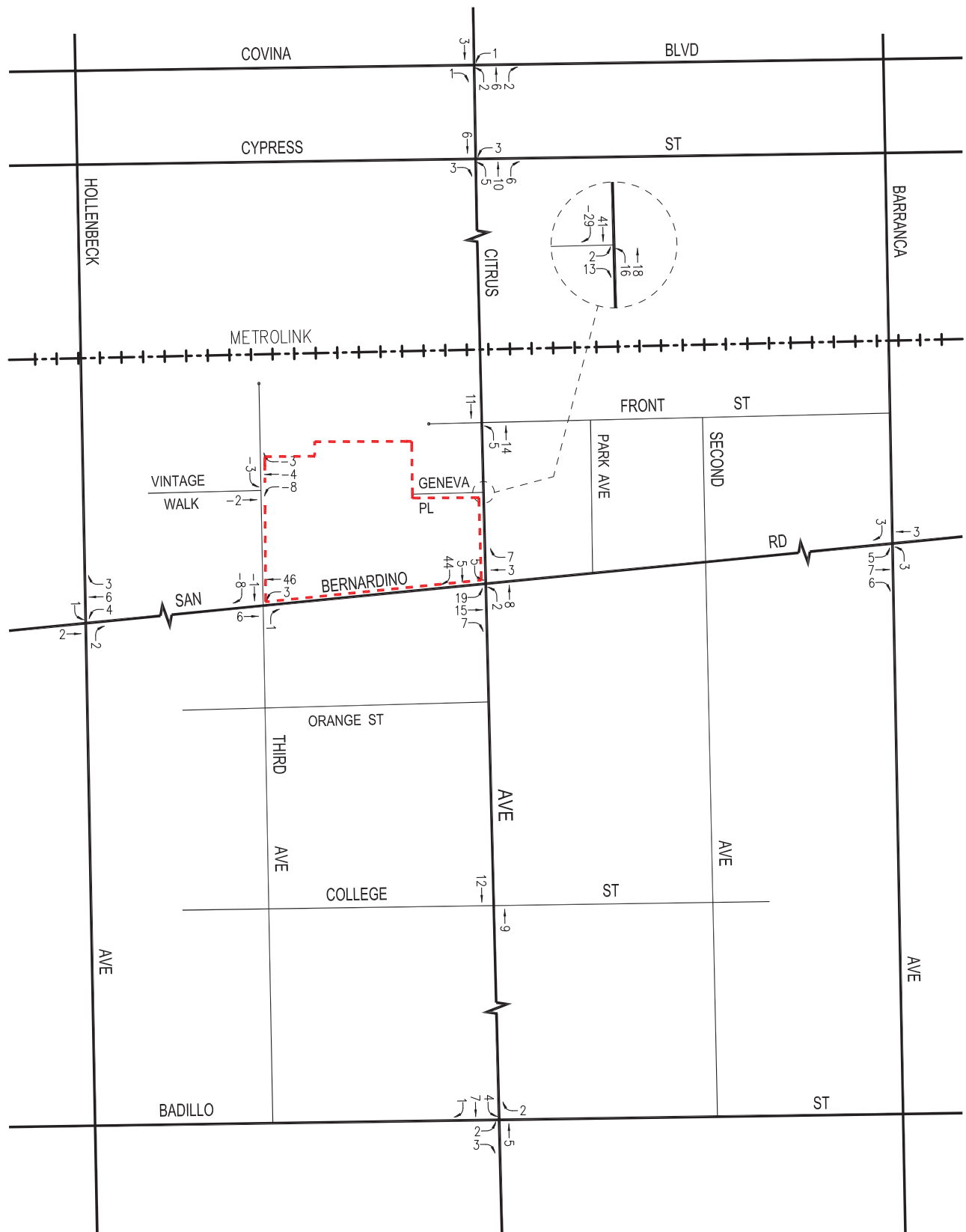
XX = INBOUND PERCENTAGES
(XX) = OUTBOUND PERCENTAGES

[A] = NO PASS-BY TRIP ADJUSTMENT
APPLIED AT THESE STUDY INTERSECTIONS

LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 7-2
PROJECT TRIP DISTRIBUTION
RETAIL/RESTAURANT COMPONENT
COVINA TOWNHOMES (SITE A) PROJECT

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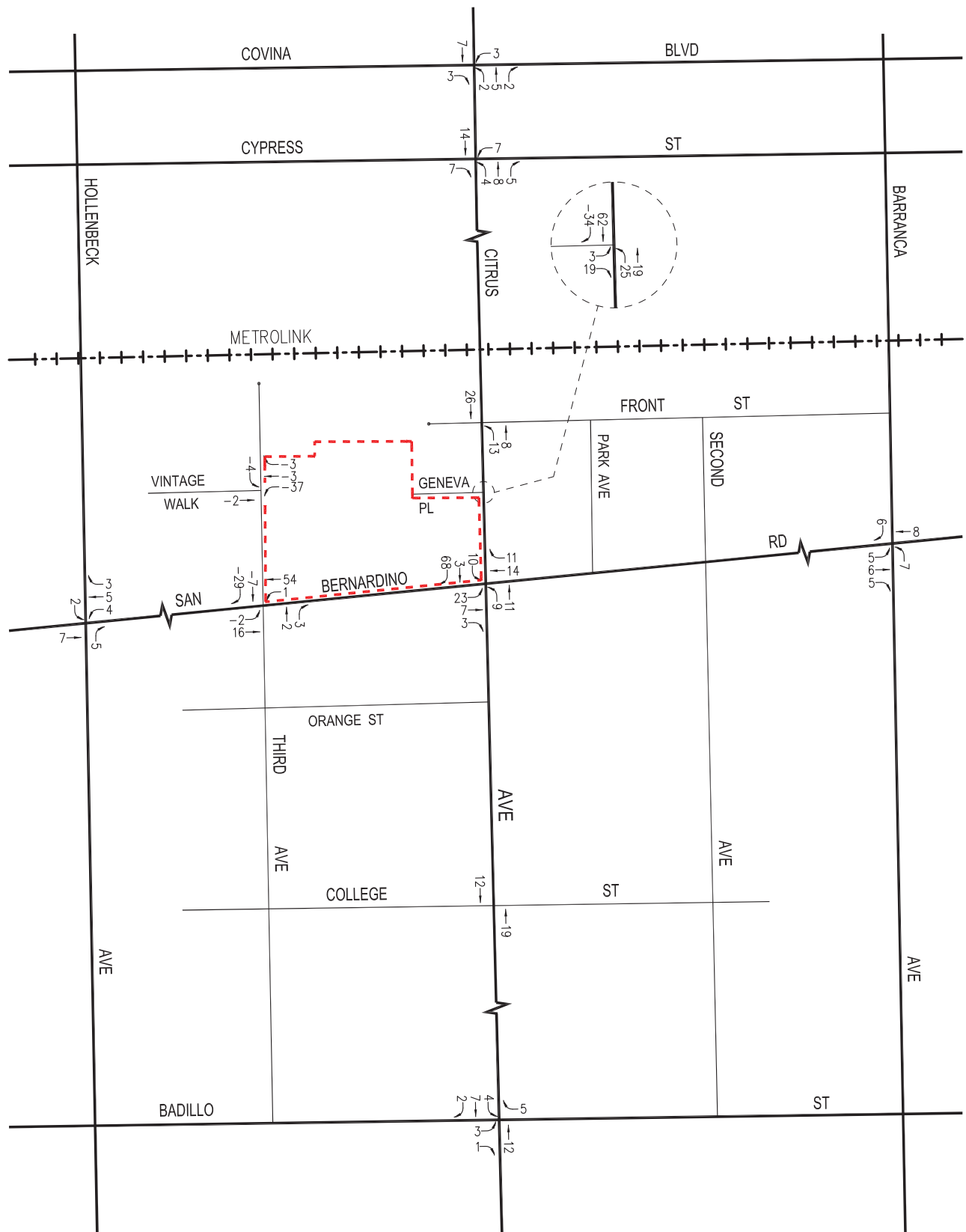


PROJECT SITE

FIGURE 7-3
NET NEW PROJECT TRAFFIC VOLUMES
 WEEKDAY AM PEAK HOUR
 COVINA TOWNHOMES (SITE A) PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

o:\job_files\4127-3\dwg\17-4.dwg LDP 13:17:28 04/23/2018 rodriguez



NOT TO SCALE



PROJECT SITE

FIGURE 7-4
NET NEW PROJECT TRAFFIC VOLUMES
 WEEKDAY PM PEAK HOUR
 COVINA TOWNHOMES (SITE A) PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

8.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

8.1 Signalized Intersections

Of the eleven study intersections, nine are currently signalized. The signalized intersections were evaluated using the Intersection Capacity Utilization (ICU) method of analysis which determines Volume-to-Capacity (v/c) ratios on a critical lane basis. The ICU method is intended for signalized intersection analysis and determines the 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). A description of the ICU method and corresponding Level of Service is provided in *Appendix B*.

As directed by the City of Covina's *Traffic Impact Analysis Guidelines* (May 2014), 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 0.05 also is included in the ICU calculations.

8.2 Unsignalized Intersections

The two unsignalized study intersections are currently two-way stop-controlled (TWSC). The unsignalized intersections were evaluated using the methodology outlined in Chapter 19 of the 2010 Highway Capacity Manual (HCM). The HCM method determines the average control delay experienced at the intersections. 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. A description of the HCM method and corresponding Level of Service is also provided in *Appendix B*.

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. LOS is not defined for the overall TWSC intersection because major-street movements with no delays typically result in a weighted average delay that is extremely low. As directed by the City of Covina's *Traffic Impact Analysis Guidelines* (May 2014), the worst approach lane group control delay is reported in place of overall intersection control delay.

8.3 Impact Criteria and Thresholds

The relative impact of the added project traffic volumes to be generated by the proposed Covina Townhomes (Site A) 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 project-generated traffic impacts was identified using the traffic impact criteria set forth in the City of Covina's *Traffic Impact Analysis Guidelines* (May 2014). According to the City's traffic study guidelines, a significant transportation impact is determined based on the impact threshold criteria presented in **Table 8-1**.

Table 8-1 CITY OF COVINA SIGNALIZED INTERSECTION IMPACT THRESHOLD CRITERIA		
Pre-Project <i>v/c</i>	Level of Service	Project Related Increase in <i>v/c</i>
0.71 to 0.80	C	equal to or greater than 0.04
0.81 to 0.90	D	equal to or greater than 0.02
0.91 or more	E / F	equal to or greater than 0.01
UNSIGNALIZED INTERSECTION IMPACT THRESHOLD CRITERIA		
Pre-Project Delay	Level of Service	Project Related Increase in Delay
≤ 25.0 seconds	A/B/C	LOS D or worse
> 25.0 seconds	D/E/F	equal to or greater than 5.0 seconds

The City's traffic study guidelines require mitigation of project traffic impacts whenever traffic generated by the proposed development exceeds the criteria above.

8.4 Traffic Impact Analysis Scenarios

Level of Service calculations have been prepared for the following scenarios for the study intersections:

- (a) Existing (2018) conditions.
- (b) Condition (a) with completion and occupancy of the project (Site A), including existing traffic volume shifts due to the partial street vacation of Geneva Place.
- (c) Condition (b) with implementation of project mitigation measures, where necessary.
- (d) Condition (a) plus one percent (1.0%) annual ambient traffic growth through year 2020 and with completion and occupancy of the related projects (i.e., future cumulative baseline)
- (e) Condition (d) with completion and occupancy of the project (Site A), including existing traffic volume shifts due to the partial street vacation of Geneva Place.

- (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 or control delay at the study intersections.

9.0 TRAFFIC ANALYSIS

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

9.1 Existing Conditions

9.1.1 Existing Conditions

As indicated in column [1] of *Table 9-1*, nine of the study intersections are presently operating at LOS B or better during the weekday AM and PM peak hours under existing conditions. Two of the study intersections (i.e., Intersection No.1: Hollenbeck Avenue/San Bernardino Road and Intersection No. 10: Citrus Avenue/Badillo Street) are currently operating at LOS E during the weekday PM peak hour. As previously mentioned, 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 create significant impacts at any of the study intersections. Incremental, but not significant, impacts are noted at the study intersections. It should also be noted that the redistribution of the traffic volumes due to the partial street vacation of Geneva Place at the surrounding intersections in the vicinity of Geneva Place (i.e., the Third Avenue/San Bernardino Road, Citrus Avenue/Front Street, and Citrus Avenue/San Bernardino Road intersections) is reflected in the Existing With Project conditions. Because there are no significant impacts, no traffic mitigation measures are required or recommended for the study intersections under the "Existing With Project" condition. The existing with project (existing plus project) traffic volumes at the study intersections during the weekday AM and PM peak hours are provided in *Figures 9-1* and *9-2*, respectively.

9.2 Future Conditions

9.2.1 Future Without Project Conditions

The future without project conditions were forecast based on the addition of traffic generated by the completion and occupancy of the related projects, as well as the growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors (i.e., ambient growth). The v/c ratios and delays at 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*, nine of the eleven of the study intersections are expected to continue operating at LOS C 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 condition. Two of the study intersections (i.e., Intersection No. 1: Hollenbeck Avenue/San Bernardino Road and Intersection No. 10: Citrus Avenue/Badillo

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

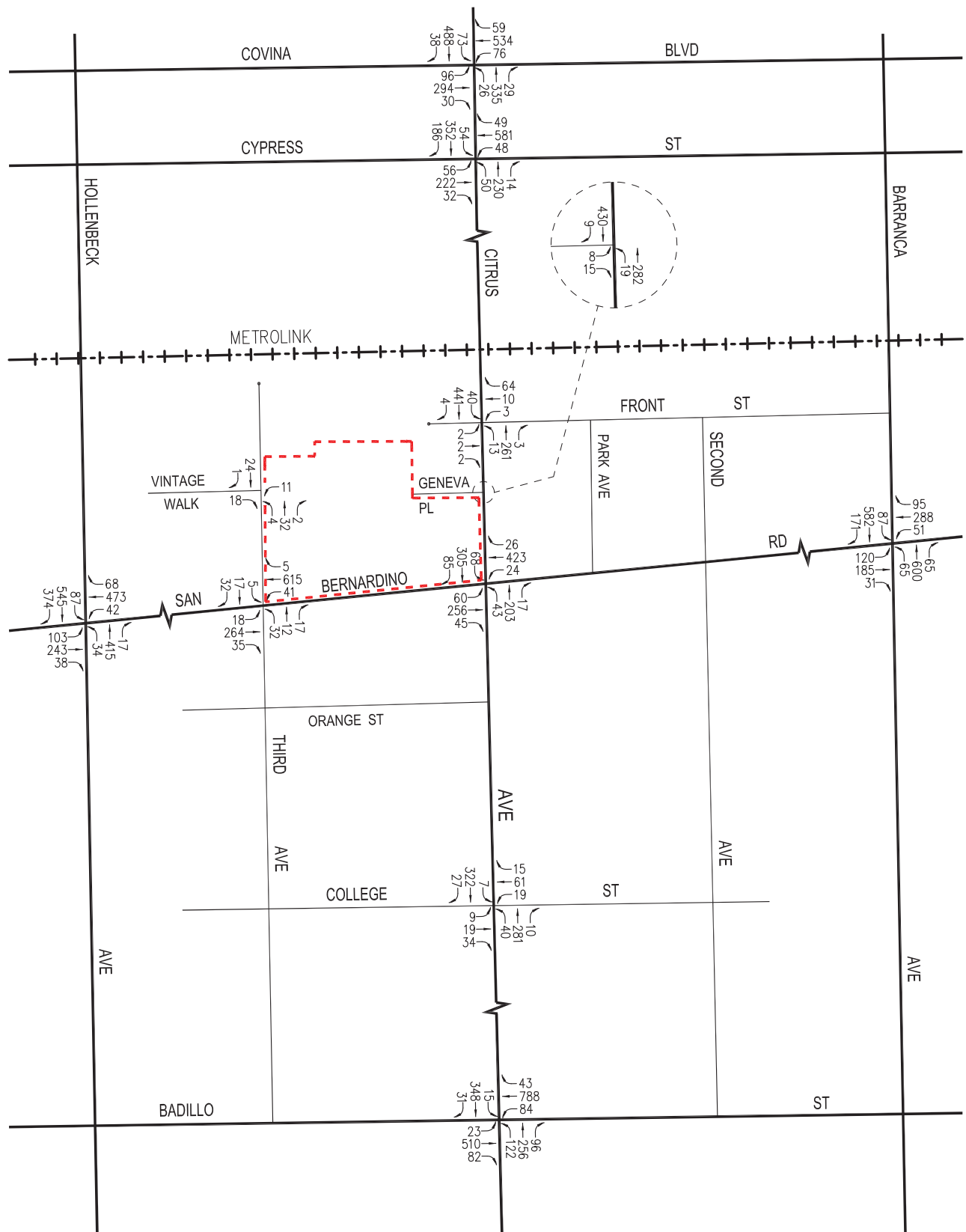
NO.	INTERSECTION	PEAK HOUR	[1]		[2]		[3]		[4]			
			YEAR 2018 EXISTING V/C OR DELAY	LOS	YEAR 2018 EXISTING WITH PROJECT V/C OR DELAY	LOS	CHANGE V/C OR DELAY [(2)-(1)]	SIGNIF. IMPACT [a]	YEAR 2020 FUTURE PRE-PROJECT V/C OR DELAY	LOS	CHANGE V/C OR DELAY [(4)-(3)]	SIGNIF. IMPACT [a]
1	Hollenbeck Avenue/ San Bernardino Road	AM PM	0.809 0.918	D E	0.814 0.927	D E	0.005 0.009	No No	0.839 0.957	D E	0.006 0.009	No No
2	Third Avenue/ Vintage Walk - Geneva Place [b]	AM PM	9.1 9.1	A A	9.0 8.9	A A	-0.1 -0.2	No No	9.1 9.1	A A	-0.1 -0.3	No No
3	Third Avenue/ San Bernardino Road	AM PM	0.479 0.558	A A	0.503 0.546	A A	0.024 -0.012	No No	0.498 0.581	A A	0.023 -0.012	No No
4	Citrus Avenue/ Covina Boulevard	AM PM	0.474 0.515	A A	0.476 0.519	A A	0.002 0.004	No No	0.503 0.552	A A	0.002 0.002	No No
5	Citrus Avenue/ Cypress Street	AM PM	0.476 0.477	A A	0.481 0.491	A A	0.005 0.014	No No	0.499 0.501	A A	0.005 0.013	No No
6	Citrus Avenue/ Front Street	AM PM	0.232 0.330	A A	0.238 0.333	A A	0.006 0.003	No No	0.245 0.348	A A	0.006 0.002	No No
7	Citrus Avenue/ Geneva Place [b]	AM PM	12.0 12.8	B B	12.0 13.4	B B	0.0 0.6	No No	12.6 13.5	B B	-0.2 0.7	No No
8	Citrus Avenue/ San Bernardino Road	AM PM	0.563 0.696	A B	0.586 0.710	A C	0.023 0.014	No No	0.595 0.737	A C	0.023 0.013	No No
9	Citrus Avenue/ College Street	AM PM	0.343 0.496	A A	0.351 0.508	A A	0.008 0.012	No No	0.366 0.525	A A	0.007 0.011	No No
10	Citrus Avenue/ Badillo Street	AM PM	0.871 0.910	D E	0.879 0.918	D E	0.008 0.008	No No	0.911 0.955	E E	0.008 0.008	No No
11	Barranca Avenue/ San Bernardino Road	AM PM	0.514 0.532	A A	0.521 0.537	A A	0.007 0.005	No No	0.541 0.557	A A	0.006 0.005	No No

[a] City of Covina intersection impact threshold criteria is as follows:

Signalized intersections:		Unsignalized intersections:	
Level of Service	Pre-Project V/C	Level of Service	Pre-Project Delay
C	> 0.700 - 0.800	A/B/C	≤ 25.0 sec.
D	> 0.800 - 0.900	D/E/F	> 25.0 sec.
E/F	> 0.900		

[b] Unsignalized intersection. Two-way stop controlled.

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NOT TO SCALE



PROJECT SITE

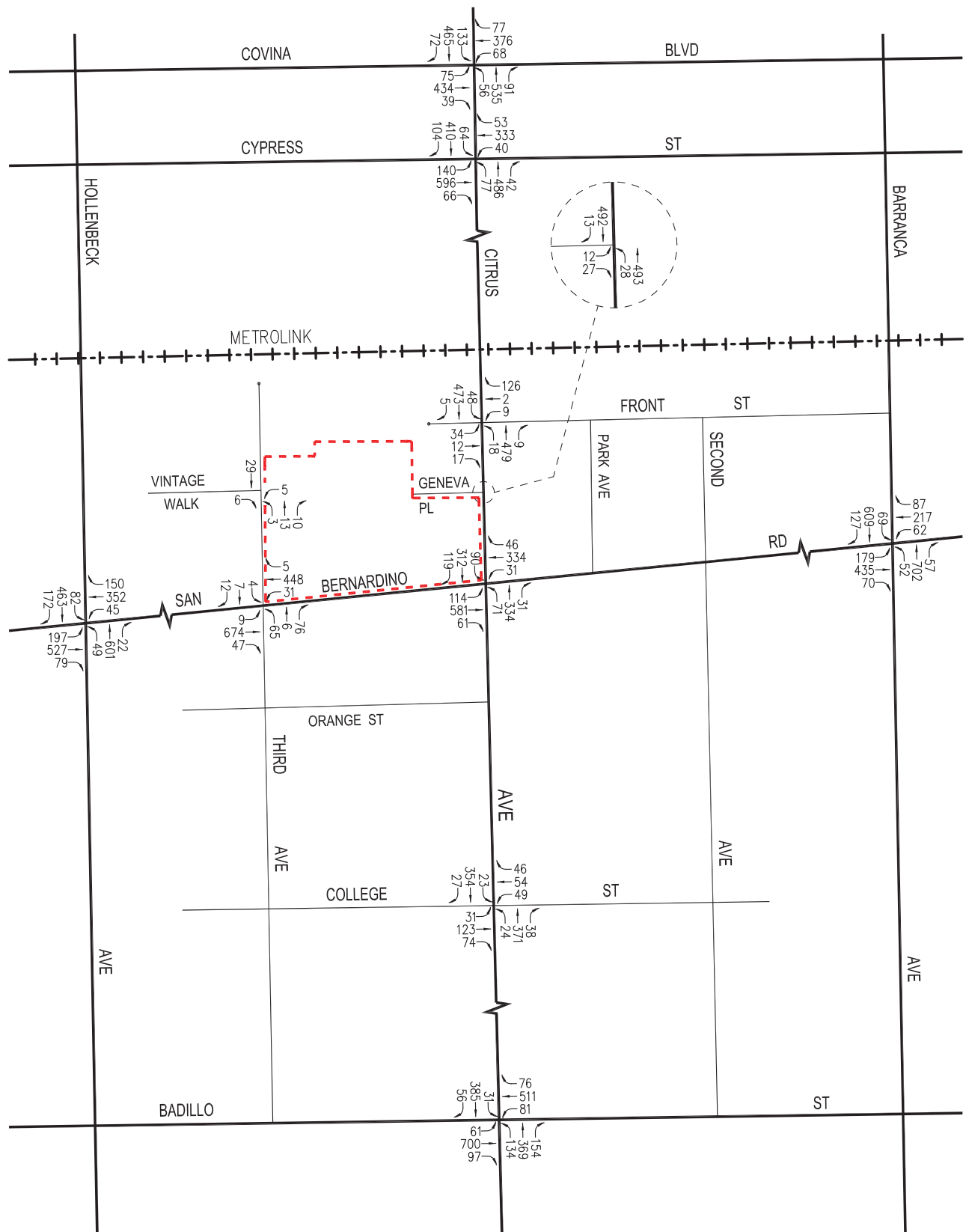
EXISTING WITH PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

COVINA TOWNHOMES (SITE A) PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

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PROJECT SITE

EXISTING WITH PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

COVINA TOWNHOMES (SITE A) PROJECT

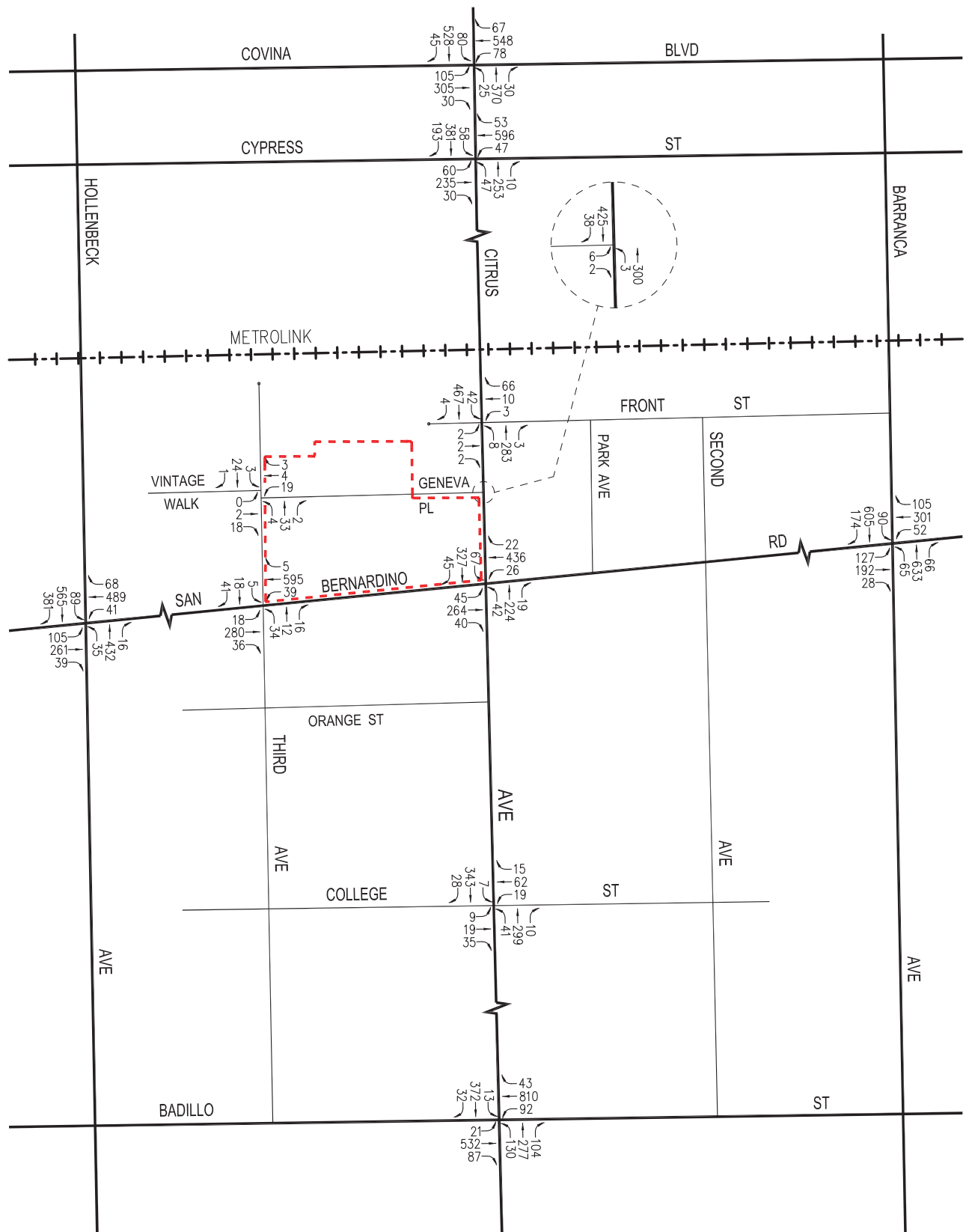
LINSCOTT, LAW & GREENSPAN, engineers

Street) are anticipated to operate at LOS E during the AM and/or PM peak hours for the Future Without Project condition. The future without project (existing, ambient growth, related projects) traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated 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 "Future With Proposed Project" scenario indicates that the proposed project is not expected to create significant impacts at any of the study intersections. Incremental, but not significant, impacts are noted at the study intersections. Because there are no significant impacts, no traffic mitigation measures are required or recommended for the study intersections under the "Future With Proposed Project" condition. It should also be noted that the redistribution of the existing traffic volumes due to the partial street vacation of Geneva Place is not expected to result in a significant impact at any of the surrounding intersections in the vicinity of Geneva Place (i.e., at the Third Avenue/San Bernardino Road, Citrus Avenue/Front Street, and Citrus Avenue/San Bernardino Road intersections) for the Future With Project condition. 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.

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PROJECT SITE

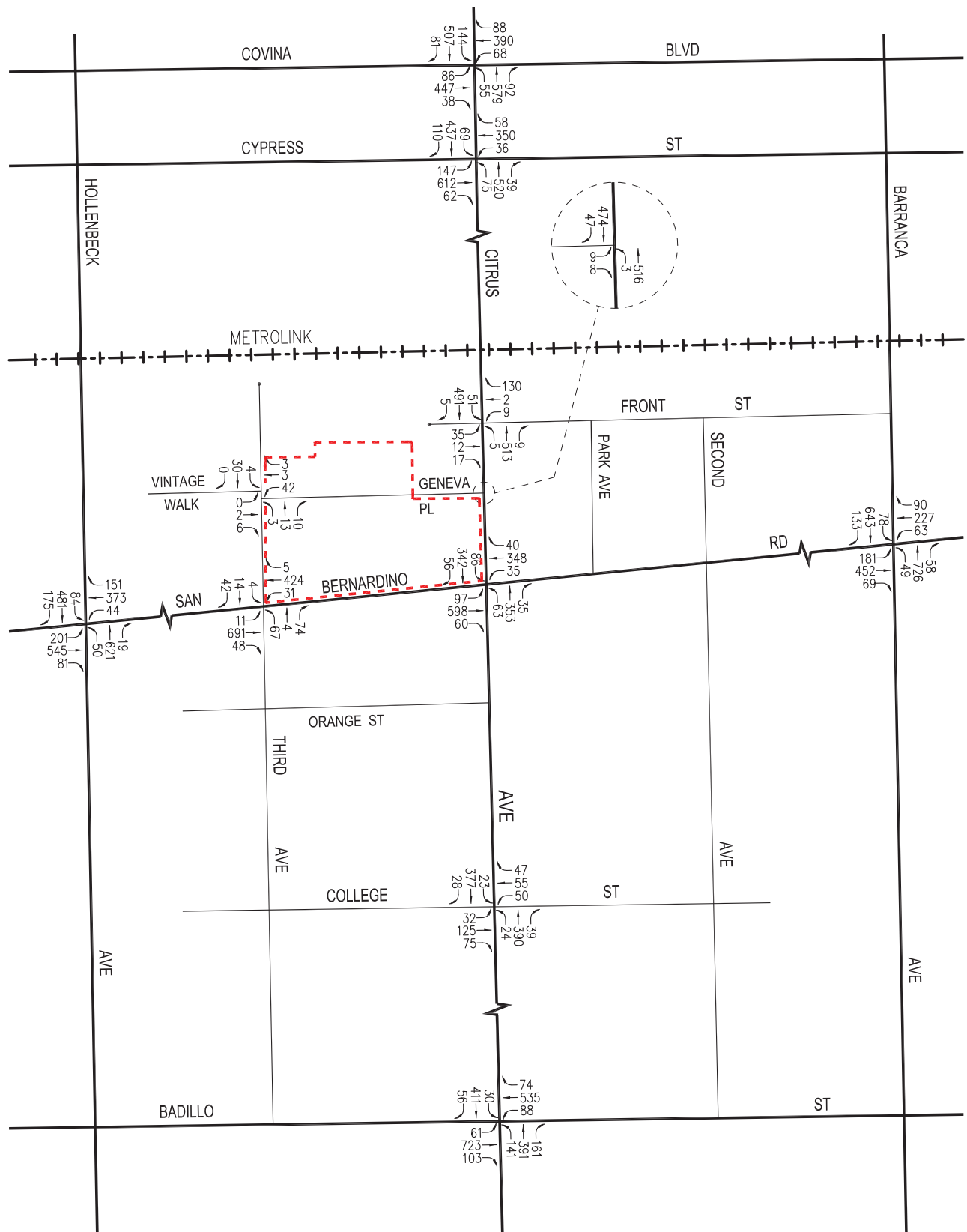
FUTURE WITHOUT PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

COVINA TOWNHOMES (SITE A) PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

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PROJECT SITE

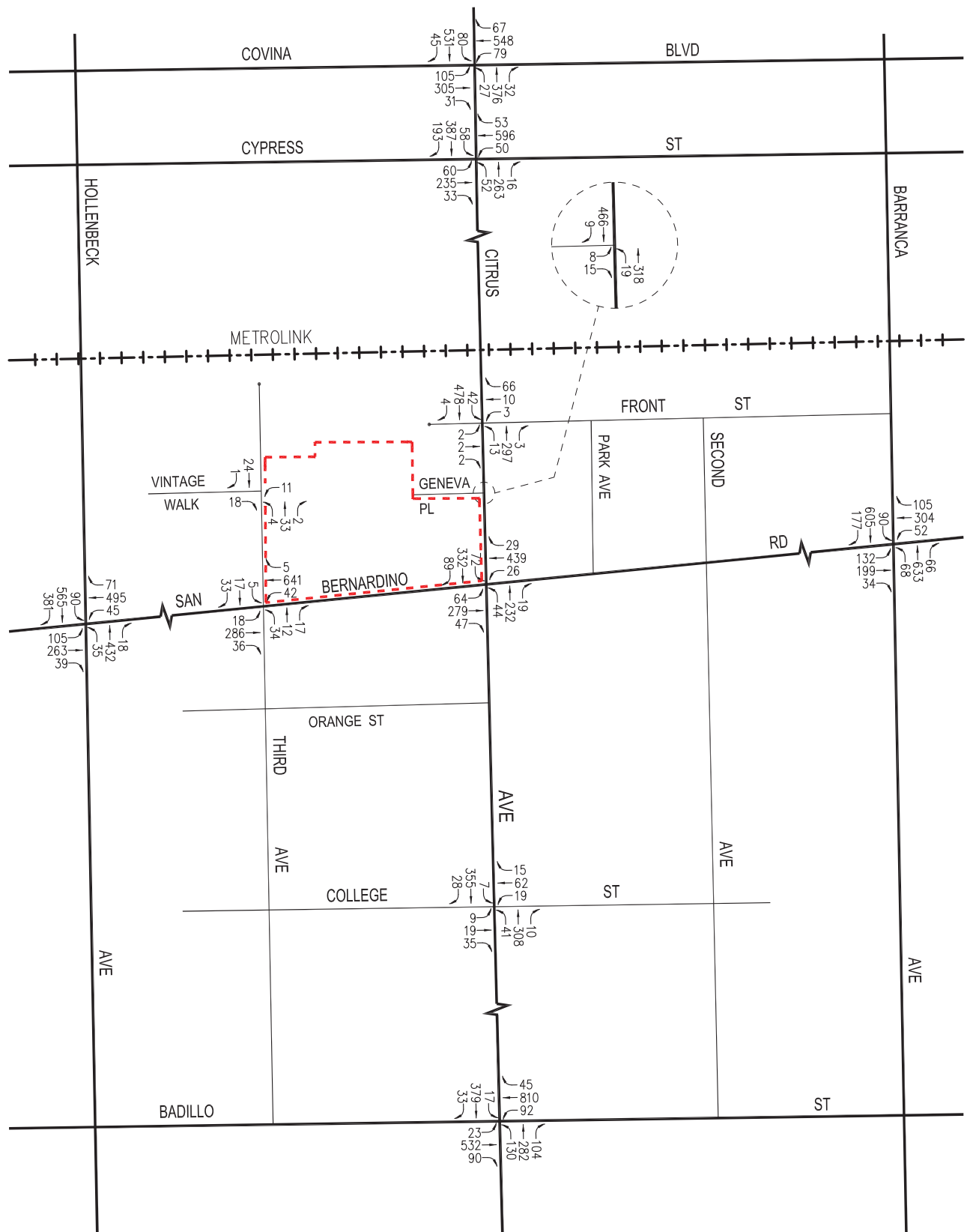
FUTURE WITHOUT PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

COVINA TOWNHOMES (SITE A) PROJECT

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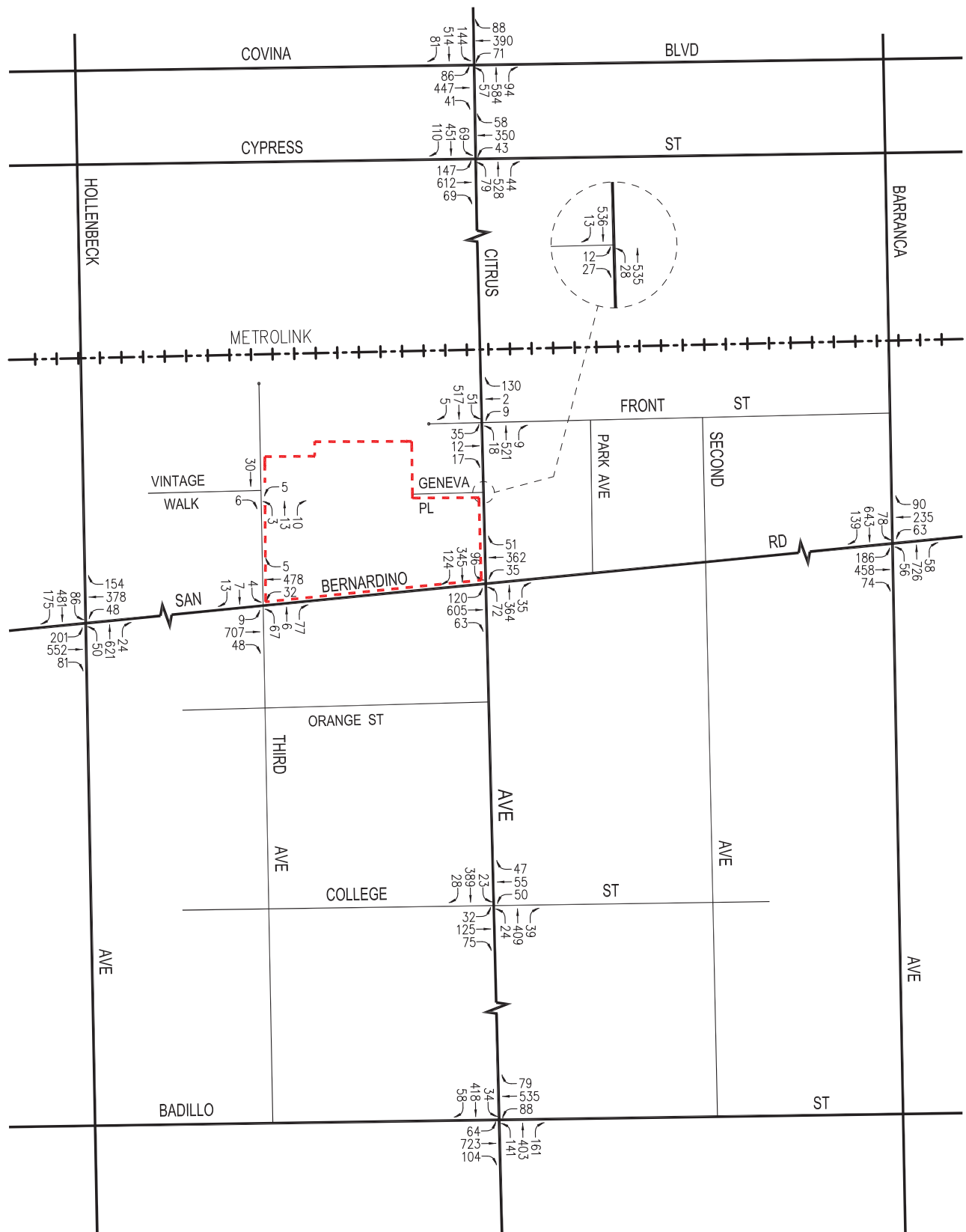


PROJECT SITE

FIGURE 9-5
FUTURE WITH PROJECT TRAFFIC VOLUMES
 WEEKDAY AM PEAK HOUR
 COVINA TOWNHOMES (SITE A) PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

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PROJECT SITE

FIGURE 9-6
FUTURE WITH PROJECT TRAFFIC VOLUMES
 WEEKDAY PM PEAK HOUR
 COVINA TOWNHOMES (SITE A) PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

10.0 CONGESTION MANAGEMENT PROGRAM TRAFFIC IMPACT ASSESSMENT

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the 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 outlined in the *2010 Congestion Management Program*, a review has been prepared in order to determine if a formal Traffic Impact Assessment (TIA) would be required to determine potential impacts on designated monitoring locations on the CMP highway system. The review has been prepared in accordance with procedures outlined in the *2010 Congestion Management Program*.

According to Section D.9.1 (Appendix D, page D-6) of the 2010 CMP manual, the criteria for determining a significant impact are as follows:

“For purposes of the CMP, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$), causing LOS F ($V/C > 1.00$); if the facility is already 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 freeway and intersection monitoring locations.

10.1 Freeways

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

- | <u>CMP Station</u> | <u>Segment</u> |
|--------------------|------------------------------|
| No. 1019 | I-10 Freeway at Grand Avenue |

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 location which is the threshold for preparing a traffic impact assessment, as stated in the CMP manual. Therefore, no further review of potential impacts to freeway monitoring locations that are part of the CMP highway system is required.

10.2 Intersections

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

- | <u>CMP Station</u> | <u>Location</u> |
|--------------------|-----------------------------|
| No. 14 | Azusa Avenue/Arrow Highway |
| No. 159 | Azusa Avenue/Workman Avenue |

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.

10.3 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 bus and rail transit service is provided in the vicinity of the proposed Covina Townhomes (Site A) 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 3.5 percent of the total person trips) to estimate transit trip generation. Pursuant to the CMP guidelines, the proposed project is forecast to generate transit demand as calculated below:

- Weekday AM Peak Hour = $108 \times 1.4 \times 0.035 = 5$ Transit Trips
- Weekday PM Peak Hour = $145 \times 1.4 \times 0.035 = 7$ Transit Trips
- Weekday Daily Trips = $1,700 \times 1.4 \times 0.035 = 83$ Transit Trips

As shown in *Table 4-1*, three bus/shuttle transit lines and one commuter rail line (i.e., the Metrolink San Bernardino Line) are provided adjacent to or in close proximity the project site. As outlined in *Table 4-1*, under the “No. of Buses/Trains During Peak Hour” column, these four transit lines provide services for an average of generally 19 and 15 buses/shuttles and trains during the weekday AM and PM peak hours. Therefore, based on the above calculated weekday AM and PM peak hour trips, this would correspond to less than one additional transit rider per bus/shuttle or train. 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/shuttle or train, no project impacts on existing or future transit services in the project area are expected to occur due to the proposed project.

11.0 SUMMARY AND CONCLUSIONS

- ***Project Description*** – The proposed Covina Townhomes (Site A) project consists of the development of residential townhomes, restaurant and retail space. The 5.30-acre development at Site A consists of approximately 161 townhome units, 13,500 square feet of ground floor retail space and 3,800 square feet of restaurant space. Completion of the project is anticipated to occur by the year 2020.
- ***Vehicular Site Access*** – Vehicular access to Site A would be provided via three driveways: one driveway at the proposed westerly terminus of Geneva Place, one driveway on San Bernardino Road, and one driveway on Third Avenue. Full vehicular access (i.e., right-turn and left-turn ingress and egress turning movements) will be accommodated at these project driveways. Development of the proposed project involves the closure of the seven existing driveways and the construction of three new driveways.
- ***Study Scope*** – Eleven (11) study intersections were selected for detailed peak hour level of service analyses under existing and future conditions (i.e., years 2018 and 2020), without and with the proposed project traffic. The analysis focused on assessing potential traffic impacts assuming full build-out of the project area during the AM and PM peak hours during typical weekday conditions.
- ***Project Trip Generation*** – The proposed project (i.e., Site A) is expected to generate a net increase of 108 vehicle trips (36 inbound trips and 72 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate a net increase of 145 vehicle trips (87 inbound trips and 58 outbound trips). Over a 24-hour period, the proposed project is forecast to generate a net increase of 1,700 daily trip ends during a typical weekday.
- ***Related Projects*** – The City of Covina Community Development Department and the City of West Covina Planning Department were consulted to obtain the list of development projects (related projects) in the area. A total of 22 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 anticipated to result in a significant traffic impact at any of the study intersections for existing and future conditions based on application of the impact threshold criteria for the City of Covina. Incremental but not significant impacts are noted at the study intersections evaluated in this analysis. As no significant impacts are expected due to the proposed project, no traffic mitigation measures are required or recommended.
- ***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.

APPENDIX A

TRAFFIC COUNT DATA

- MANUAL TRAFFIC COUNTS

CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Hollenbeck_SanBernardino

Site Code : 00000000

Start Date : 3/20/2018

Page No : 1

Groups Printed- Vehicles

	Hollenbeck Ave Southbound			San Bernardino Rd Westbound			Hollenbeck Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	16	111	72	6	134	20	7	86	2	7	35	6	502
07:15 AM	18	125	94	8	146	13	5	85	4	13	42	8	561
07:30 AM	16	137	103	5	106	20	8	93	4	18	66	8	584
07:45 AM	27	145	90	15	139	19	7	122	6	39	70	10	689
Total	77	518	359	34	525	72	27	386	16	77	213	32	2336
08:00 AM	25	138	87	10	76	13	14	115	1	33	63	12	587
08:15 AM	13	110	49	6	75	23	12	118	2	23	61	12	504
08:30 AM	20	129	39	8	73	25	8	122	4	26	50	9	513
08:45 AM	20	112	32	10	72	18	6	99	11	21	47	11	459
Total	78	489	207	34	296	79	40	454	18	103	221	44	2063
04:00 PM	16	102	32	8	77	27	13	135	9	47	140	12	618
04:15 PM	22	102	39	14	76	26	15	145	7	41	127	18	632
04:30 PM	13	111	39	17	76	27	12	161	7	45	116	14	638
04:45 PM	29	124	43	7	89	34	11	128	1	47	143	19	675
Total	80	439	153	46	318	114	51	569	24	180	526	63	2563
05:00 PM	14	115	41	10	95	40	10	173	4	56	129	28	715
05:15 PM	24	113	49	7	87	46	16	139	5	49	132	18	685
05:30 PM	13	88	39	8	93	32	13	160	3	48	119	20	636
05:45 PM	16	98	46	8	68	27	12	140	5	44	117	19	600
Total	67	414	175	33	343	145	51	612	17	197	497	85	2636
Grand Total	302	1860	894	147	1482	410	169	2021	75	557	1457	224	9598
Apprch %	9.9	60.9	29.3	7.2	72.7	20.1	7.5	89.2	3.3	24.9	65.1	10	
Total %	3.1	19.4	9.3	1.5	15.4	4.3	1.8	21.1	0.8	5.8	15.2	2.3	

CITY TRAFFIC COUNTERS

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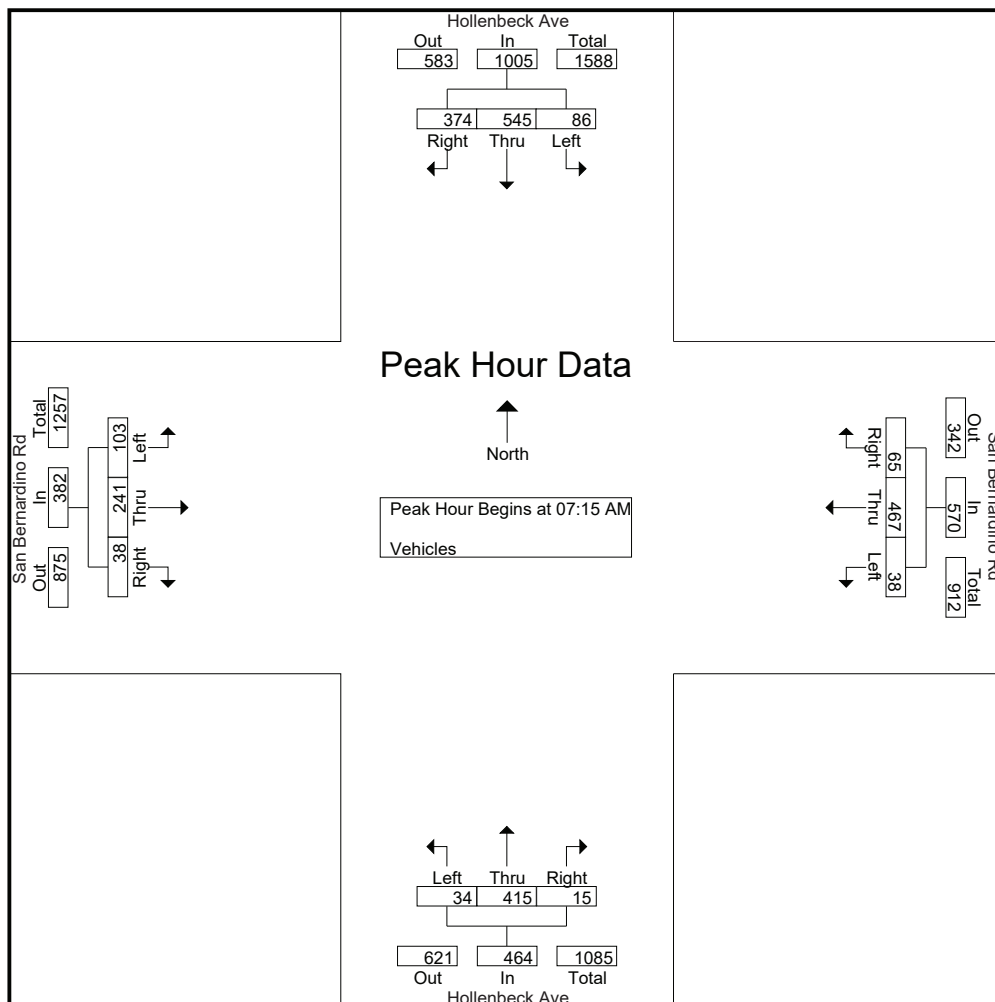
File Name : Hollenbeck_SanBernardino

Site Code : 00000000

Start Date : 3/20/2018

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	Hollenbeck Ave Southbound				San Bernardino Rd Westbound				Hollenbeck Ave Northbound				San Bernardino Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	18	125	94	237	8	146	13	167	5	85	4	94	13	42	8	63	561
07:30 AM	16	137	103	256	5	106	20	131	8	93	4	105	18	66	8	92	584
07:45 AM	27	145	90	262	15	139	19	173	7	122	6	135	39	70	10	119	689
08:00 AM	25	138	87	250	10	76	13	99	14	115	1	130	33	63	12	108	587
Total Volume	86	545	374	1005	38	467	65	570	34	415	15	464	103	241	38	382	2421
% App. Total	8.6	54.2	37.2		6.7	81.9	11.4		7.3	89.4	3.2		27	63.1	9.9		
PHF	.796	.940	.908	.959	.633	.800	.813	.824	.607	.850	.625	.859	.660	.861	.792	.803	.878



CITY TRAFFIC COUNTERS

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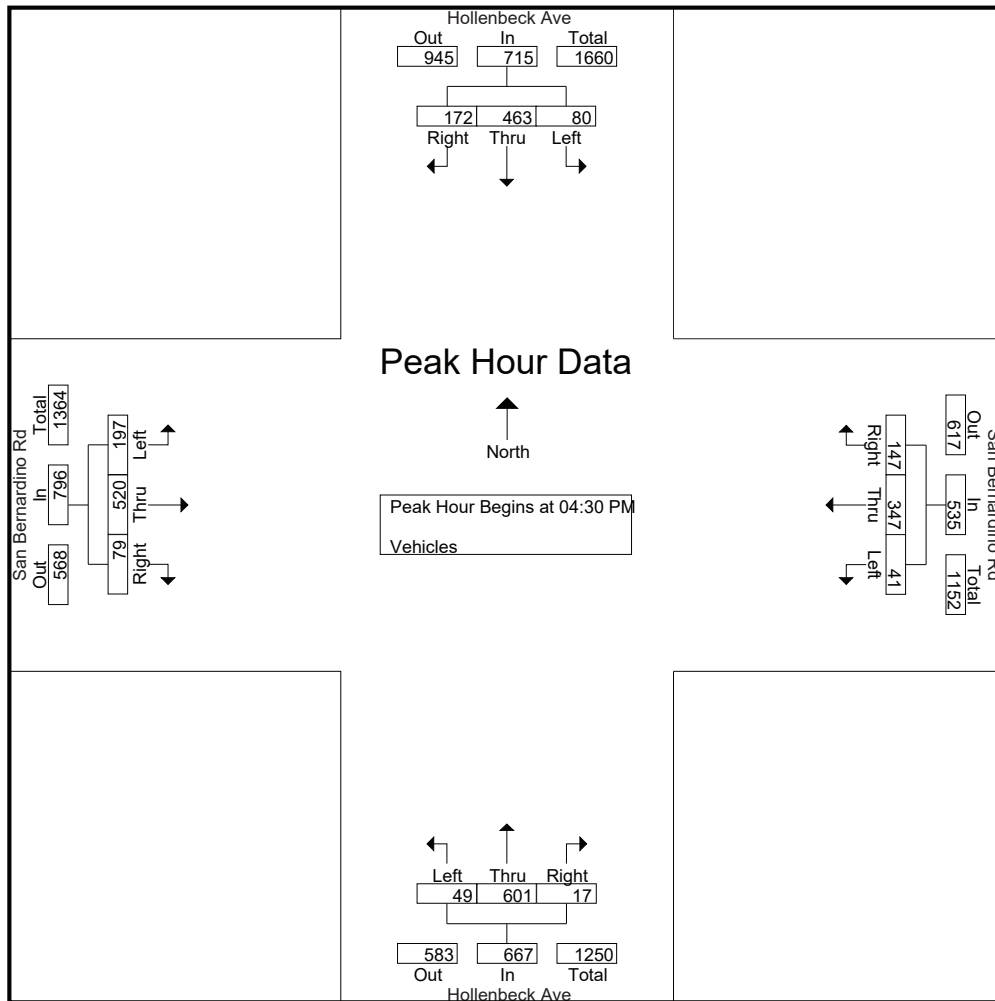
File Name : Hollenbeck_SanBernardino

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Hollenbeck Ave Southbound				San Bernardino Rd Westbound				Hollenbeck Ave Northbound				San Bernardino Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	13	111	39	163	17	76	27	120	12	161	7	180	45	116	14	175	638
04:45 PM	29	124	43	196	7	89	34	130	11	128	1	140	47	143	19	209	675
05:00 PM	14	115	41	170	10	95	40	145	10	173	4	187	56	129	28	213	715
05:15 PM	24	113	49	186	7	87	46	140	16	139	5	160	49	132	18	199	685
Total Volume	80	463	172	715	41	347	147	535	49	601	17	667	197	520	79	796	2713
% App. Total	11.2	64.8	24.1		7.7	64.9	27.5		7.3	90.1	2.5		24.7	65.3	9.9		
PHF	.690	.933	.878	.912	.603	.913	.799	.922	.766	.868	.607	.892	.879	.909	.705	.934	.949



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Groups Printed- Bikes & Peds

	Hollenbeck Ave Southbound		San Bernardino Rd Westbound		Hollenbeck Ave Northbound		San Bernardino Rd Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	1	0	0	0	0	0	0	1
07:15 AM	0	1	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	1	0	1
Total	0	2	0	0	0	0	1	1	4
08:00 AM	0	0	0	0	1	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	1	1
08:30 AM	0	1	0	1	1	0	1	0	4
08:45 AM	0	1	0	0	2	0	0	0	3
Total	0	2	0	1	4	0	1	1	9
04:00 PM	0	1	0	0	1	1	1	0	4
04:15 PM	0	2	0	2	0	1	0	1	6
04:30 PM	0	0	0	0	0	0	0	1	1
04:45 PM	0	3	0	0	0	0	1	0	4
Total	0	6	0	2	1	2	2	2	15
05:00 PM	0	3	0	0	0	0	0	3	6
05:15 PM	0	2	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	1	0	1
05:45 PM	0	1	0	0	0	0	0	0	1
Total	0	6	0	0	0	0	1	3	10
Grand Total	0	16	0	3	5	2	5	7	38
Apprch %	0	100	0	100	71.4	28.6	41.7	58.3	
Total %	0	42.1	0	7.9	13.2	5.3	13.2	18.4	

CITY TRAFFIC COUNTERS

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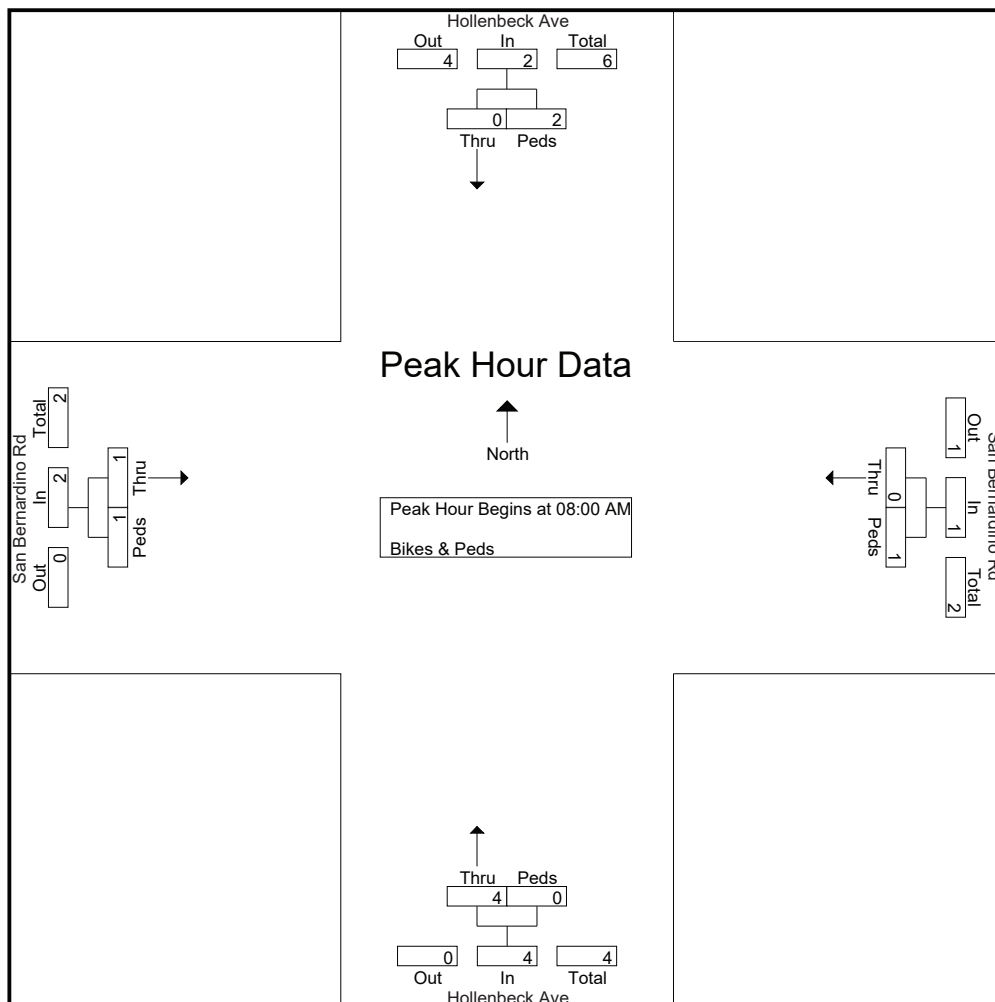
File Name : Hollenbeck_SanBernardino_BP

Site Code : 00000000

Start Date : 3/17/2018

Page No : 2

	Hollenbeck Ave Southbound			San Bernardino Rd Westbound			Hollenbeck Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	0	0	0	0	1	0	1	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
08:30 AM	0	1	1	0	1	1	1	0	1	1	0	1	4
08:45 AM	0	1	1	0	0	0	2	0	2	0	0	0	3
Total Volume	0	2	2	0	1	1	4	0	4	1	1	2	9
% App. Total	0	100		0	100		100	0		50	50		
PHF	.000	.500	.500	.000	.250	.250	.500	.000	.500	.250	.250	.500	.563



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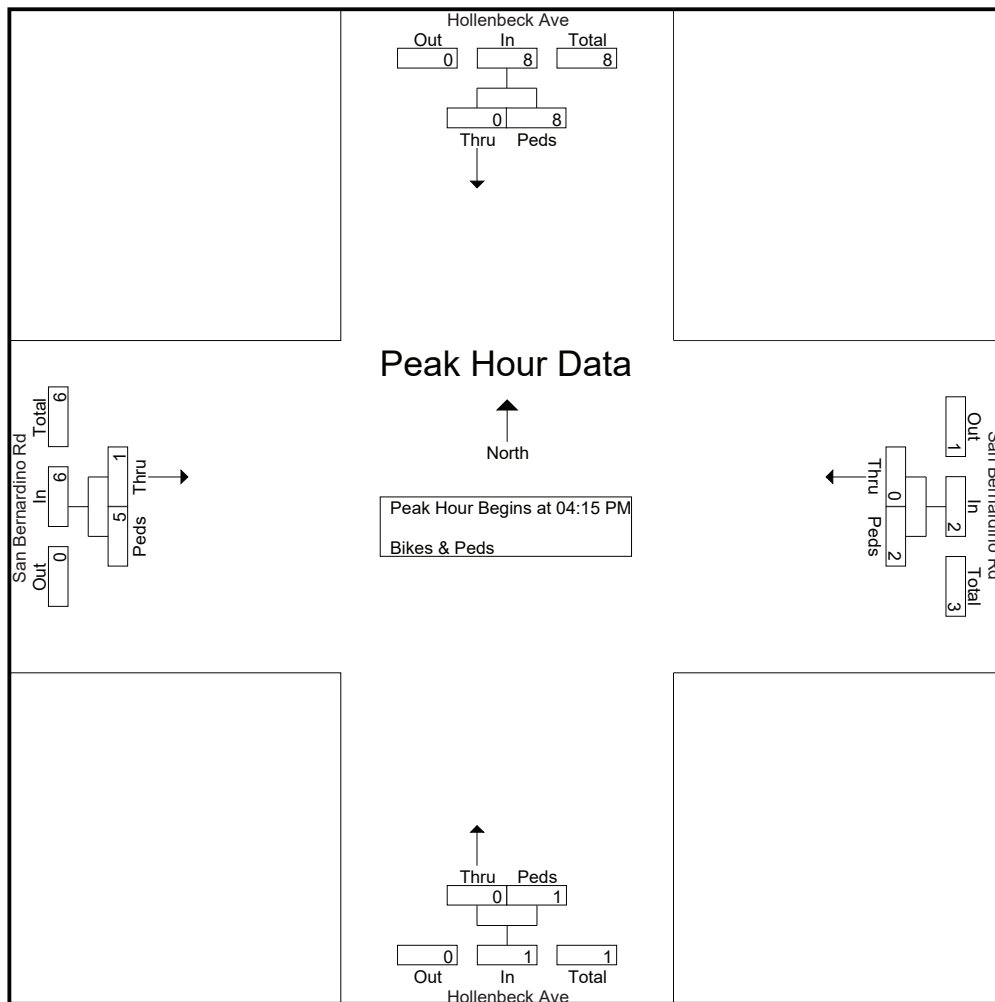
File Name : Hollenbeck_SanBernardino_BP

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	Hollenbeck Ave Southbound			San Bernardino Rd Westbound			Hollenbeck Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	2	2	0	2	2	0	1	1	0	1	1	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	1
04:45 PM	0	3	3	0	0	0	0	0	0	1	0	1	4
05:00 PM	0	3	3	0	0	0	0	0	0	0	3	3	6
Total Volume	0	8	8	0	2	2	0	1	1	1	5	6	17
% App. Total	0	100		0	100		0	100		16.7	83.3		
PHF	.000	.667	.667	.000	.250	.250	.000	.250	.250	.250	.417	.500	.708



CITY TRAFFIC COUNTERS

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Groups Printed- Vehicles

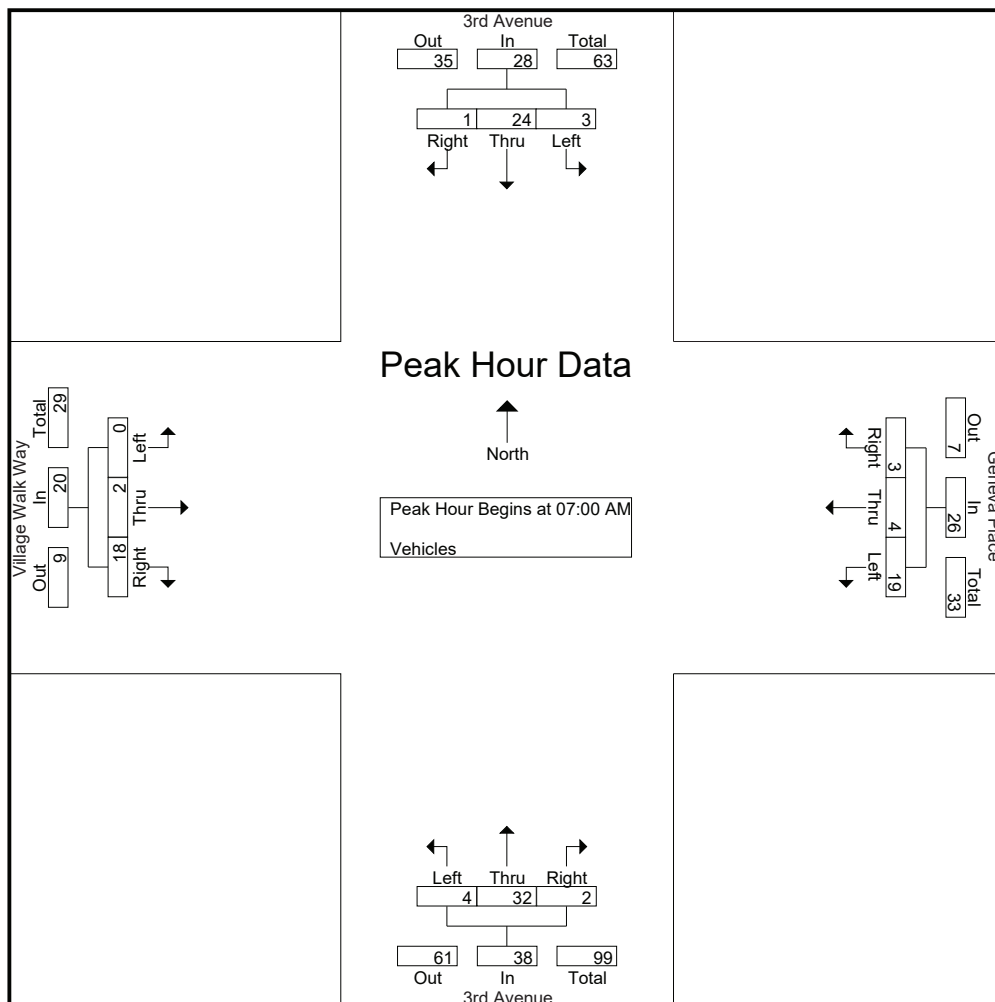
	3rd Avenue Southbound			Geneva Place Westbound			3rd Avenue Northbound			Village Walk Way Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	9	0	4	2	0	0	12	0	0	0	5	33
07:15 AM	2	4	1	5	0	1	1	8	1	0	0	4	27
07:30 AM	0	8	0	2	1	2	3	6	0	0	2	7	31
07:45 AM	0	3	0	8	1	0	0	6	1	0	0	2	21
Total	3	24	1	19	4	3	4	32	2	0	2	18	112
08:00 AM	0	3	0	15	0	0	2	6	1	0	3	1	31
08:15 AM	0	4	0	9	0	0	1	7	0	0	2	2	25
08:30 AM	1	6	0	5	0	0	1	2	0	0	0	1	16
08:45 AM	0	1	0	9	0	2	0	1	1	0	0	0	14
Total	1	14	0	38	0	2	4	16	2	0	5	4	86
04:00 PM	1	1	0	5	0	1	0	3	2	0	0	0	13
04:15 PM	0	7	0	9	1	0	1	3	2	0	0	3	26
04:30 PM	1	4	0	14	0	1	2	5	2	0	0	1	30
04:45 PM	1	7	0	5	2	1	0	1	4	0	0	1	22
Total	3	19	0	33	3	3	3	12	10	0	0	5	91
05:00 PM	2	11	0	14	0	1	0	4	2	0	2	1	37
05:15 PM	1	5	0	8	2	0	1	4	0	0	0	0	21
05:30 PM	2	2	0	4	0	0	2	2	0	0	2	1	15
05:45 PM	0	17	0	5	1	1	2	11	1	1	0	0	39
Total	5	35	0	31	3	2	5	21	3	1	4	2	112
Grand Total	12	92	1	121	10	10	16	81	17	1	11	29	401
Apprch %	11.4	87.6	1	85.8	7.1	7.1	14	71.1	14.9	2.4	26.8	70.7	
Total %	3	22.9	0.2	30.2	2.5	2.5	4	20.2	4.2	0.2	2.7	7.2	

CITY TRAFFIC COUNTERS

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	3rd Avenue Southbound				Geneva Place Westbound				3rd Avenue Northbound				Village Walk Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	9	0	10	4	2	0	6	0	12	0	12	0	0	5	5	33
07:15 AM	2	4	1	7	5	0	1	6	1	8	1	10	0	0	4	4	27
07:30 AM	0	8	0	8	2	1	2	5	3	6	0	9	0	2	7	9	31
07:45 AM	0	3	0	3	8	1	0	9	0	6	1	7	0	0	2	2	21
Total Volume	3	24	1	28	19	4	3	26	4	32	2	38	0	2	18	20	112
% App. Total	10.7	85.7	3.6		73.1	15.4	11.5		10.5	84.2	5.3		0	10	90		
PHF	.375	.667	.250	.700	.594	.500	.375	.722	.333	.667	.500	.792	.000	.250	.643	.556	.848



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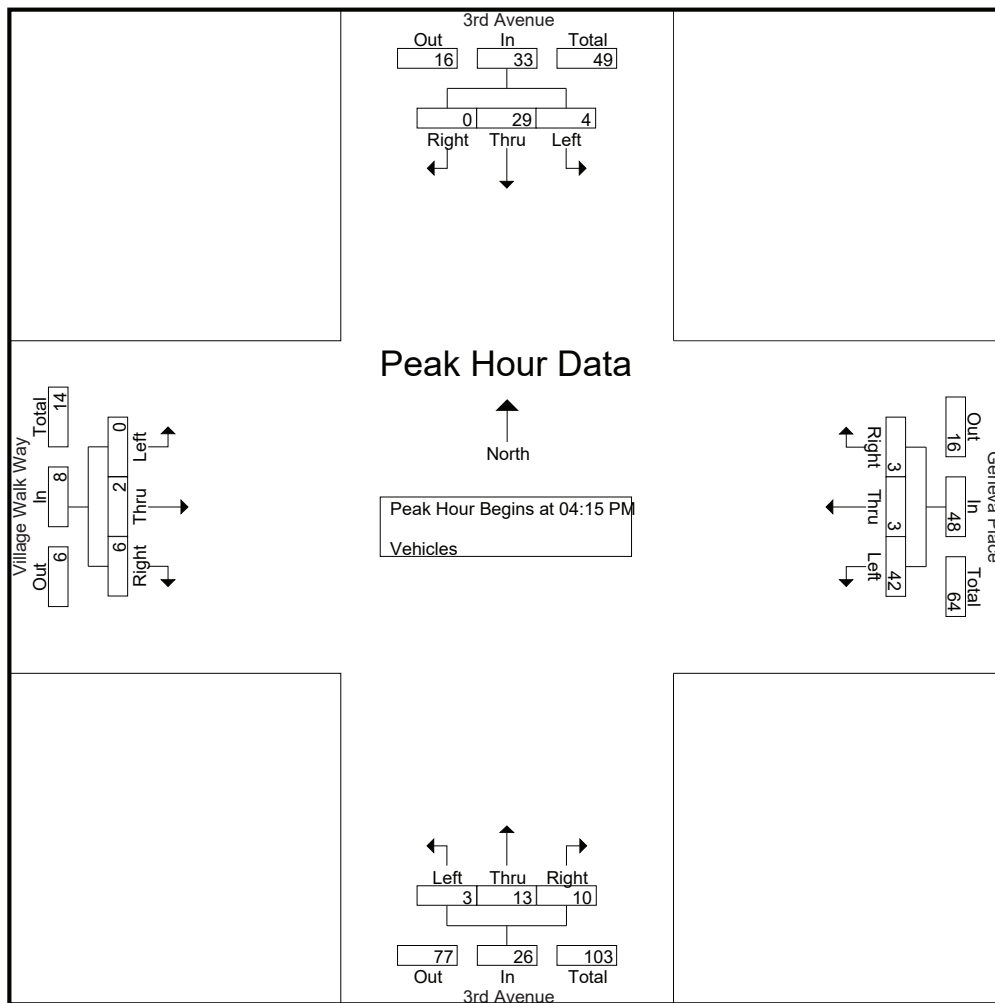
File Name : 3rd_VintageWalk-Geneva

Site Code : 00000000

Start Date : 3/20/2018

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	3rd Avenue Southbound				Geneva Place Westbound				3rd Avenue Northbound				Village Walk Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	7	0	7	9	1	0	10	1	3	2	6	0	0	3	3	26
04:30 PM	1	4	0	5	14	0	1	15	2	5	2	9	0	0	1	1	30
04:45 PM	1	7	0	8	5	2	1	8	0	1	4	5	0	0	1	1	22
05:00 PM	2	11	0	13	14	0	1	15	0	4	2	6	0	2	1	3	37
Total Volume	4	29	0	33	42	3	3	48	3	13	10	26	0	2	6	8	115
% App. Total	12.1	87.9	0		87.5	6.2	6.2		11.5	50	38.5		0	25	75		
PHF	.500	.659	.000	.635	.750	.375	.750	.800	.375	.650	.625	.722	.000	.250	.500	.667	.777



CITY TRAFFIC COUNTERS

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Groups Printed- Bikes & Peds

	3rd Avenue Southbound		Geneva Place Westbound		3rd Avenue Northbound		Village Walk Way Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	1	0	3	0	1	0	0	5
07:15 AM	0	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	2	0	1	0	0	3
Total	0	1	0	5	0	2	0	1	9
08:00 AM	0	0	1	0	0	0	0	0	1
08:15 AM	0	0	0	1	0	0	0	0	1
08:30 AM	0	0	0	2	0	0	0	0	2
08:45 AM	0	1	0	0	0	0	0	0	1
Total	0	1	1	3	0	0	0	0	5
04:15 PM	0	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	1	1
Total	0	0	0	1	0	0	0	1	2
05:00 PM	0	2	0	1	0	0	0	0	3
05:15 PM	0	0	0	8	0	1	0	0	9
05:30 PM	0	2	0	1	0	0	0	0	3
Total	0	4	0	10	0	1	0	0	15
Grand Total	0	6	1	19	0	3	0	2	31
Apprch %	0	100	5	95	0	100	0	100	
Total %	0	19.4	3.2	61.3	0	9.7	0	6.5	

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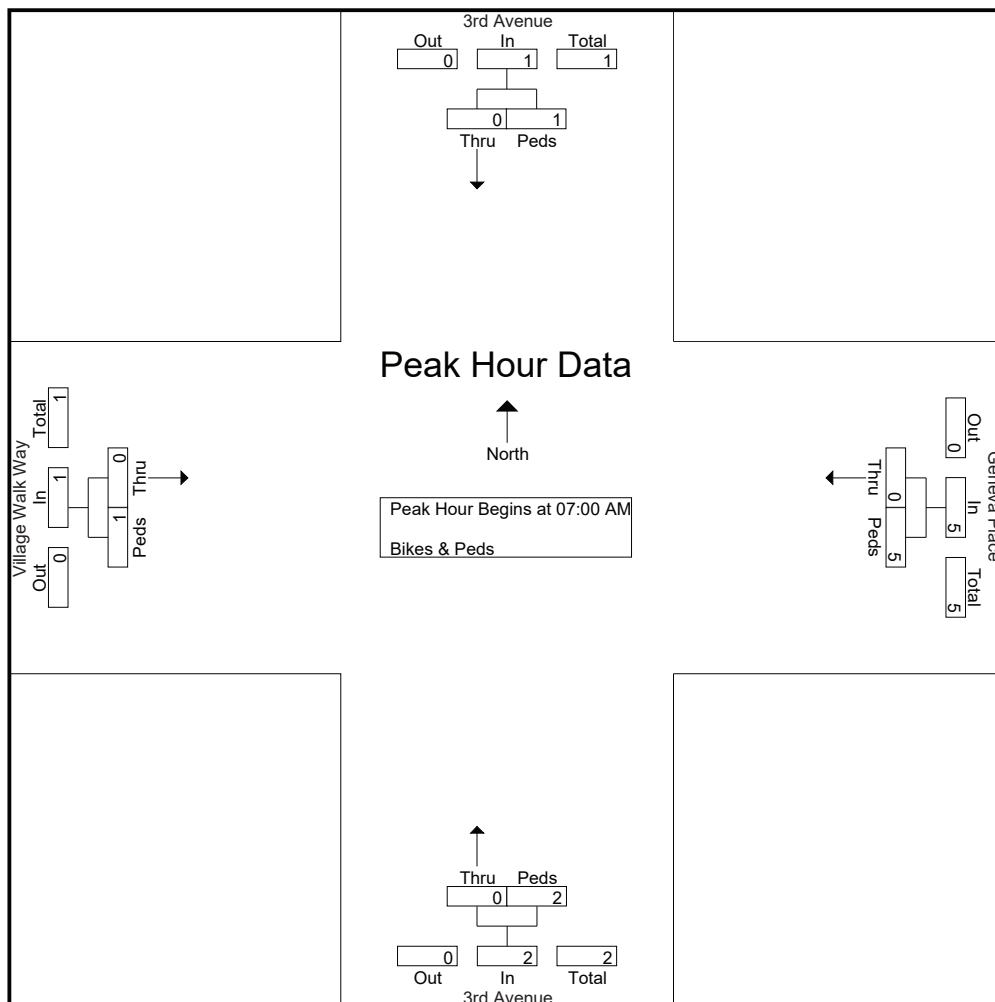
File Name : 3rd_VintageWalk-Geneva_BP

Site Code : 00000000

Start Date : 3/20/2018

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	3rd Avenue Southbound			Geneva Place Westbound			3rd Avenue Northbound			Village Walk Way Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	1	1	0	3	3	0	1	1	0	0	0	5
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
07:30 AM	0	0	0	0	2	2	0	1	1	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	5	5	0	2	2	0	1	1	9
% App. Total	0	100		0	100		0	100		0	100		
PHF	.000	.250	.250	.000	.417	.417	.000	.500	.500	.000	.250	.250	.450



CITY TRAFFIC COUNTERS

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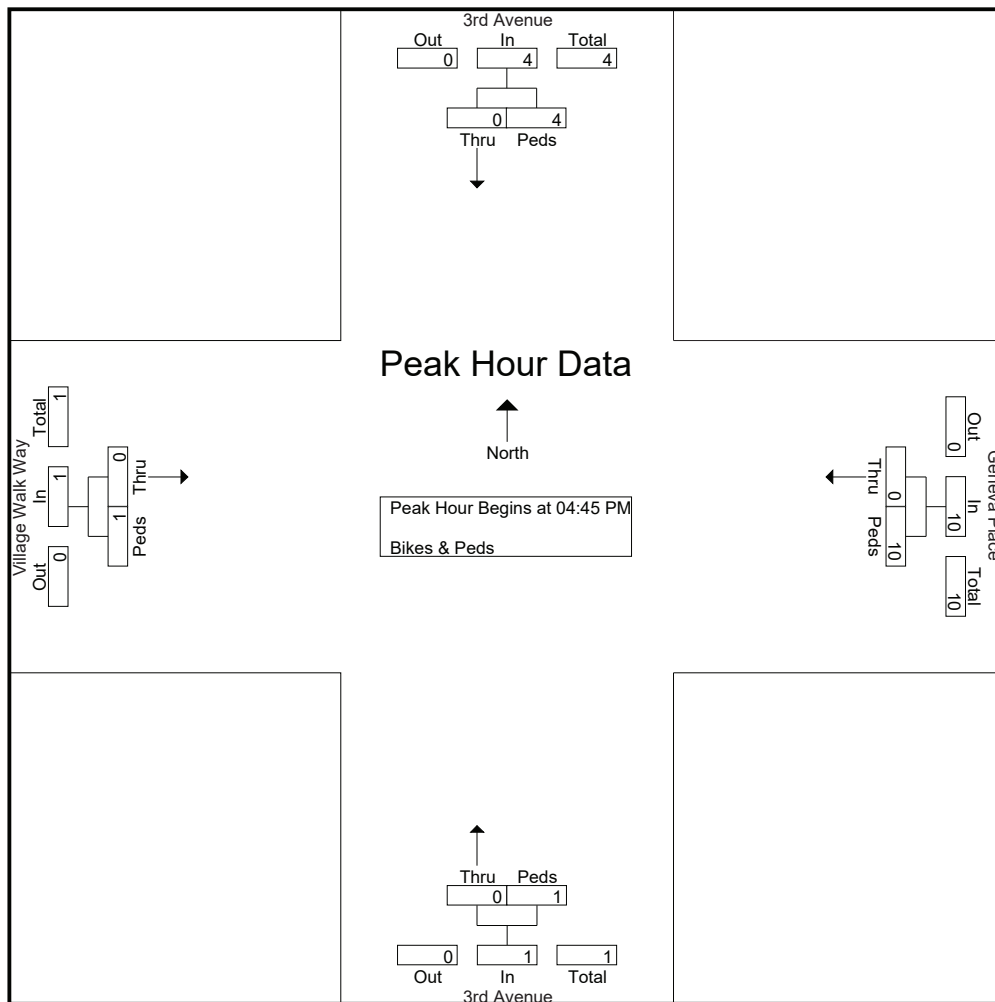
File Name : 3rd_VintageWalk-Geneva_BP

Site Code : 00000000

Start Date : 3/20/2018

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	3rd Avenue Southbound			Geneva Place Westbound			3rd Avenue Northbound			Village Walk Way Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	2	2	0	1	1	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	8	8	0	1	1	0	0	0	9
05:30 PM	0	2	2	0	1	1	0	0	0	0	0	0	3
Total Volume	0	4	4	0	10	10	0	1	1	0	1	1	16
% App. Total	0	100		0	100		0	100		0	100		
PHF	.000	.500	.500	.000	.313	.313	.000	.250	.250	.000	.250	.250	.444



CITY TRAFFIC COUNTERS

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Groups Printed- Vehicles

	3rd Avenue Southbound			San Bernardino Rd Westbound			3rd Avenue Northbound			San Bernardino Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	2	4	11	9	147	2	7	3	1	5	41	10	242
07:15 AM	0	2	13	10	151	1	8	2	2	6	64	6	265
07:30 AM	2	2	8	10	137	1	11	4	11	4	67	9	266
07:45 AM	1	10	8	9	134	1	6	3	2	3	86	10	273
Total	5	18	40	38	569	5	32	12	16	18	258	35	1046
08:00 AM	0	3	14	10	93	2	8	1	7	4	72	9	223
08:15 AM	2	5	9	9	96	3	14	0	2	4	69	11	224
08:30 AM	3	7	5	6	93	1	9	1	3	3	68	7	206
08:45 AM	2	4	3	5	94	0	7	1	7	1	62	15	201
Total	7	19	31	30	376	6	38	3	19	12	271	42	854
04:00 PM	3	2	2	7	86	0	12	2	14	4	151	14	297
04:15 PM	2	7	5	8	94	1	11	0	14	4	155	11	312
04:30 PM	2	4	15	6	83	2	14	2	14	5	130	16	293
04:45 PM	1	1	9	10	94	2	14	1	24	2	179	13	350
Total	8	14	31	31	357	5	51	5	66	15	615	54	1252
05:00 PM	2	4	14	10	103	2	16	2	21	2	164	5	345
05:15 PM	0	7	13	6	92	0	23	1	14	3	160	16	335
05:30 PM	1	2	5	4	105	1	12	0	14	4	155	13	316
05:45 PM	8	5	13	5	97	2	7	4	12	6	146	11	316
Total	11	18	45	25	397	5	58	7	61	15	625	45	1312
Grand Total	31	69	147	124	1699	21	179	27	162	60	1769	176	4464
Apprch %	12.6	27.9	59.5	6.7	92.1	1.1	48.6	7.3	44	3	88.2	8.8	
Total %	0.7	1.5	3.3	2.8	38.1	0.5	4	0.6	3.6	1.3	39.6	3.9	

CITY TRAFFIC COUNTERS

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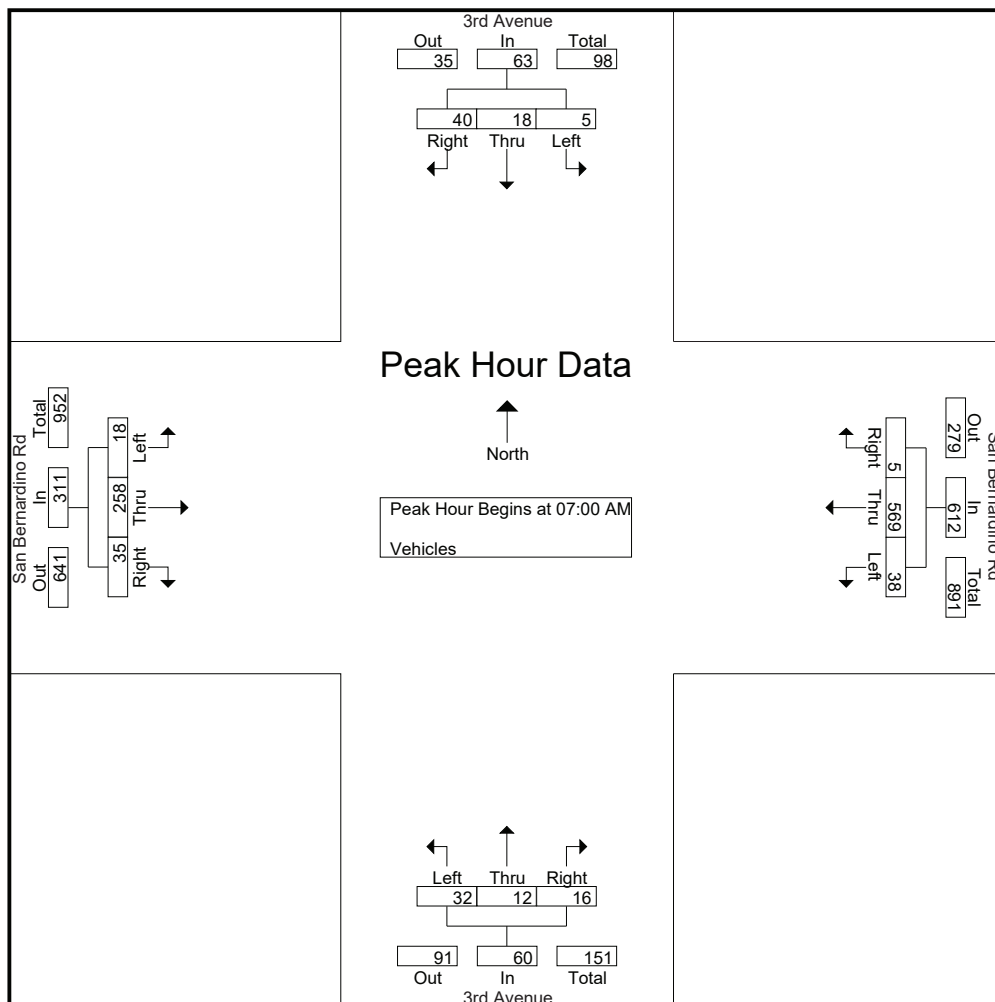
File Name : 3rd_SanBernardino

Site Code : 00000000

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	3rd Avenue Southbound				San Bernardino Rd Westbound				3rd Avenue Northbound				San Bernardino Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	4	11	17	9	147	2	158	7	3	1	11	5	41	10	56	242
07:15 AM	0	2	13	15	10	151	1	162	8	2	2	12	6	64	6	76	265
07:30 AM	2	2	8	12	10	137	1	148	11	4	11	26	4	67	9	80	266
07:45 AM	1	10	8	19	9	134	1	144	6	3	2	11	3	86	10	99	273
Total Volume	5	18	40	63	38	569	5	612	32	12	16	60	18	258	35	311	1046
% App. Total	7.9	28.6	63.5		6.2	93	0.8		53.3	20	26.7		5.8	83	11.3		
PHF	.625	.450	.769	.829	.950	.942	.625	.944	.727	.750	.364	.577	.750	.750	.875	.785	.958



CITY TRAFFIC COUNTERS

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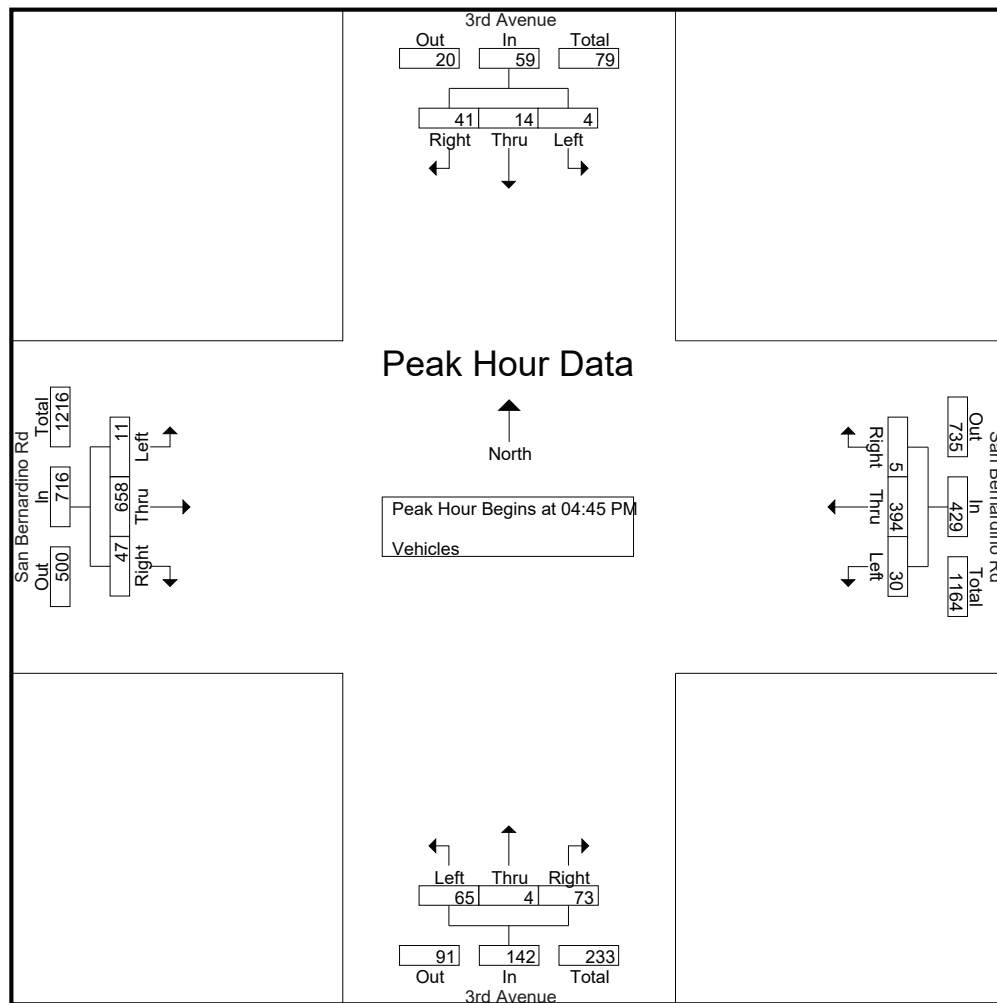
File Name : 3rd_SanBernardino

Site Code : 00000000

Start Date : 3/20/2018

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	3rd Avenue Southbound				San Bernardino Rd Westbound				3rd Avenue Northbound				San Bernardino Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	1	1	9	11	10	94	2	106	14	1	24	39	2	179	13	194	350
05:00 PM	2	4	14	20	10	103	2	115	16	2	21	39	2	164	5	171	345
05:15 PM	0	7	13	20	6	92	0	98	23	1	14	38	3	160	16	179	335
05:30 PM	1	2	5	8	4	105	1	110	12	0	14	26	4	155	13	172	316
Total Volume	4	14	41	59	30	394	5	429	65	4	73	142	11	658	47	716	1346
% App. Total	6.8	23.7	69.5		7	91.8	1.2		45.8	2.8	51.4		1.5	91.9	6.6		
PHF	.500	.500	.732	.738	.750	.938	.625	.933	.707	.500	.760	.910	.688	.919	.734	.923	.961



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : 3rd_SanBernardino_BP

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Bikes & Peds

	3rd Avenue Southbound		San Bernardino Rd Westbound		3rd Avenue Northbound		San Bernardino Rd Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	4	1	1	0	1	1	0	8
07:15 AM	0	1	0	1	0	0	0	1	3
07:30 AM	0	0	0	0	0	2	0	0	2
07:45 AM	0	0	0	1	0	0	0	0	1
Total	0	5	1	3	0	3	1	1	14
08:00 AM	0	0	0	3	0	1	0	0	4
08:15 AM	0	4	0	3	0	0	0	0	7
08:30 AM	0	0	0	1	0	2	0	0	3
08:45 AM	1	1	0	1	0	0	1	0	4
Total	1	5	0	8	0	3	1	0	18
04:00 PM	0	1	1	2	0	0	1	1	6
04:15 PM	0	0	0	3	0	0	0	0	3
04:30 PM	0	1	0	0	0	0	0	0	1
04:45 PM	0	1	0	0	0	0	0	0	1
Total	0	3	1	5	0	0	1	1	11
05:00 PM	0	1	0	2	0	2	0	0	5
05:15 PM	0	1	0	5	0	0	0	2	8
05:30 PM	0	0	0	2	0	0	0	0	2
Total	0	2	0	9	0	2	0	2	15
Grand Total	1	15	2	25	0	8	3	4	58
Apprch %	6.2	93.8	7.4	92.6	0	100	42.9	57.1	
Total %	1.7	25.9	3.4	43.1	0	13.8	5.2	6.9	

CITY TRAFFIC COUNTERS

www.ctcounters.com

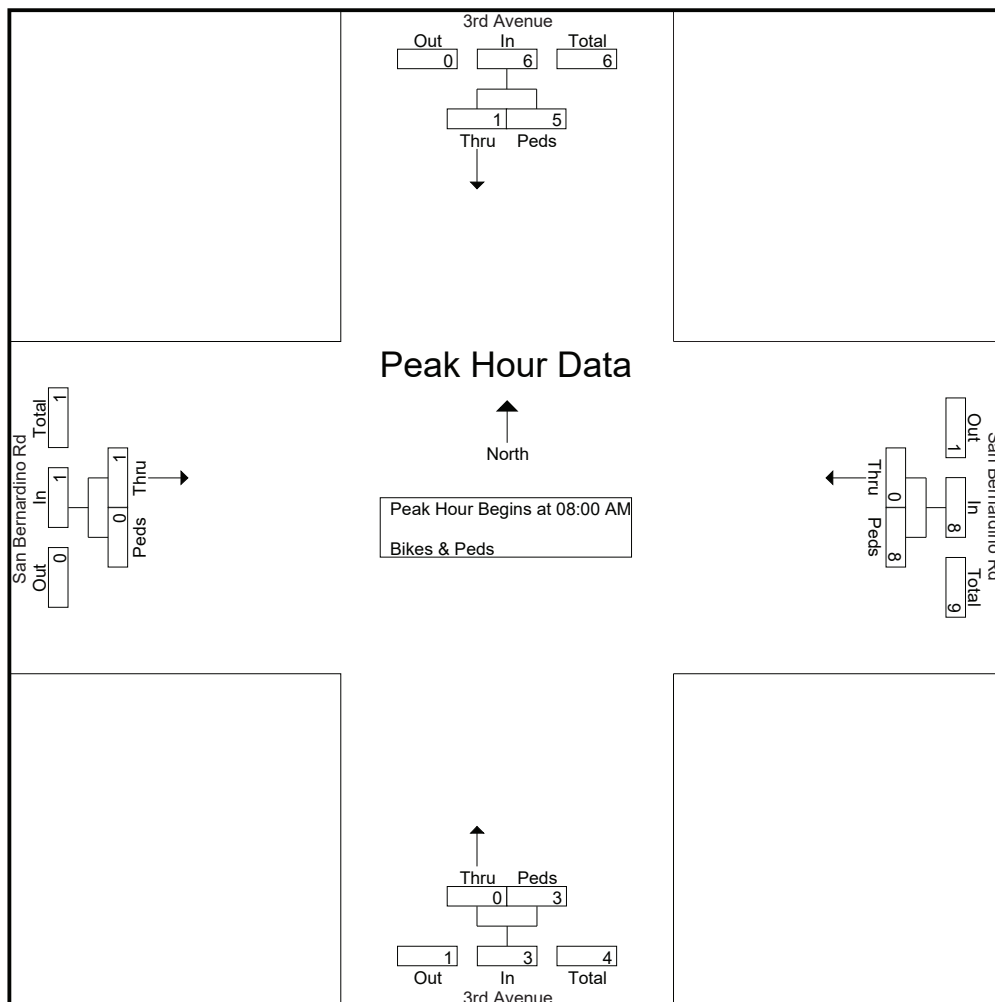
File Name : 3rd_SanBernardino_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	3rd Avenue Southbound			San Bernardino Rd Westbound			3rd Avenue Northbound			San Bernardino Rd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	0	0	3	3	0	1	1	0	0	0	4
08:15 AM	0	4	4	0	3	3	0	0	0	0	0	0	7
08:30 AM	0	0	0	0	1	1	0	2	2	0	0	0	3
08:45 AM	1	1	2	0	1	1	0	0	0	1	0	1	4
Total Volume	1	5	6	0	8	8	0	3	3	1	0	1	18
% App. Total	16.7	83.3		0	100		0	100		100	0		
PHF	.250	.313	.375	.000	.667	.667	.000	.375	.375	.250	.000	.250	.643



CITY TRAFFIC COUNTERS

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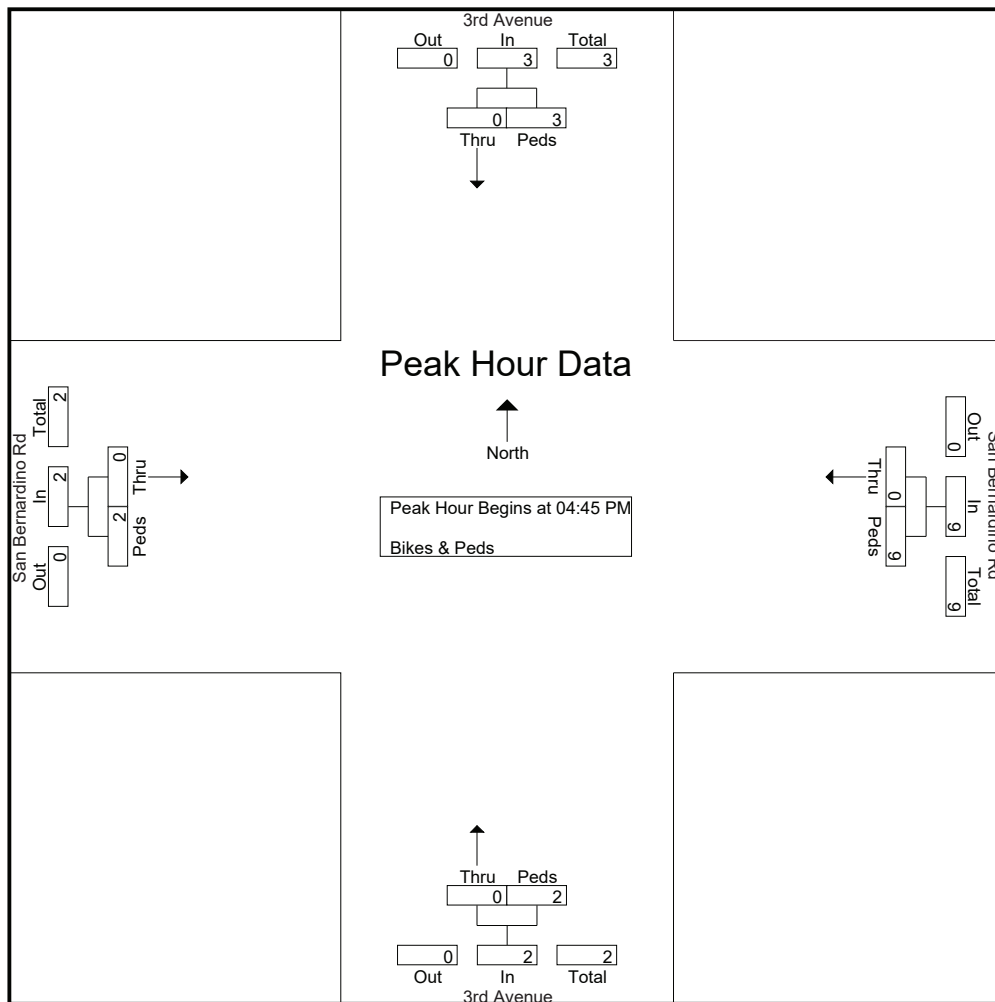
File Name : 3rd_SanBernardino_BP

Site Code : 00000000

Start Date : 3/20/2018

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	3rd Avenue Southbound			San Bernardino Rd Westbound			3rd Avenue Northbound			San Bernardino Rd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	1	1	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	1	1	0	2	2	0	2	2	0	0	0	5
05:15 PM	0	1	1	0	5	5	0	0	0	0	2	2	8
05:30 PM	0	0	0	0	2	2	0	0	0	0	0	0	2
Total Volume	0	3	3	0	9	9	0	2	2	0	2	2	16
% App. Total	0	100		0	100		0	100		0	100		
PHF	.000	.750	.750	.000	.450	.450	.000	.250	.250	.000	.250	.250	.500



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Covina

Site Code : 00000000

Start Date : 3/20/2018

Page No : 1

Groups Printed- Vehicles

	Citrus Ave Southbound			Covina Blvd Westbound			Citrus Ave Northbound			Covina Blvd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	13	90	14	18	183	16	8	41	6	5	53	8	455
07:15 AM	12	84	15	22	153	17	3	61	7	7	41	5	427
07:30 AM	16	130	15	25	168	22	6	69	3	18	65	9	546
07:45 AM	18	128	8	17	141	9	6	80	8	27	94	10	546
Total	59	432	52	82	645	64	23	251	24	57	253	32	1974
08:00 AM	20	118	9	22	123	17	7	82	3	26	66	7	500
08:15 AM	19	109	6	11	102	11	5	98	13	25	69	3	471
08:30 AM	15	95	15	14	86	11	4	62	11	11	49	4	377
08:45 AM	21	117	7	10	74	17	6	56	16	11	40	5	380
Total	75	439	37	57	385	56	22	298	43	73	224	19	1728
04:00 PM	17	117	10	12	74	18	13	112	20	21	104	9	527
04:15 PM	24	124	11	15	68	16	16	150	22	20	106	9	581
04:30 PM	29	136	12	20	89	8	16	144	14	17	96	3	584
04:45 PM	37	104	14	14	88	21	15	126	20	20	122	5	586
Total	107	481	47	61	319	63	60	532	76	78	428	26	2278
05:00 PM	35	122	16	16	100	9	11	146	20	13	107	5	600
05:15 PM	36	115	19	17	94	23	14	128	21	11	99	15	592
05:30 PM	25	117	23	18	94	24	14	130	28	31	106	11	621
05:45 PM	39	128	17	9	65	29	12	118	14	20	97	12	560
Total	135	482	75	60	353	85	51	522	83	75	409	43	2373
Grand Total	376	1834	211	260	1702	268	156	1603	226	283	1314	120	8353
Apprch %	15.5	75.8	8.7	11.7	76.3	12	7.9	80.8	11.4	16.5	76.5	7	
Total %	4.5	22	2.5	3.1	20.4	3.2	1.9	19.2	2.7	3.4	15.7	1.4	

CITY TRAFFIC COUNTERS

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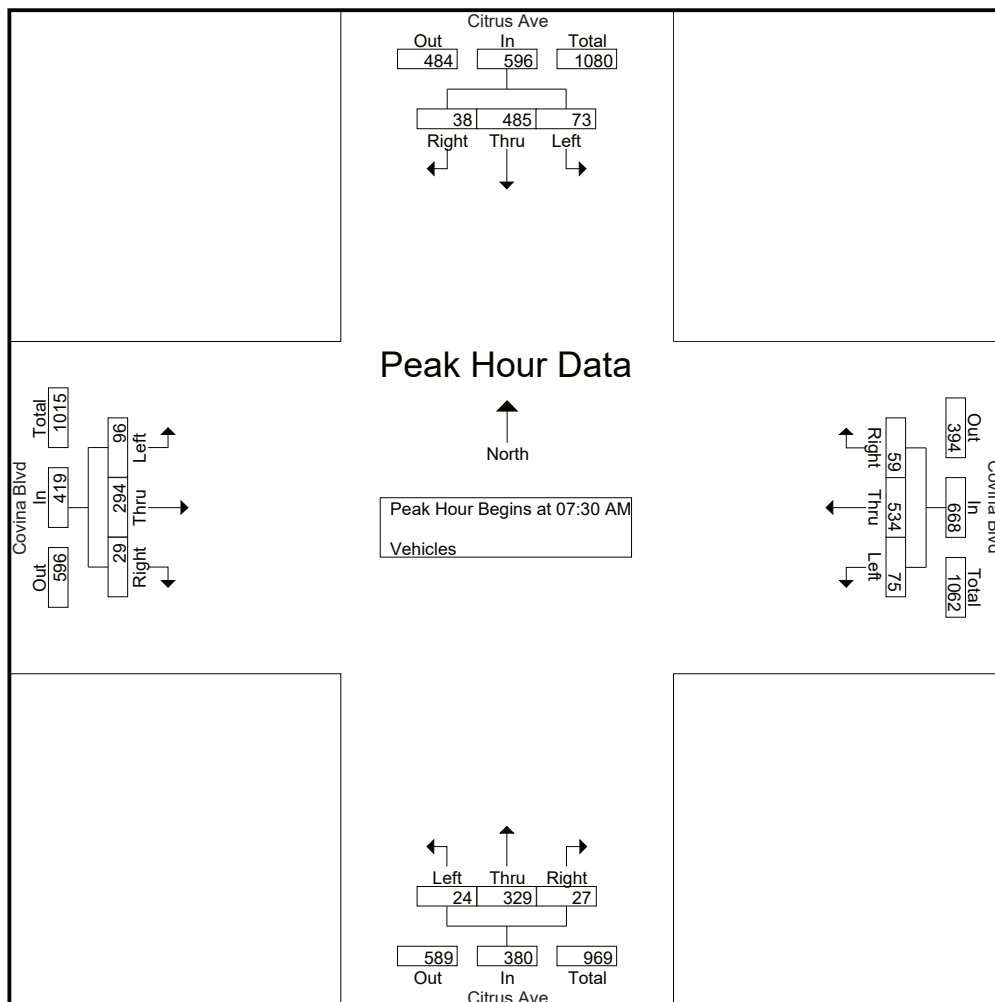
File Name : Citrus_Covina

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound				Covina Blvd Westbound				Citrus Ave Northbound				Covina Blvd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	16	130	15	161	25	168	22	215	6	69	3	78	18	65	9	92	546
07:45 AM	18	128	8	154	17	141	9	167	6	80	8	94	27	94	10	131	546
08:00 AM	20	118	9	147	22	123	17	162	7	82	3	92	26	66	7	99	500
08:15 AM	19	109	6	134	11	102	11	124	5	98	13	116	25	69	3	97	471
Total Volume	73	485	38	596	75	534	59	668	24	329	27	380	96	294	29	419	2063
% App. Total	12.2	81.4	6.4		11.2	79.9	8.8		6.3	86.6	7.1		22.9	70.2	6.9		
PHF	.913	.933	.633	.925	.750	.795	.670	.777	.857	.839	.519	.819	.889	.782	.725	.800	.945



CITY TRAFFIC COUNTERS

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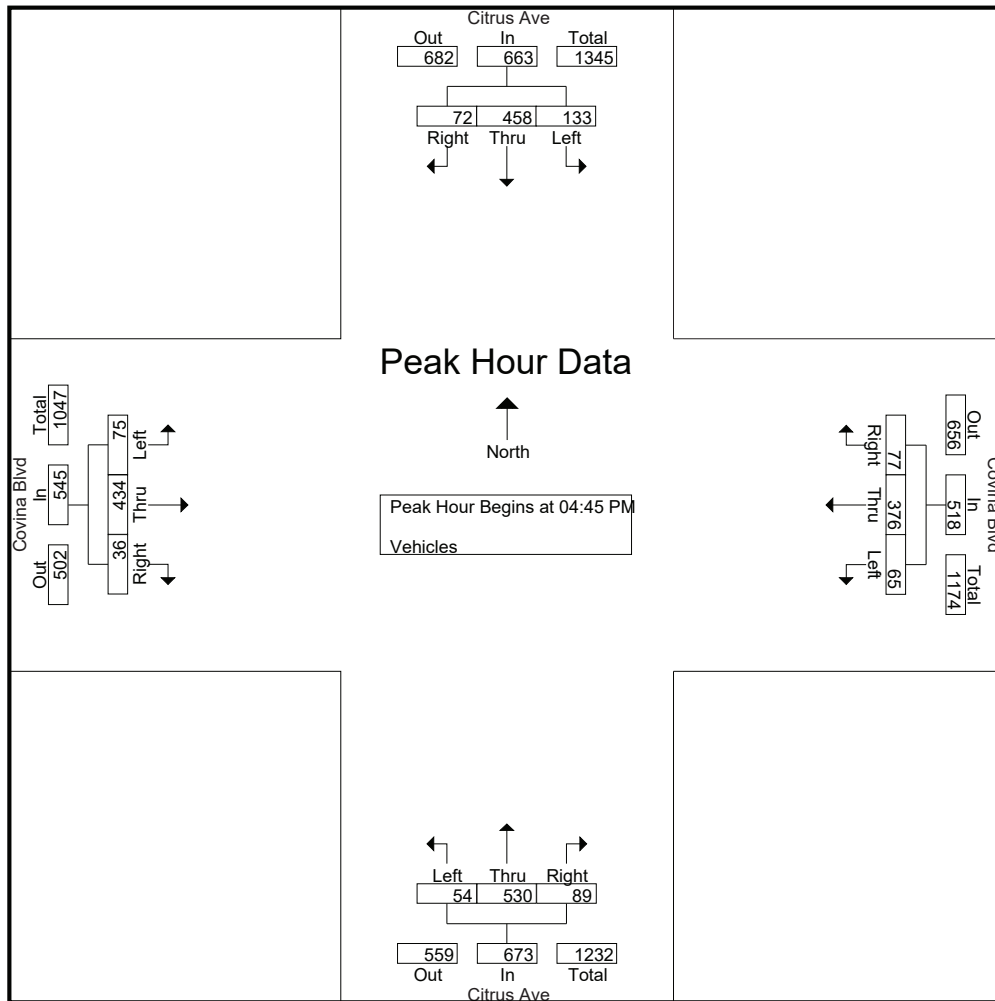
File Name : Citrus_Covina

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound				Covina Blvd Westbound				Citrus Ave Northbound				Covina Blvd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	37	104	14	155	14	88	21	123	15	126	20	161	20	122	5	147	586
05:00 PM	35	122	16	173	16	100	9	125	11	146	20	177	13	107	5	125	600
05:15 PM	36	115	19	170	17	94	23	134	14	128	21	163	11	99	15	125	592
05:30 PM	25	117	23	165	18	94	24	136	14	130	28	172	31	106	11	148	621
Total Volume	133	458	72	663	65	376	77	518	54	530	89	673	75	434	36	545	2399
% App. Total	20.1	69.1	10.9		12.5	72.6	14.9		8	78.8	13.2		13.8	79.6	6.6		
PHF	.899	.939	.783	.958	.903	.940	.802	.952	.900	.908	.795	.951	.605	.889	.600	.921	.966



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Covina_BP

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Bikes & Peds

	Citrus Ave Southbound		Covina Blvd Westbound		Citrus Ave Northbound		Covina Blvd Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	2	0	0	0	0	0	2	4
07:15 AM	0	4	0	1	1	1	0	0	7
07:30 AM	0	1	0	0	0	0	0	1	2
07:45 AM	0	1	0	0	0	1	0	0	2
Total	0	8	0	1	1	2	0	3	15
08:00 AM	0	0	1	2	0	1	1	0	5
08:15 AM	0	3	0	2	0	1	0	3	9
08:30 AM	1	1	0	0	0	1	0	0	3
08:45 AM	0	0	3	0	0	1	0	0	4
Total	1	4	4	4	0	4	1	3	21
04:00 PM	0	3	0	1	1	0	0	1	6
04:15 PM	0	2	0	3	0	2	0	0	7
04:30 PM	1	2	0	1	0	1	0	0	5
04:45 PM	0	1	0	1	1	0	1	0	4
Total	1	8	0	6	2	3	1	1	22
05:00 PM	3	0	0	0	0	1	0	1	5
05:15 PM	1	2	0	2	0	1	0	1	7
05:30 PM	0	1	0	1	0	3	0	0	5
05:45 PM	1	0	0	1	0	0	0	0	2
Total	5	3	0	4	0	5	0	2	19
Grand Total	7	23	4	15	3	14	2	9	77
Apprch %	23.3	76.7	21.1	78.9	17.6	82.4	18.2	81.8	
Total %	9.1	29.9	5.2	19.5	3.9	18.2	2.6	11.7	

CITY TRAFFIC COUNTERS

www.ctcounters.com

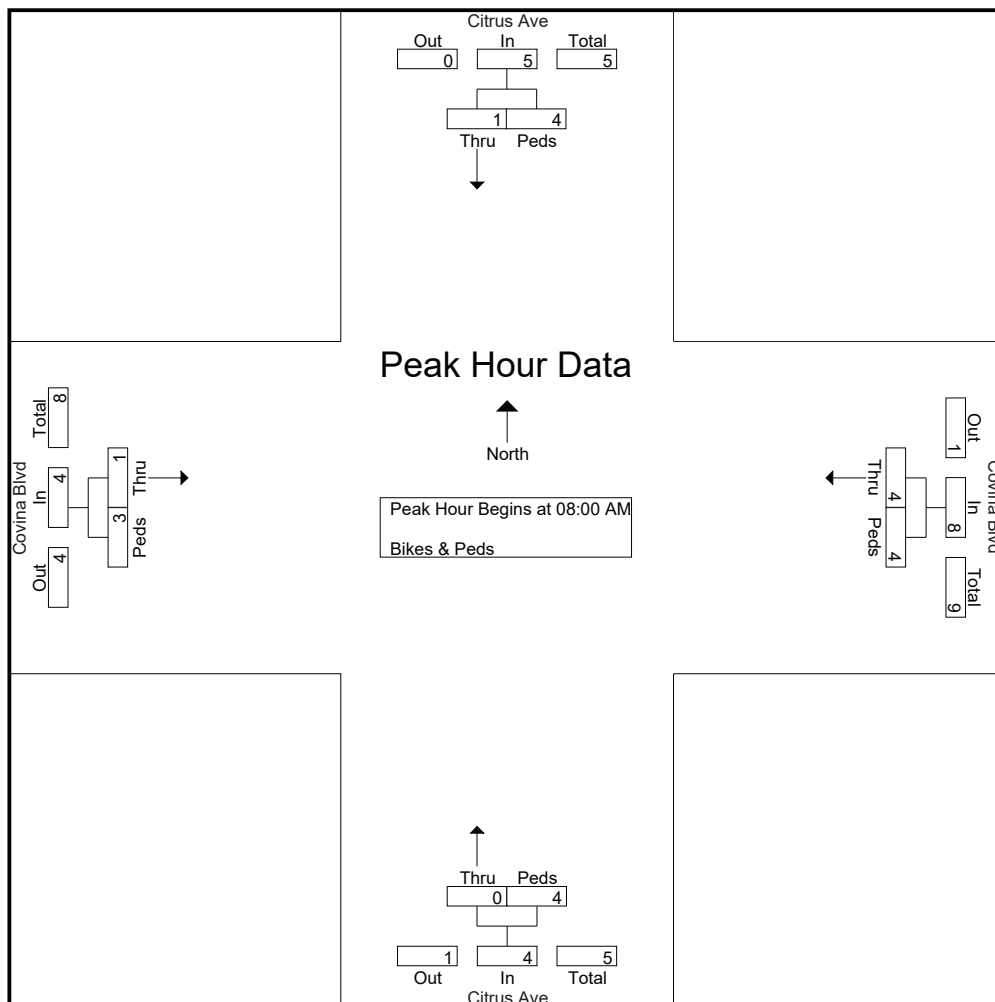
File Name : Citrus_Covina_BP

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound			Covina Blvd Westbound			Citrus Ave Northbound			Covina Blvd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	0	1	2	3	0	1	1	1	0	1	5
08:15 AM	0	3	3	0	2	2	0	1	1	0	3	3	9
08:30 AM	1	1	2	0	0	0	0	1	1	0	0	0	3
08:45 AM	0	0	0	3	0	3	0	1	1	0	0	0	4
Total Volume	1	4	5	4	4	8	0	4	4	1	3	4	21
% App. Total	20	80		50	50		0	100		25	75		
PHF	.250	.333	.417	.333	.500	.667	.000	1.00	1.00	.250	.250	.333	.583



CITY TRAFFIC COUNTERS

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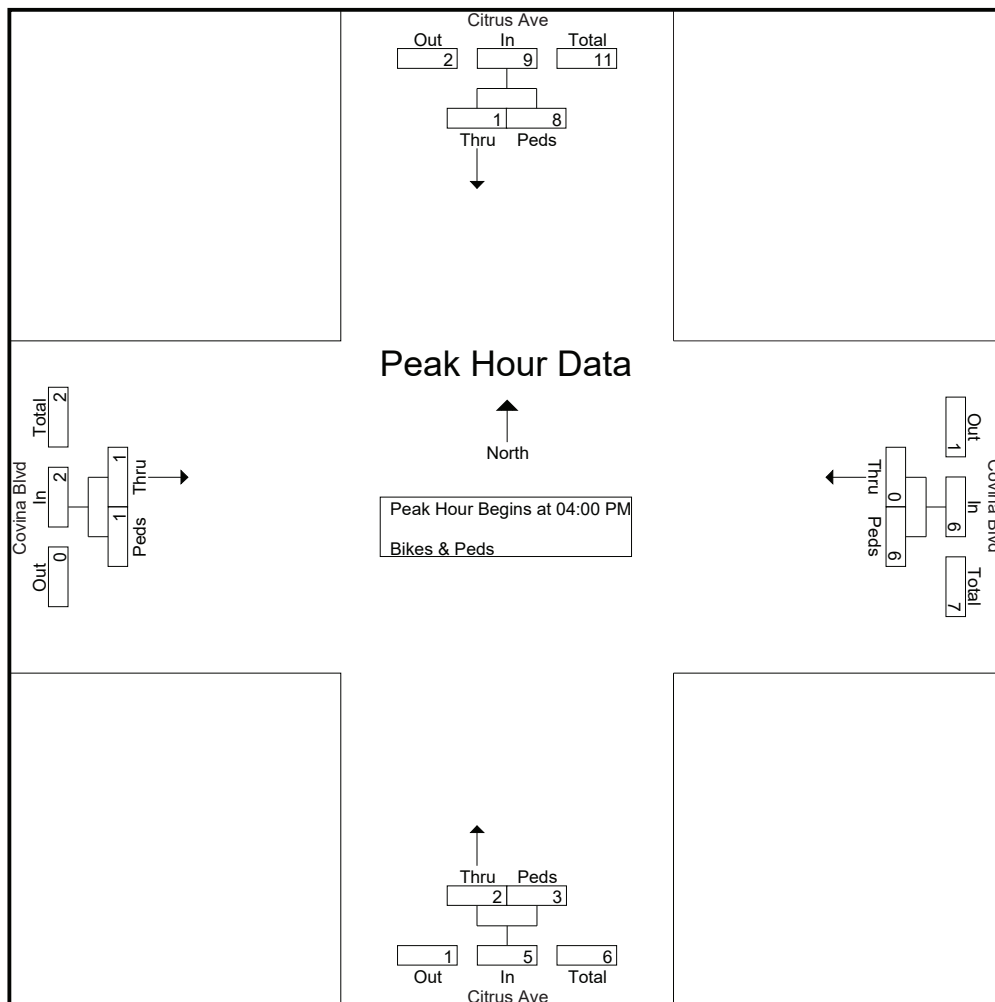
File Name : Citrus_Covina_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound			Covina Blvd Westbound			Citrus Ave Northbound			Covina Blvd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	3	3	0	1	1	1	0	1	0	1	1	6
04:15 PM	0	2	2	0	3	3	0	2	2	0	0	0	7
04:30 PM	1	2	3	0	1	1	0	1	1	0	0	0	5
04:45 PM	0	1	1	0	1	1	1	0	1	1	0	1	4
Total Volume	1	8	9	0	6	6	2	3	5	1	1	2	22
% App. Total	11.1	88.9		0	100		40	60		50	50		
PHF	.250	.667	.750	.000	.500	.500	.500	.375	.625	.250	.250	.500	.786



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Cypress

Site Code : 00000000

Start Date : 3/20/2018

Page No : 1

Groups Printed- Vehicles

	Citrus Ave Southbound			Cypress St Westbound			Citrus Ave Northbound			Cypress St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	8	89	19	11	200	9	8	40	2	9	39	7	441
07:15 AM	13	56	39	7	185	14	11	44	2	8	43	9	431
07:30 AM	14	96	56	12	153	9	11	48	2	19	55	4	479
07:45 AM	16	110	39	13	118	15	11	63	2	15	71	9	482
Total	51	351	153	43	656	47	41	195	8	51	208	29	1833
08:00 AM	11	84	52	13	125	11	12	65	2	14	53	7	449
08:15 AM	9	92	21	8	91	8	5	75	7	22	51	11	400
08:30 AM	6	78	22	7	86	12	10	57	4	18	51	8	359
08:45 AM	6	101	15	11	83	5	7	52	5	15	54	9	363
Total	32	355	110	39	385	36	34	249	18	69	209	35	1571
04:00 PM	11	92	35	10	72	11	12	98	3	34	126	15	519
04:15 PM	21	90	26	7	47	9	18	131	10	44	127	10	540
04:30 PM	14	109	26	8	100	11	21	131	5	39	146	12	622
04:45 PM	21	99	19	7	57	16	21	95	10	33	168	15	561
Total	67	390	106	32	276	47	72	455	28	150	567	52	2242
05:00 PM	19	78	28	8	97	14	14	127	8	34	157	19	603
05:15 PM	10	110	31	10	79	12	17	125	14	34	125	13	580
05:30 PM	16	86	26	10	75	14	12	109	11	26	149	8	542
05:45 PM	14	98	31	9	73	10	16	116	9	32	161	14	583
Total	59	372	116	37	324	50	59	477	42	126	592	54	2308
Grand Total	209	1468	485	151	1641	180	206	1376	96	396	1576	170	7954
Apprch %	9.7	67.9	22.4	7.7	83.2	9.1	12.3	82	5.7	18.5	73.6	7.9	
Total %	2.6	18.5	6.1	1.9	20.6	2.3	2.6	17.3	1.2	5	19.8	2.1	

CITY TRAFFIC COUNTERS

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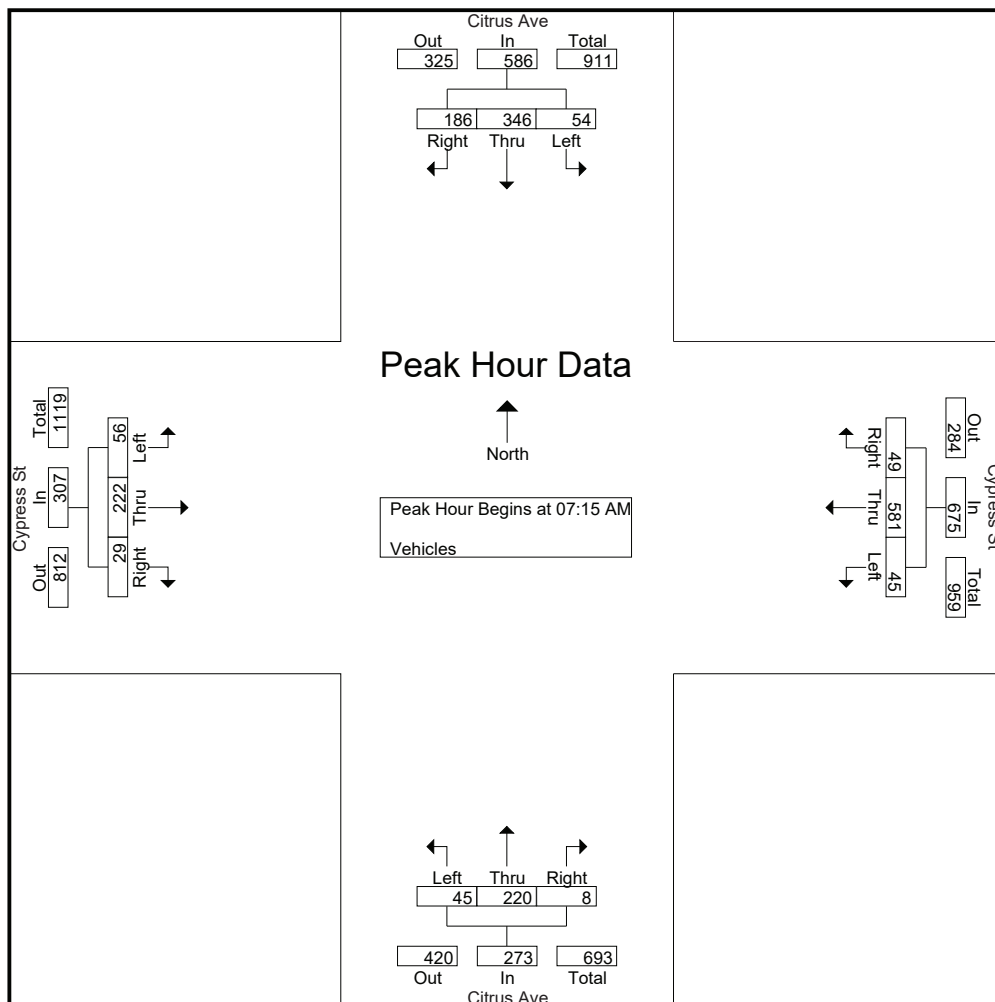
File Name : Citrus_Cypress

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound				Cypress St Westbound				Citrus Ave Northbound				Cypress St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	13	56	39	108	7	185	14	206	11	44	2	57	8	43	9	60	431
07:30 AM	14	96	56	166	12	153	9	174	11	48	2	61	19	55	4	78	479
07:45 AM	16	110	39	165	13	118	15	146	11	63	2	76	15	71	9	95	482
08:00 AM	11	84	52	147	13	125	11	149	12	65	2	79	14	53	7	74	449
Total Volume	54	346	186	586	45	581	49	675	45	220	8	273	56	222	29	307	1841
% App. Total	9.2	59	31.7		6.7	86.1	7.3		16.5	80.6	2.9		18.2	72.3	9.4		
PHF	.844	.786	.830	.883	.865	.785	.817	.819	.938	.846	1.00	.864	.737	.782	.806	.808	.955



CITY TRAFFIC COUNTERS

www.ctcounters.com

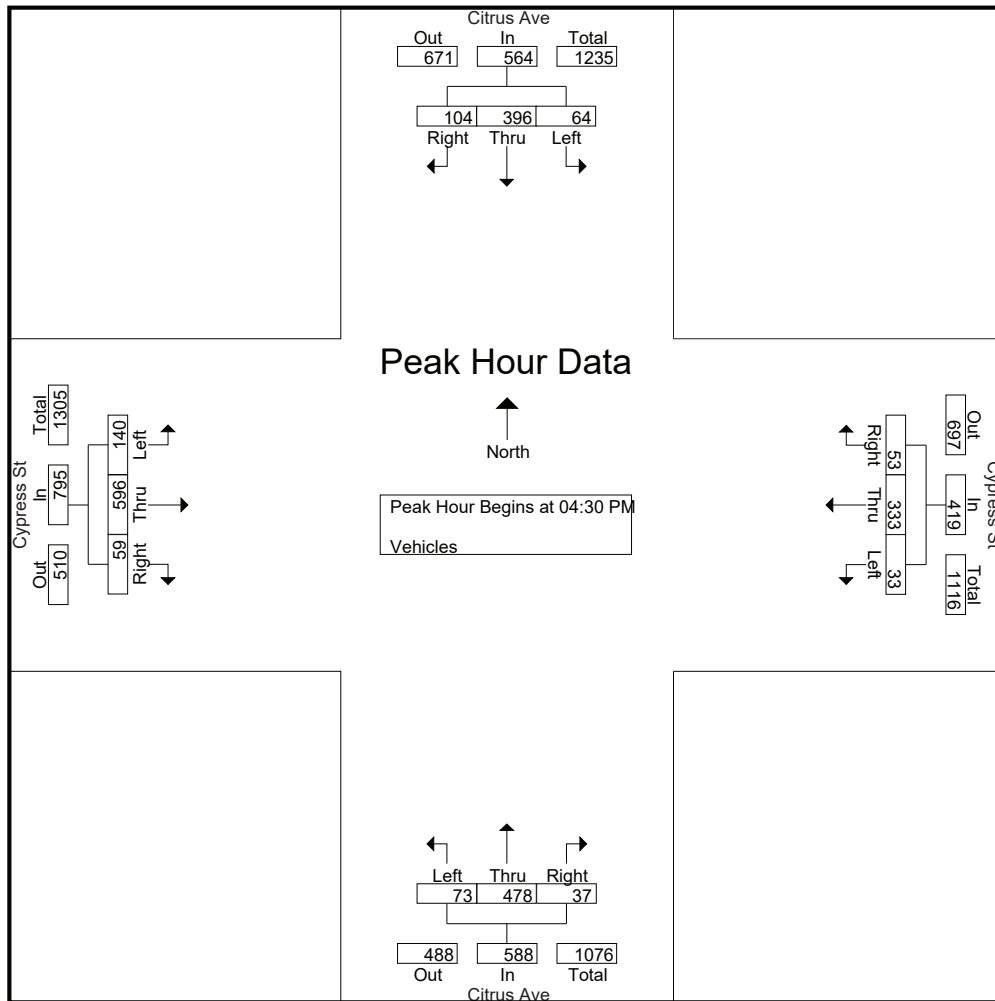
File Name : Citrus_Cypress

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound				Cypress St Westbound				Citrus Ave Northbound				Cypress St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	14	109	26	149	8	100	11	119	21	131	5	157	39	146	12	197	622
04:45 PM	21	99	19	139	7	57	16	80	21	95	10	126	33	168	15	216	561
05:00 PM	19	78	28	125	8	97	14	119	14	127	8	149	34	157	19	210	603
05:15 PM	10	110	31	151	10	79	12	101	17	125	14	156	34	125	13	172	580
Total Volume	64	396	104	564	33	333	53	419	73	478	37	588	140	596	59	795	2366
% App. Total	11.3	70.2	18.4		7.9	79.5	12.6		12.4	81.3	6.3		17.6	75	7.4		
PHF	.762	.900	.839	.934	.825	.833	.828	.880	.869	.912	.661	.936	.897	.887	.776	.920	.951



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Cypress_BP

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Bikes & Peds

	Citrus Ave Southbound		Cypress St Westbound		Citrus Ave Northbound		Cypress St Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	0	0	1	0	3	0	1	5
07:15 AM	2	0	0	0	0	1	0	0	3
07:30 AM	0	0	0	4	0	1	0	0	5
07:45 AM	0	5	0	5	0	5	0	1	16
Total	2	5	0	10	0	10	0	2	29
08:00 AM	1	1	1	2	0	1	0	0	6
08:15 AM	0	1	0	1	0	2	0	4	8
08:30 AM	1	1	0	2	0	2	0	1	7
08:45 AM	1	2	3	1	1	2	0	1	11
Total	3	5	4	6	1	7	0	6	32
04:00 PM	0	1	0	0	1	1	0	0	3
04:15 PM	0	1	0	1	0	0	0	0	2
04:30 PM	1	0	1	1	0	1	1	0	5
Total	1	2	1	2	1	2	1	0	10
05:00 PM	0	0	0	0	1	2	1	3	7
05:15 PM	0	0	0	3	1	0	0	1	5
05:45 PM	0	0	0	7	0	4	0	0	11
Total	0	0	0	10	2	6	1	4	23
Grand Total	6	12	5	28	4	25	2	12	94
Apprch %	33.3	66.7	15.2	84.8	13.8	86.2	14.3	85.7	
Total %	6.4	12.8	5.3	29.8	4.3	26.6	2.1	12.8	

CITY TRAFFIC COUNTERS

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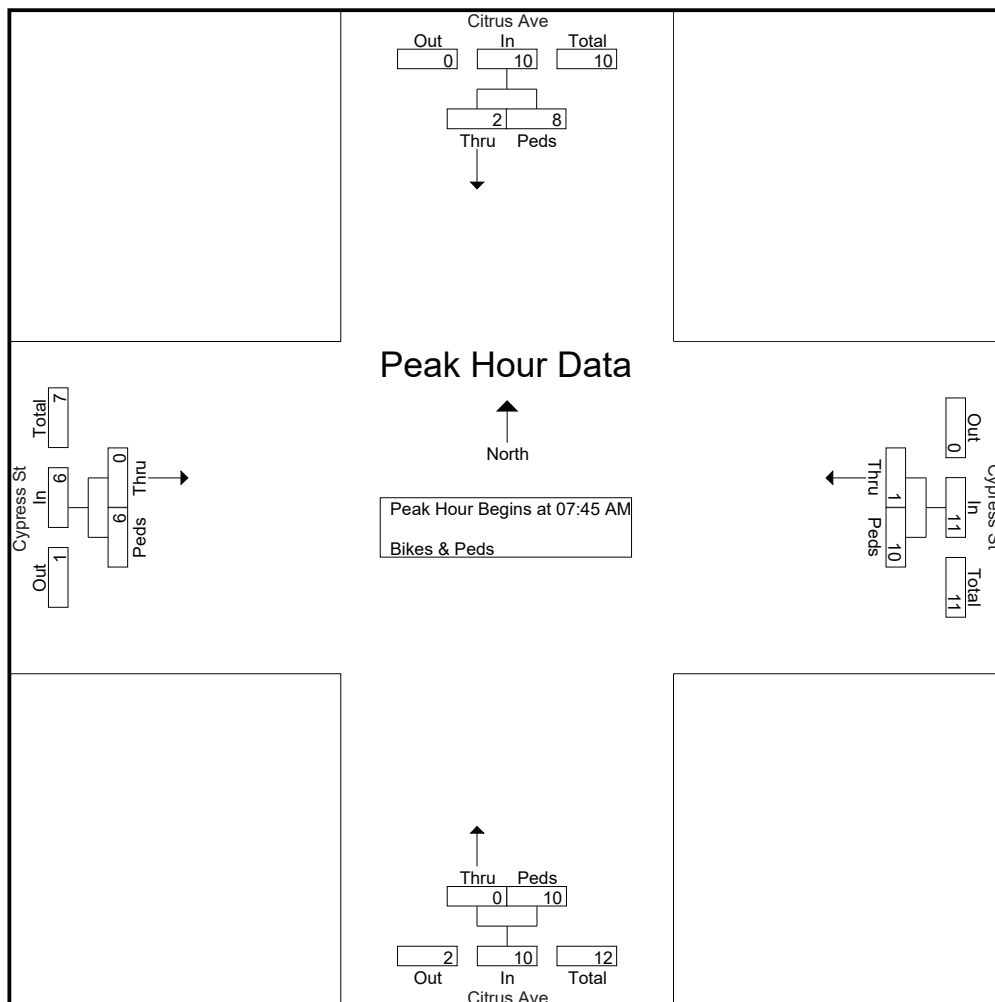
File Name : Citrus_Cypress_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	Citrus Ave Southbound			Cypress St Westbound			Citrus Ave Northbound			Cypress St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	0	5	5	0	5	5	0	5	5	0	1	1	16
08:00 AM	1	1	2	1	2	3	0	1	1	0	0	0	6
08:15 AM	0	1	1	0	1	1	0	2	2	0	4	4	8
08:30 AM	1	1	2	0	2	2	0	2	2	0	1	1	7
Total Volume	2	8	10	1	10	11	0	10	10	0	6	6	37
% App. Total	20	80		9.1	90.9		0	100		0	100		
PHF	.500	.400	.500	.250	.500	.550	.000	.500	.500	.000	.375	.375	.578



CITY TRAFFIC COUNTERS

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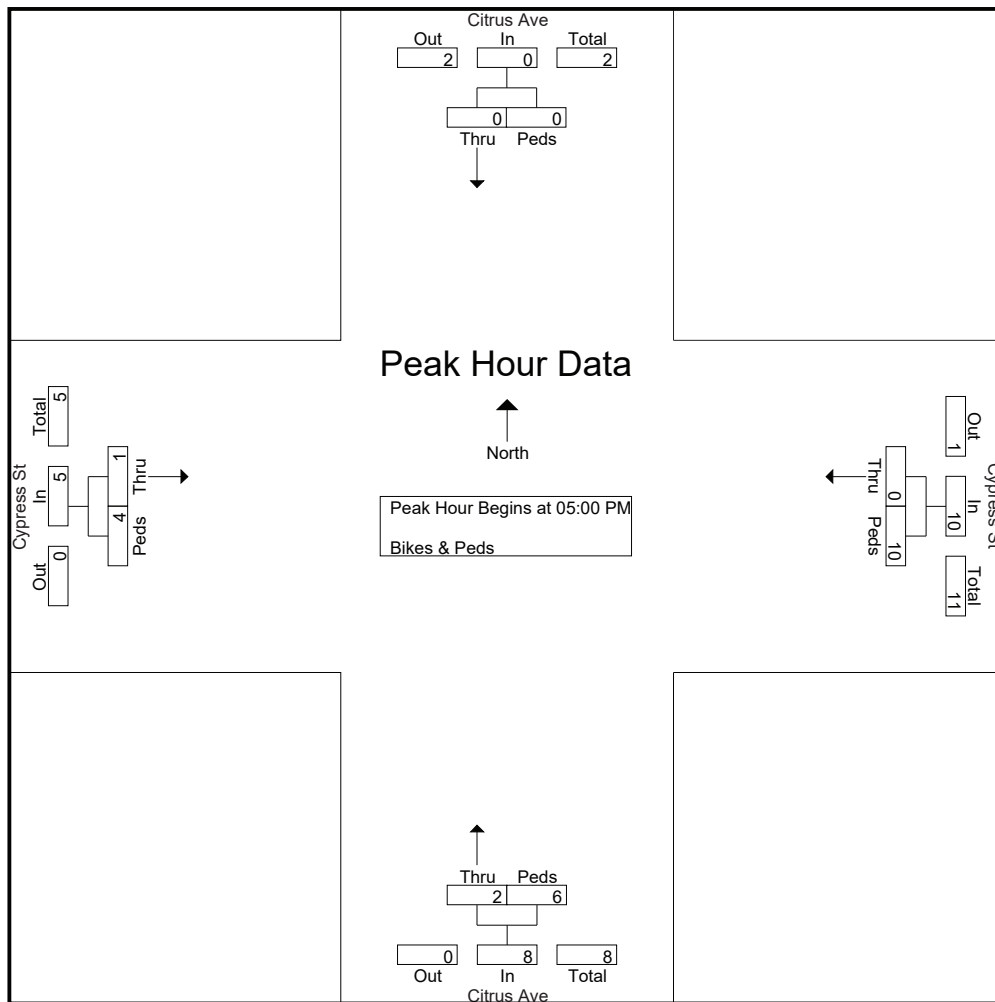
File Name : Citrus_Cypress_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound			Cypress St Westbound			Citrus Ave Northbound			Cypress St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	0	0	0	0	0	1	2	3	1	3	4	7
05:15 PM	0	0	0	0	3	3	1	0	1	0	1	1	5
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	7	7	0	4	4	0	0	0	11
Total Volume	0	0	0	0	10	10	2	6	8	1	4	5	23
% App. Total	0	0	0	0	100		25	75		20	80		
PHF	.000	.000	.000	.000	.357	.357	.500	.375	.500	.250	.333	.313	.523



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Front

Site Code : 00000000

Start Date : 3/20/2018

Page No : 1

Groups Printed- Vehicles

	Citrus Ave Southbound			Front St Westbound			Citrus Ave Northbound			Front St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	12	82	16	0	5	16	2	36	1	0	1	1	172
07:15 AM	9	64	13	2	5	18	2	38	0	0	0	0	151
07:30 AM	9	90	0	1	7	15	4	48	1	0	0	1	176
07:45 AM	10	109	0	0	1	10	2	69	0	1	1	0	203
Total	40	345	29	3	18	59	10	191	2	1	2	2	702
08:00 AM	16	122	2	0	0	16	1	67	0	1	0	0	225
08:15 AM	5	109	2	2	2	23	1	63	2	0	1	1	211
08:30 AM	7	54	2	4	5	14	0	65	2	0	1	0	154
08:45 AM	18	92	3	1	3	16	2	65	2	1	0	2	205
Total	46	377	9	7	10	69	4	260	6	2	2	3	795
04:00 PM	13	85	0	2	0	23	0	98	2	4	0	2	229
04:15 PM	11	119	1	2	1	25	2	117	2	18	1	8	307
04:30 PM	14	121	0	1	1	32	0	122	4	6	6	4	311
04:45 PM	12	100	3	2	0	31	3	107	2	4	1	3	268
Total	50	425	4	7	2	111	5	444	10	32	8	17	1115
05:00 PM	11	107	1	4	0	38	0	125	1	6	4	2	299
05:15 PM	10	124	2	2	0	32	1	115	1	5	5	8	305
05:30 PM	13	99	1	3	1	37	1	110	1	8	6	4	284
05:45 PM	23	89	0	0	0	20	1	107	1	7	7	6	261
Total	57	419	4	9	1	127	3	457	4	26	22	20	1149
Grand Total	193	1566	46	26	31	366	22	1352	22	61	34	42	3761
Apprch %	10.7	86.8	2.5	6.1	7.3	86.5	1.6	96.8	1.6	44.5	24.8	30.7	
Total %	5.1	41.6	1.2	0.7	0.8	9.7	0.6	35.9	0.6	1.6	0.9	1.1	

CITY TRAFFIC COUNTERS

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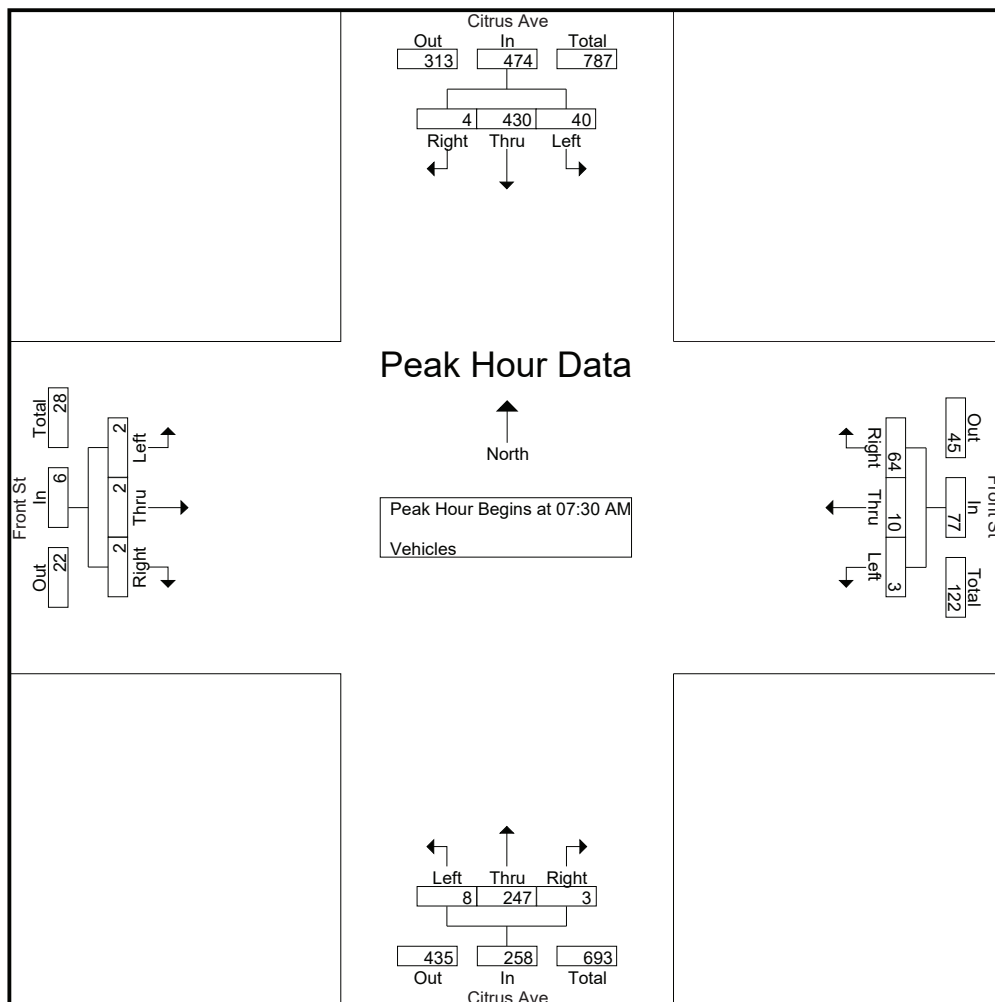
File Name : Citrus_Front

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	Citrus Ave Southbound				Front St Westbound				Citrus Ave Northbound				Front St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	9	90	0	99	1	7	15	23	4	48	1	53	0	0	1	1	176
07:45 AM	10	109	0	119	0	1	10	11	2	69	0	71	1	1	0	2	203
08:00 AM	16	122	2	140	0	0	16	16	1	67	0	68	1	0	0	1	225
08:15 AM	5	109	2	116	2	2	23	27	1	63	2	66	0	1	1	2	211
Total Volume	40	430	4	474	3	10	64	77	8	247	3	258	2	2	2	6	815
% App. Total	8.4	90.7	0.8		3.9	13	83.1		3.1	95.7	1.2		33.3	33.3	33.3		
PHF	.625	.881	.500	.846	.375	.357	.696	.713	.500	.895	.375	.908	.500	.500	.500	.750	.906



CITY TRAFFIC COUNTERS

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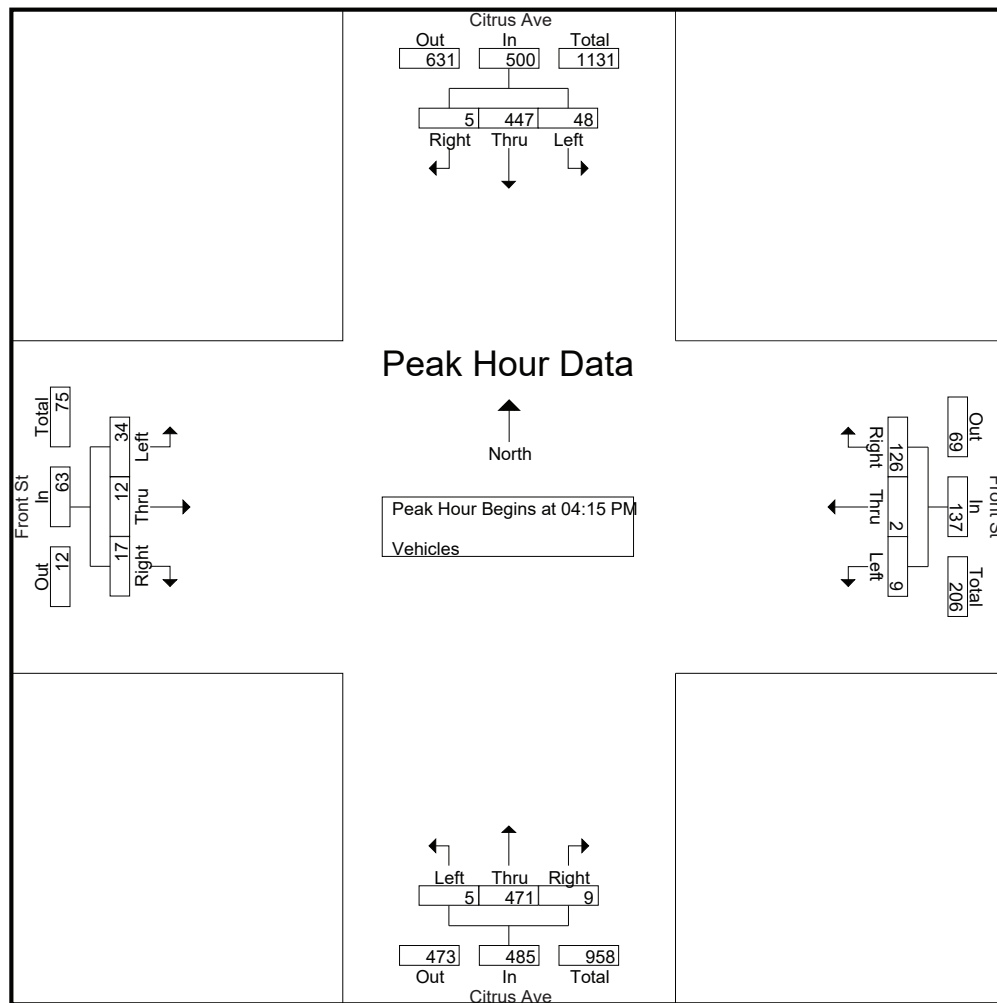
File Name : Citrus_Front

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound				Front St Westbound				Citrus Ave Northbound				Front St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	11	119	1	131	2	1	25	28	2	117	2	121	18	1	8	27	307
04:30 PM	14	121	0	135	1	1	32	34	0	122	4	126	6	6	4	16	311
04:45 PM	12	100	3	115	2	0	31	33	3	107	2	112	4	1	3	8	268
05:00 PM	11	107	1	119	4	0	38	42	0	125	1	126	6	4	2	12	299
Total Volume	48	447	5	500	9	2	126	137	5	471	9	485	34	12	17	63	1185
% App. Total	9.6	89.4	1		6.6	1.5	92		1	97.1	1.9		54	19	27		
PHF	.857	.924	.417	.926	.563	.500	.829	.815	.417	.942	.563	.962	.472	.500	.531	.583	.953



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Front_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 1

Groups Printed- Bikes & Peds

	Citrus Ave Southbound		Front St Westbound		Citrus Ave Northbound		Front St Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	10	0	0	0	0	1	2	13
07:15 AM	0	15	0	2	0	1	1	4	23
07:30 AM	0	9	0	1	0	0	0	0	10
07:45 AM	0	3	0	0	0	0	0	1	4
Total	0	37	0	3	0	1	2	7	50
08:00 AM	2	2	0	0	1	0	1	2	8
08:15 AM	0	1	0	4	0	0	0	2	7
08:30 AM	0	2	0	1	0	0	0	1	4
08:45 AM	1	8	1	1	0	0	0	0	11
Total	3	13	1	6	1	0	1	5	30
04:00 PM	0	3	0	1	0	1	1	3	9
04:15 PM	0	32	0	1	0	4	1	34	72
04:30 PM	0	34	1	0	1	4	2	39	81
04:45 PM	0	6	0	0	0	2	0	4	12
Total	0	75	1	2	1	11	4	80	174
05:00 PM	0	47	1	3	0	1	0	49	101
05:15 PM	0	4	0	2	0	0	0	5	11
05:30 PM	0	66	0	1	0	4	0	69	140
05:45 PM	0	6	0	0	0	0	0	6	12
Total	0	123	1	6	0	5	0	129	264
Grand Total	3	248	3	17	2	17	7	221	518
Apprch %	1.2	98.8	15	85	10.5	89.5	3.1	96.9	
Total %	0.6	47.9	0.6	3.3	0.4	3.3	1.4	42.7	

CITY TRAFFIC COUNTERS

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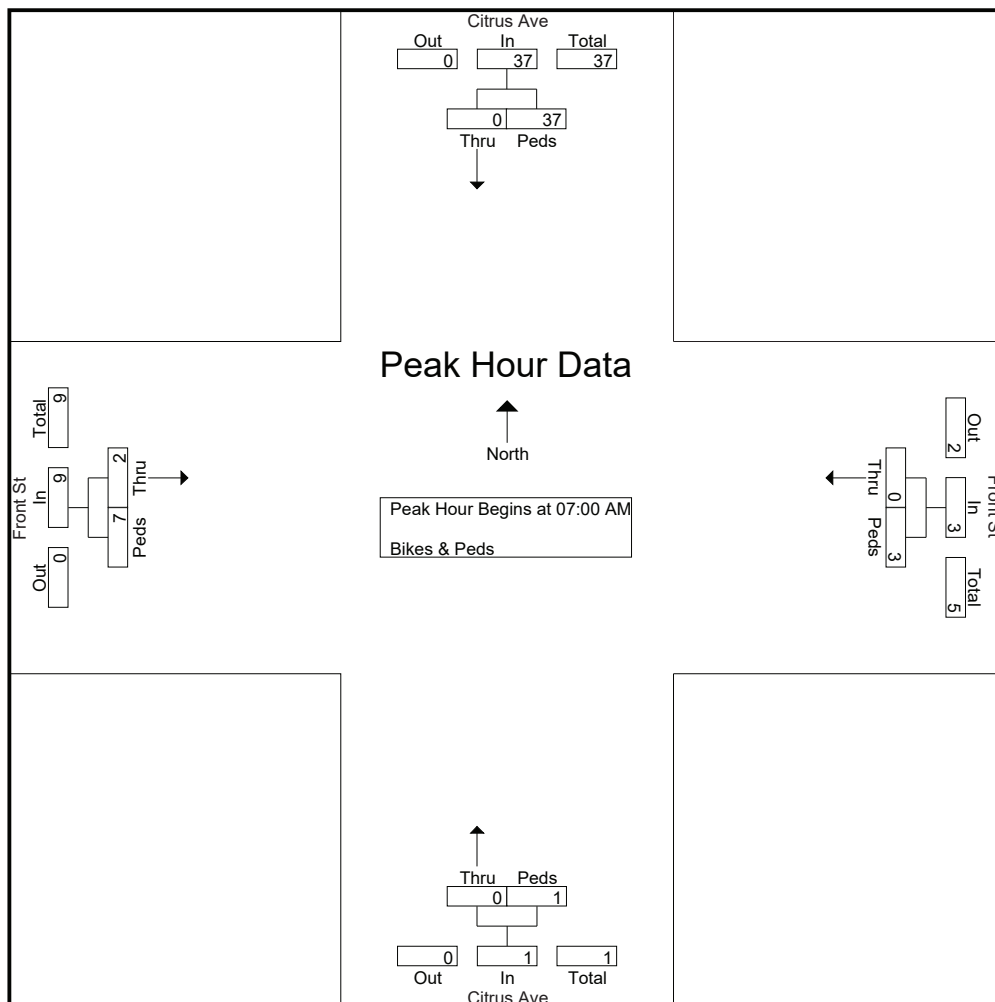
File Name : Citrus_Front_BP

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound			Front St Westbound			Citrus Ave Northbound			Front St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	10	10	0	0	0	0	0	0	1	2	3	13
07:15 AM	0	15	15	0	2	2	0	1	1	1	4	5	23
07:30 AM	0	9	9	0	1	1	0	0	0	0	0	0	10
07:45 AM	0	3	3	0	0	0	0	0	0	0	1	1	4
Total Volume	0	37	37	0	3	3	0	1	1	2	7	9	50
% App. Total	0	100		0	100		0	100		22.2	77.8		
PHF	.000	.617	.617	.000	.375	.375	.000	.250	.250	.500	.438	.450	.543



CITY TRAFFIC COUNTERS

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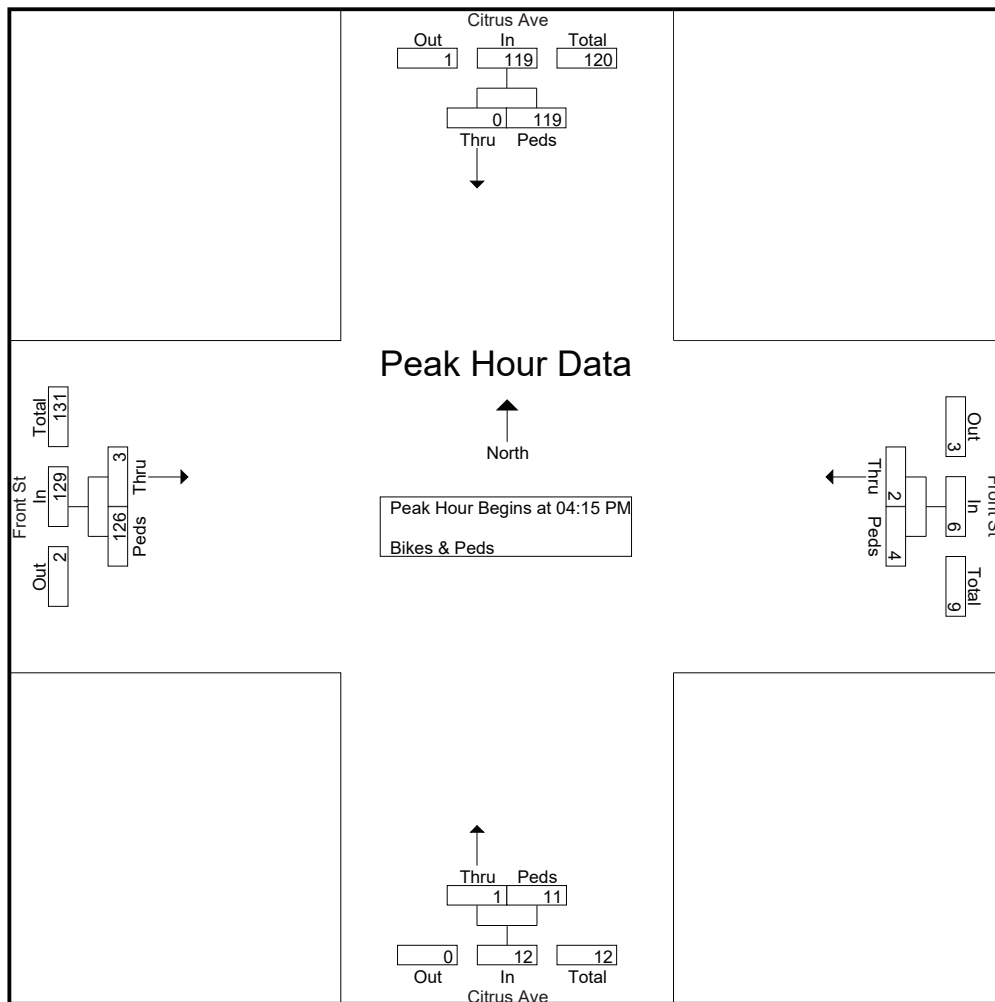
File Name : Citrus_Front_BP

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound			Front St Westbound			Citrus Ave Northbound			Front St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	32	32	0	1	1	0	4	4	1	34	35	72
04:30 PM	0	34	34	1	0	1	1	4	5	2	39	41	81
04:45 PM	0	6	6	0	0	0	0	2	2	0	4	4	12
05:00 PM	0	47	47	1	3	4	0	1	1	0	49	49	101
Total Volume	0	119	119	2	4	6	1	11	12	3	126	129	266
% App. Total	0	100		33.3	66.7		8.3	91.7		2.3	97.7		
PHF	.000	.633	.633	.500	.333	.375	.250	.688	.600	.375	.643	.658	.658



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Geneva

Site Code : 00000000

Start Date : 3/20/2018

Page No : 1

Groups Printed- Vehicles

	Citrus Ave Southbound			Westbound			Citrus Ave Northbound			Geneva Place Eastbound			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	80	4	0	0	0	1	36	0	0	0	1	122
07:15 AM	0	61	5	0	0	0	1	40	0	2	0	2	111
07:30 AM	0	88	3	0	0	0	1	55	0	0	0	1	148
07:45 AM	0	98	8	0	0	0	2	67	0	2	0	0	177
Total	0	327	20	0	0	0	5	198	0	4	0	4	558
08:00 AM	0	105	15	0	0	0	1	64	0	1	0	2	188
08:15 AM	0	103	9	0	0	0	0	65	0	2	0	0	179
08:30 AM	0	83	6	0	0	0	0	68	0	1	0	0	158
08:45 AM	0	82	9	0	0	0	1	66	0	0	0	1	159
Total	0	373	39	0	0	0	2	263	0	4	0	3	684
04:00 PM	0	84	6	0	0	0	0	102	0	2	0	1	195
04:15 PM	0	123	10	0	0	0	0	127	0	1	0	1	262
04:30 PM	0	109	15	0	0	0	1	111	0	4	0	0	240
04:45 PM	0	100	7	0	0	0	1	117	0	2	0	3	230
Total	0	416	38	0	0	0	2	457	0	9	0	5	927
05:00 PM	0	98	15	0	0	0	1	119	0	2	0	4	239
05:15 PM	0	126	8	0	0	0	2	108	0	1	0	0	245
05:30 PM	0	110	4	0	0	0	0	118	0	2	0	1	235
05:45 PM	0	94	6	0	0	0	1	101	0	1	0	0	203
Total	0	428	33	0	0	0	4	446	0	6	0	5	922
Grand Total	0	1544	130	0	0	0	13	1364	0	23	0	17	3091
Apprch %	0	92.2	7.8	0	0	0	0.9	99.1	0	57.5	0	42.5	
Total %	0	50	4.2	0	0	0	0.4	44.1	0	0.7	0	0.5	

CITY TRAFFIC COUNTERS

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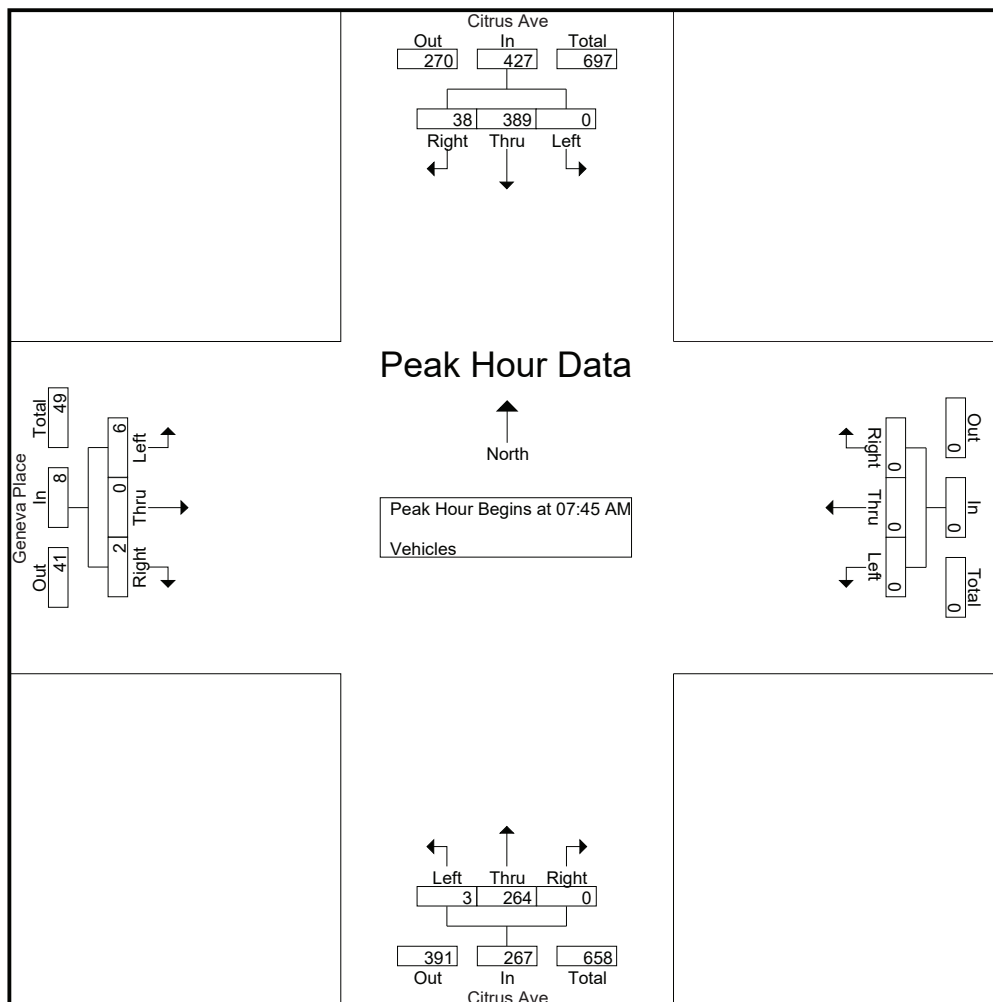
File Name : Citrus_Geneva

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	Citrus Ave Southbound				Westbound				Citrus Ave Northbound				Geneva Place Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	98	8	106	0	0	0	0	2	67	0	69	2	0	0	2	177
08:00 AM	0	105	15	120	0	0	0	0	1	64	0	65	1	0	2	3	188
08:15 AM	0	103	9	112	0	0	0	0	0	65	0	65	2	0	0	2	179
08:30 AM	0	83	6	89	0	0	0	0	0	68	0	68	1	0	0	1	158
Total Volume	0	389	38	427	0	0	0	0	3	264	0	267	6	0	2	8	702
% App. Total	0	91.1	8.9		0	0	0		1.1	98.9	0		75	0	25		
PHF	.000	.926	.633	.890	.000	.000	.000	.000	.375	.971	.000	.967	.750	.000	.250	.667	.934



CITY TRAFFIC COUNTERS

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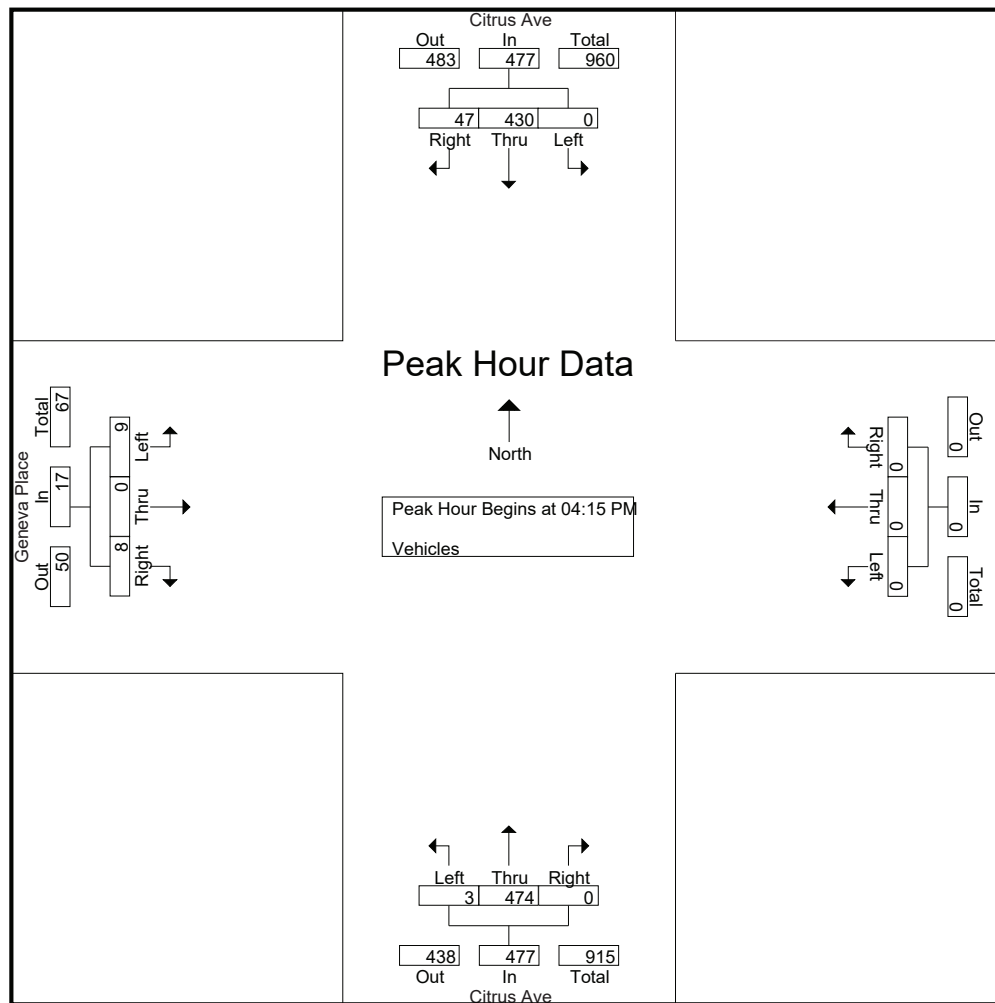
File Name : Citrus_Geneva

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound				Westbound				Citrus Ave Northbound				Geneva Place Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	123	10	133	0	0	0	0	0	127	0	127	1	0	1	2	262
04:30 PM	0	109	15	124	0	0	0	0	1	111	0	112	4	0	0	4	240
04:45 PM	0	100	7	107	0	0	0	0	1	117	0	118	2	0	3	5	230
05:00 PM	0	98	15	113	0	0	0	0	1	119	0	120	2	0	4	6	239
Total Volume	0	430	47	477	0	0	0	0	3	474	0	477	9	0	8	17	971
% App. Total	0	90.1	9.9		0	0	0		0.6	99.4	0		52.9	0	47.1		
PHF	.000	.874	.783	.897	.000	.000	.000	.000	.750	.933	.000	.939	.563	.000	.500	.708	.927



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Geneva_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 1

Groups Printed- Bikes & Peds

	Citrus Ave Southbound			Westbound			Citrus Ave Northbound			Geneva Place Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
07:15 AM	0	0	0	0	1	1	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	2	2	0	0	0	0	0	0	2
Total	0	0	0	0	4	4	0	0	0	0	0	0	4
08:00 AM	0	0	0	1	2	3	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	2	2	0	0	0	0	0	0	2
Total	0	0	0	1	4	5	0	0	0	0	0	0	5
04:00 PM	0	0	0	0	3	3	1	0	1	0	0	0	4
04:15 PM	0	1	1	0	4	4	0	1	1	0	0	0	6
04:30 PM	1	0	1	2	1	3	0	0	0	0	0	0	4
04:45 PM	0	0	0	0	7	7	0	0	0	0	0	0	7
Total	1	1	2	2	15	17	1	1	2	0	0	0	21
05:00 PM	0	0	0	1	7	8	0	1	1	0	0	0	9
05:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	1
Total	0	0	0	1	8	9	0	2	2	0	0	0	11
Grand Total	1	1	2	4	31	35	1	3	4	0	0	0	41
Apprch %	50	50		11.4	88.6		25	75		0	0		
Total %	2.4	2.4	4.9	9.8	75.6	85.4	2.4	7.3	9.8	0	0	0	

CITY TRAFFIC COUNTERS

www.ctcounters.com

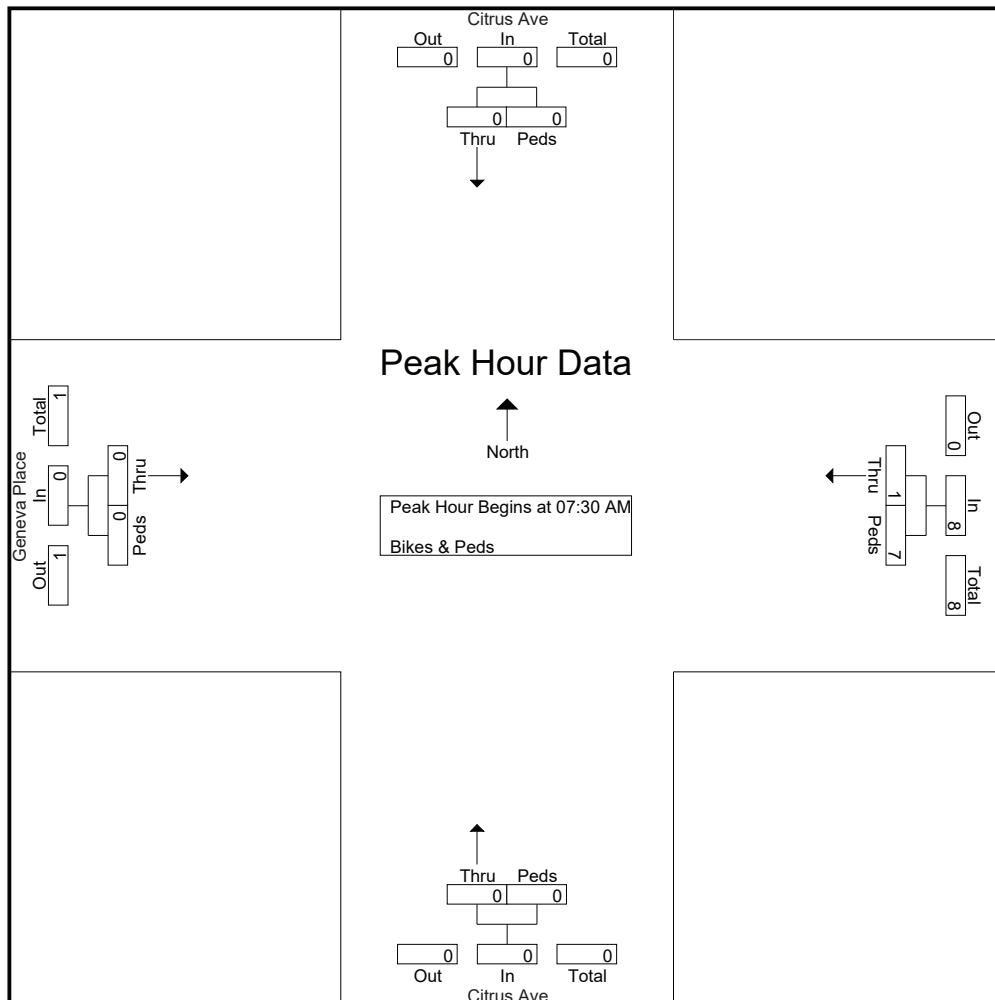
File Name : Citrus_Geneva_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	Citrus Ave Southbound			Westbound			Citrus Ave Northbound			Geneva Place Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	2	2	0	0	0	0	0	0	2
08:00 AM	0	0	0	1	2	3	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	2	2	0	0	0	0	0	0	2
Total Volume	0	0	0	1	7	8	0	0	0	0	0	0	8
% App. Total	0	0		12.5	87.5		0	0		0	0		
PHF	.000	.000	.000	.250	.875	.667	.000	.000	.000	.000	.000	.000	.667



CITY TRAFFIC COUNTERS

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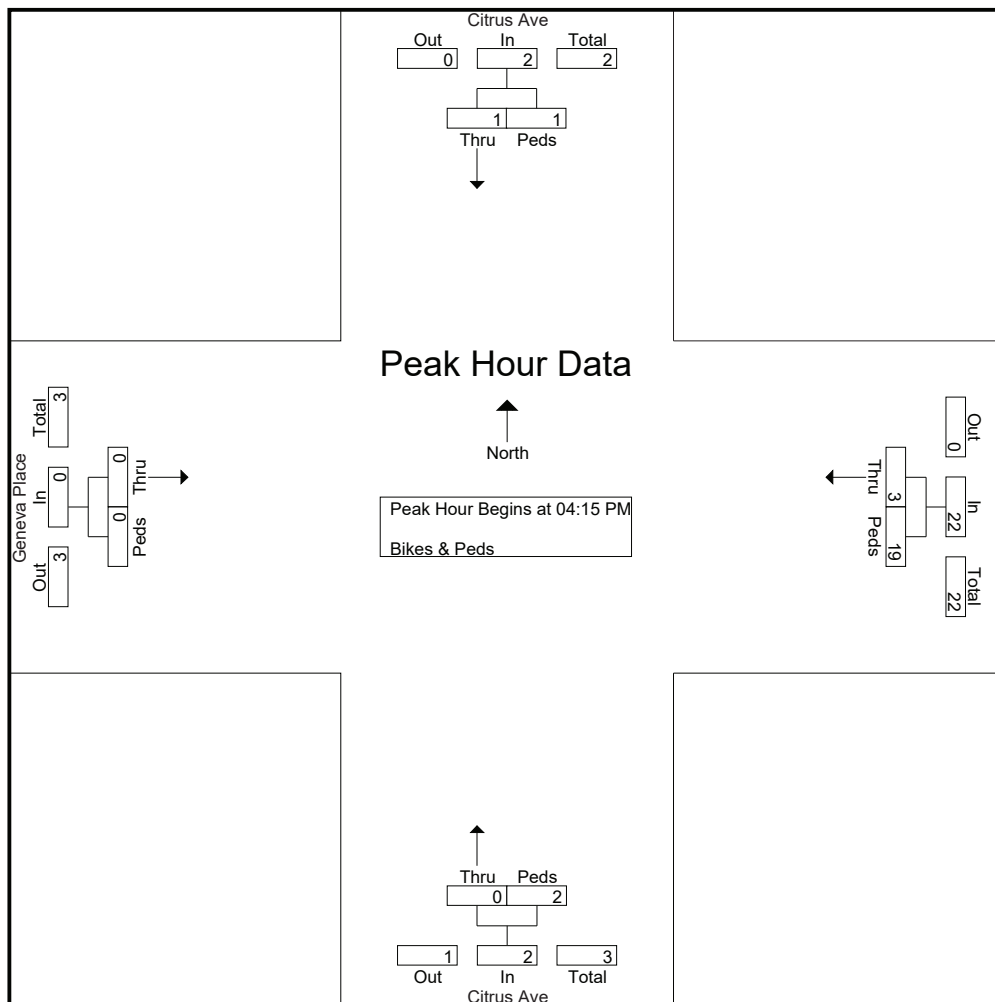
File Name : Citrus_Geneva_BP

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound			Westbound			Citrus Ave Northbound			Geneva Place Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	1	1	0	4	4	0	1	1	0	0	0	6
04:30 PM	1	0	1	2	1	3	0	0	0	0	0	0	4
04:45 PM	0	0	0	0	7	7	0	0	0	0	0	0	7
05:00 PM	0	0	0	1	7	8	0	1	1	0	0	0	9
Total Volume	1	1	2	3	19	22	0	2	2	0	0	0	26
% App. Total	50	50		13.6	86.4		0	100		0	0		
PHF	.250	.250	.500	.375	.679	.688	.000	.500	.500	.000	.000	.000	.722



CITY TRAFFIC COUNTERS

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Groups Printed- Vehicles

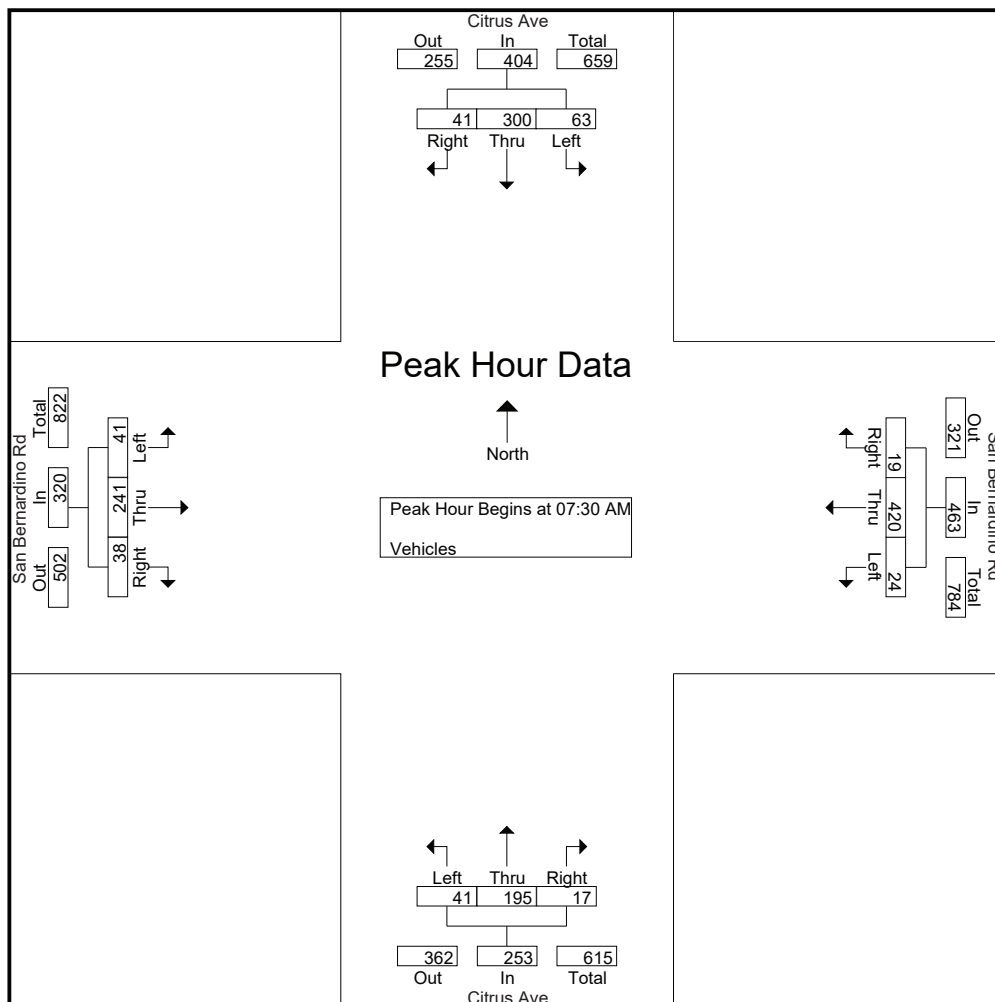
	Citrus Ave Southbound			San Bernardino Rd Westbound			Citrus Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	4	52	19	3	120	4	18	27	1	4	36	7	295
07:15 AM	7	46	12	5	141	4	9	33	5	4	48	8	322
07:30 AM	11	71	11	3	120	2	10	44	1	10	57	9	349
07:45 AM	17	64	8	4	128	6	13	49	3	14	68	10	384
Total	39	233	50	15	509	16	50	153	10	32	209	34	1350
08:00 AM	23	88	7	7	89	7	8	51	9	9	60	10	368
08:15 AM	12	77	15	10	83	4	10	51	4	8	56	9	339
08:30 AM	9	54	12	6	84	6	13	48	3	13	47	10	305
08:45 AM	10	58	8	10	81	9	9	39	8	18	54	6	310
Total	54	277	42	33	337	26	40	189	24	48	217	35	1322
04:00 PM	14	62	13	7	70	10	21	75	9	19	119	14	433
04:15 PM	28	88	13	5	70	14	14	75	12	26	136	14	495
04:30 PM	15	81	12	10	58	15	12	82	9	23	122	16	455
04:45 PM	21	79	17	8	78	7	13	82	13	22	150	15	505
Total	78	310	55	30	276	46	60	314	43	90	527	59	1888
05:00 PM	13	69	13	7	87	5	21	80	5	27	155	13	495
05:15 PM	23	84	9	9	78	11	12	81	6	24	137	16	490
05:30 PM	23	77	12	7	77	12	16	80	7	18	132	14	475
05:45 PM	19	69	19	7	73	11	15	77	13	20	125	19	467
Total	78	299	53	30	315	39	64	318	31	89	549	62	1927
Grand Total	249	1119	200	108	1437	127	214	974	108	259	1502	190	6487
Apprch %	15.9	71.4	12.8	6.5	85.9	7.6	16.5	75.2	8.3	13.3	77	9.7	
Total %	3.8	17.2	3.1	1.7	22.2	2	3.3	15	1.7	4	23.2	2.9	

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	Citrus Ave Southbound				San Bernardino Rd Westbound				Citrus Ave Northbound				San Bernardino Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	11	71	11	93	3	120	2	125	10	44	1	55	10	57	9	76	349
07:45 AM	17	64	8	89	4	128	6	138	13	49	3	65	14	68	10	92	384
08:00 AM	23	88	7	118	7	89	7	103	8	51	9	68	9	60	10	79	368
08:15 AM	12	77	15	104	10	83	4	97	10	51	4	65	8	56	9	73	339
Total Volume	63	300	41	404	24	420	19	463	41	195	17	253	41	241	38	320	1440
% App. Total	15.6	74.3	10.1		5.2	90.7	4.1		16.2	77.1	6.7		12.8	75.3	11.9		
PHF	.685	.852	.683	.856	.600	.820	.679	.839	.788	.956	.472	.930	.732	.886	.950	.870	.938

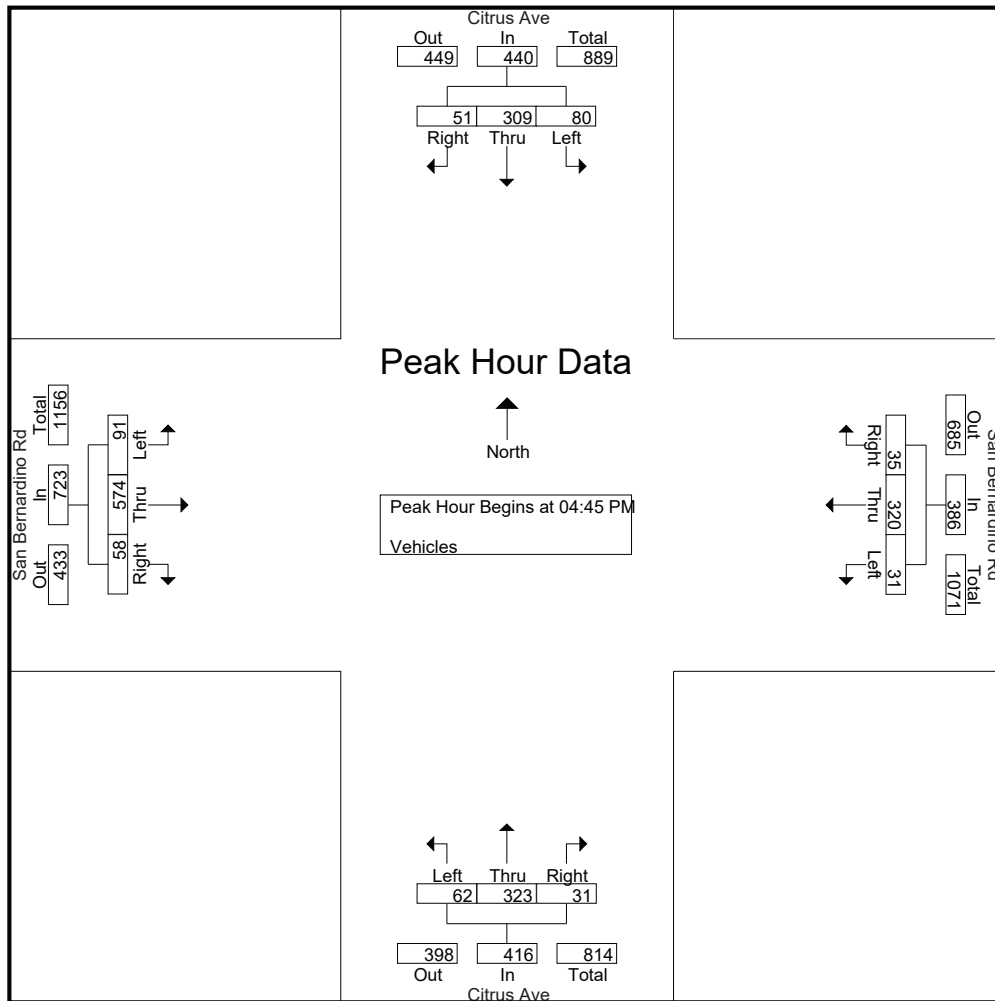


CITY TRAFFIC COUNTERS

www.ctcounters.com

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	Citrus Ave Southbound				San Bernardino Rd Westbound				Citrus Ave Northbound				San Bernardino Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	21	79	17	117	8	78	7	93	13	82	13	108	22	150	15	187	505
05:00 PM	13	69	13	95	7	87	5	99	21	80	5	106	27	155	13	195	495
05:15 PM	23	84	9	116	9	78	11	98	12	81	6	99	24	137	16	177	490
05:30 PM	23	77	12	112	7	77	12	96	16	80	7	103	18	132	14	164	475
Total Volume	80	309	51	440	31	320	35	386	62	323	31	416	91	574	58	723	1965
% App. Total	18.2	70.2	11.6		8	82.9	9.1		14.9	77.6	7.5		12.6	79.4	8		
PHF	.870	.920	.750	.940	.861	.920	.729	.975	.738	.985	.596	.963	.843	.926	.906	.927	.973



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_SanBernardino_BP

Site Code : 00000000

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Groups Printed- Bikes & Peds

	Citrus Ave Southbound		San Bernardino Rd Westbound		Citrus Ave Northbound		San Bernardino Rd Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	3	0	0	0	0	0	0	3
07:15 AM	1	0	0	0	0	1	1	0	3
07:30 AM	0	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	1	0	0	0	0	1
Total	1	3	0	1	0	1	1	1	8
08:00 AM	0	0	0	1	0	0	2	1	4
08:15 AM	0	0	1	1	0	1	0	3	6
08:30 AM	0	0	0	0	0	1	0	2	3
08:45 AM	0	0	0	0	0	0	1	1	2
Total	0	0	1	2	0	2	3	7	15
04:00 PM	0	4	0	3	0	0	0	2	9
04:15 PM	0	1	0	5	0	1	0	0	7
04:30 PM	0	2	0	0	0	0	0	5	7
04:45 PM	0	3	0	9	0	4	0	5	21
Total	0	10	0	17	0	5	0	12	44
05:00 PM	0	1	0	4	0	1	1	0	7
05:15 PM	0	2	0	3	0	1	0	2	8
05:30 PM	0	1	0	0	0	0	0	4	5
Total	0	4	0	7	0	2	1	6	20
Grand Total	1	17	1	27	0	10	5	26	87
Apprch %	5.6	94.4	3.6	96.4	0	100	16.1	83.9	
Total %	1.1	19.5	1.1	31	0	11.5	5.7	29.9	

CITY TRAFFIC COUNTERS

www.ctcounters.com

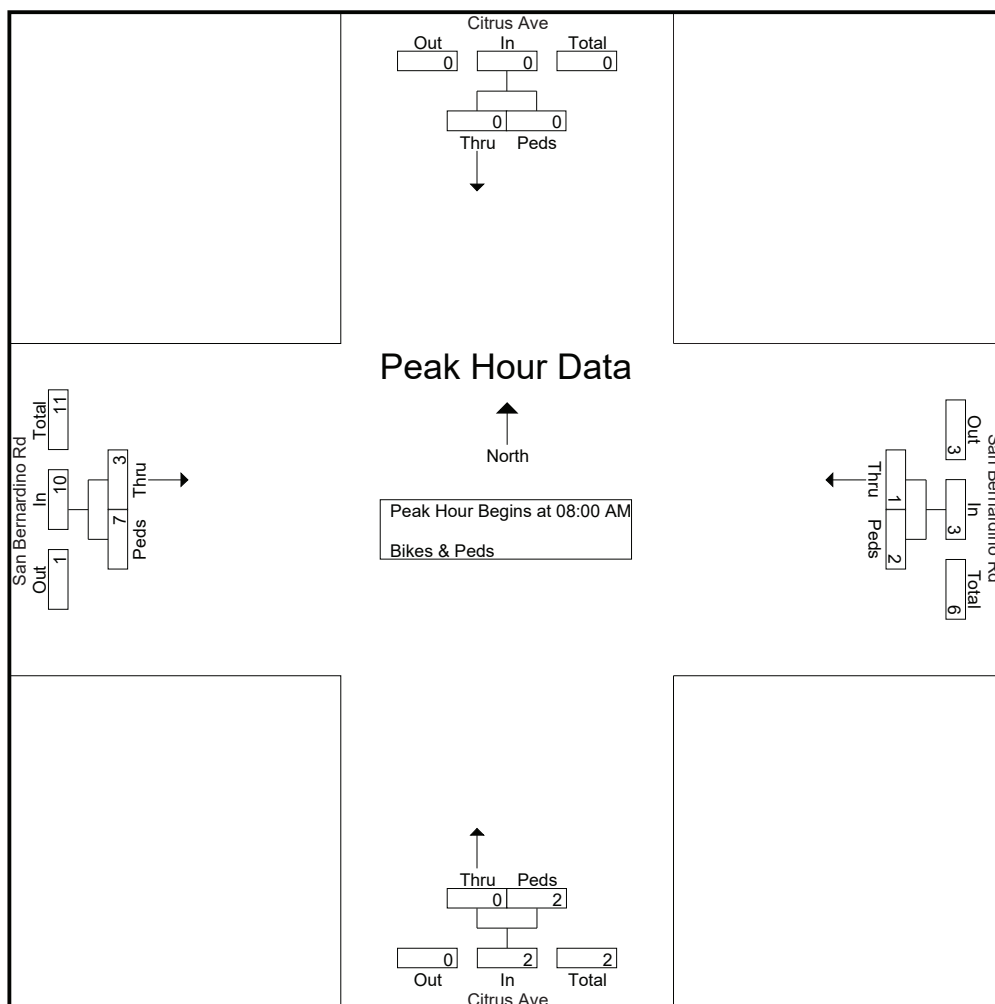
File Name : Citrus_SanBernardino_BP

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound			San Bernardino Rd Westbound			Citrus Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	0	0	1	1	0	0	0	2	1	3	4
08:15 AM	0	0	0	1	1	2	0	1	1	0	3	3	6
08:30 AM	0	0	0	0	0	0	0	1	1	0	2	2	3
08:45 AM	0	0	0	0	0	0	0	0	0	1	1	2	2
Total Volume	0	0	0	1	2	3	0	2	2	3	7	10	15
% App. Total	0	0		33.3	66.7		0	100		30	70		
PHF	.000	.000	.000	.250	.500	.375	.000	.500	.500	.375	.583	.833	.625



CITY TRAFFIC COUNTERS

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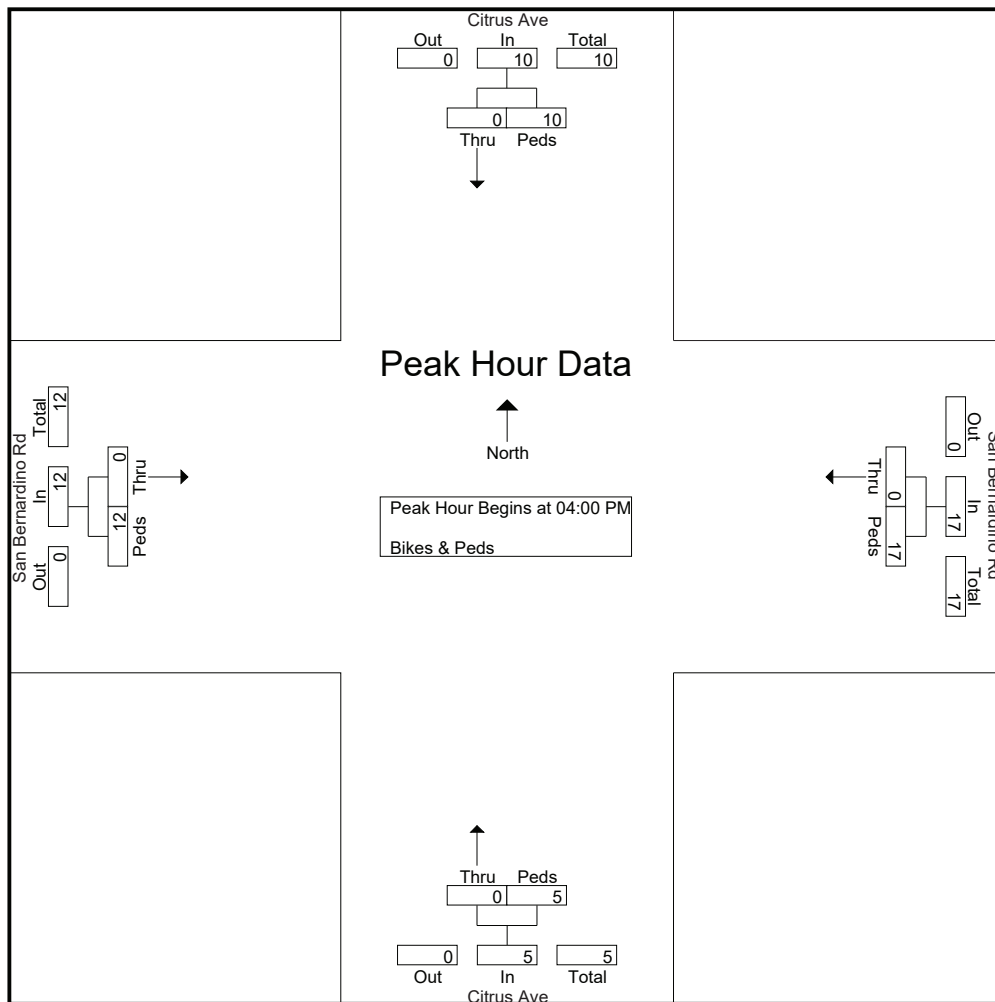
File Name : Citrus_SanBernardino_BP

Site Code : 00000000

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	Citrus Ave Southbound			San Bernardino Rd Westbound			Citrus Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	4	4	0	3	3	0	0	0	0	2	2	9
04:15 PM	0	1	1	0	5	5	0	1	1	0	0	0	7
04:30 PM	0	2	2	0	0	0	0	0	0	0	5	5	7
04:45 PM	0	3	3	0	9	9	0	4	4	0	5	5	21
Total Volume	0	10	10	0	17	17	0	5	5	0	12	12	44
% App. Total	0	100		0	100		0	100		0	100		
PHF	.000	.625	.625	.000	.472	.472	.000	.313	.313	.000	.600	.600	.524



CITY TRAFFIC COUNTERS

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File Name : Citrus_College

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Groups Printed- Vehicles

	Citrus Ave Southbound			College St Westbound			Citrus Ave Northbound			College St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	49	2	7	22	4	9	45	5	0	1	6	151
07:15 AM	1	57	4	3	21	6	6	35	2	2	5	5	147
07:30 AM	3	74	4	4	17	2	4	47	2	4	9	7	177
07:45 AM	1	80	5	5	21	6	9	74	1	2	8	9	221
Total	6	260	15	19	81	18	28	201	10	8	23	27	696
08:00 AM	3	84	8	5	14	4	13	70	3	1	3	7	215
08:15 AM	1	81	9	4	14	0	7	65	1	3	4	6	195
08:30 AM	2	65	5	5	12	5	11	63	5	3	4	12	192
08:45 AM	3	57	9	4	22	3	11	54	3	7	7	6	186
Total	9	287	31	18	62	12	42	252	12	14	18	31	788
04:00 PM	3	89	8	3	23	11	9	85	11	5	26	9	282
04:15 PM	6	90	9	8	15	13	5	93	8	6	28	15	296
04:30 PM	6	78	13	13	13	9	5	97	11	2	35	17	299
04:45 PM	7	86	7	13	13	12	5	81	12	10	21	18	285
Total	22	343	37	37	64	45	24	356	42	23	110	59	1162
05:00 PM	7	81	4	12	6	12	4	88	7	7	36	21	285
05:15 PM	3	97	3	11	22	13	10	86	8	12	31	18	314
05:30 PM	0	94	4	5	13	6	3	99	6	5	24	14	273
05:45 PM	5	75	8	6	7	8	4	102	13	6	13	11	258
Total	15	347	19	34	48	39	21	375	34	30	104	64	1130
Grand Total	52	1237	102	108	255	114	115	1184	98	75	255	181	3776
Apprch %	3.7	88.9	7.3	22.6	53.5	23.9	8.2	84.8	7	14.7	49.9	35.4	
Total %	1.4	32.8	2.7	2.9	6.8	3	3	31.4	2.6	2	6.8	4.8	

CITY TRAFFIC COUNTERS

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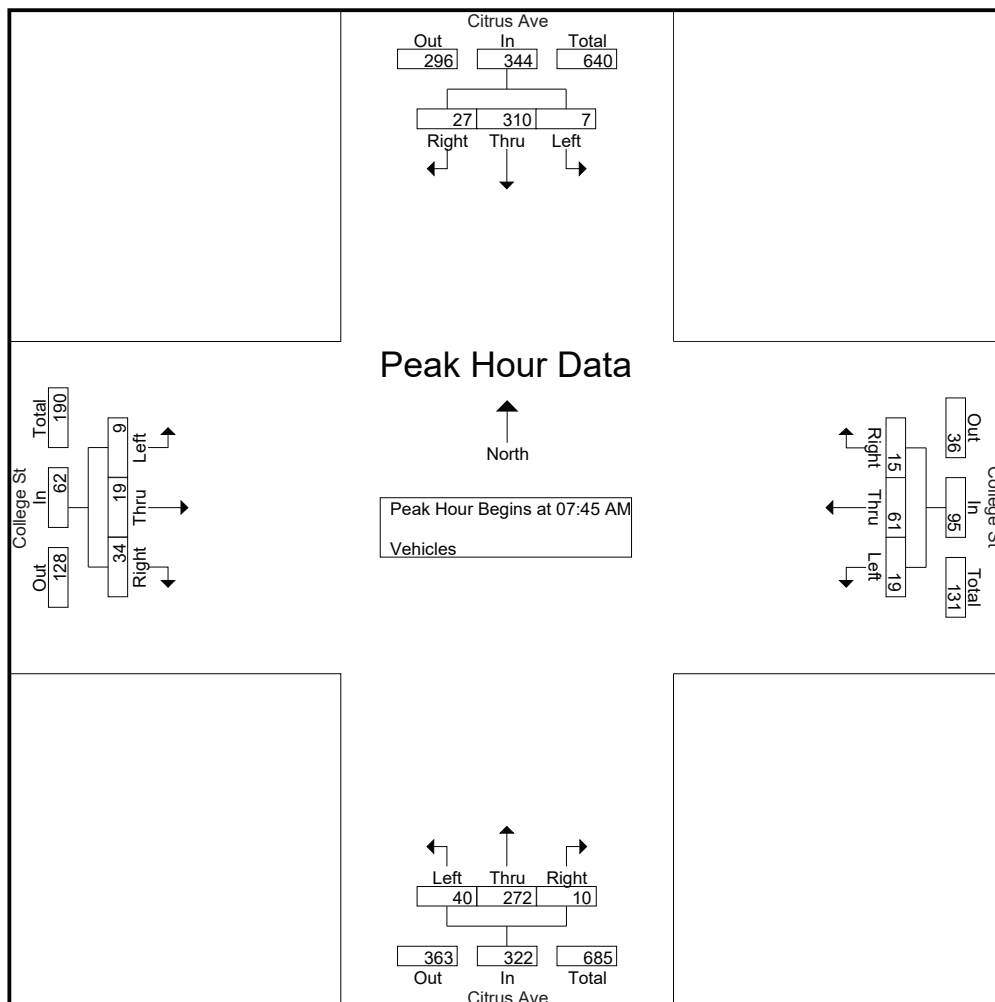
File Name : Citrus_College

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound				College St Westbound				Citrus Ave Northbound				College St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	80	5	86	5	21	6	32	9	74	1	84	2	8	9	19	221
08:00 AM	3	84	8	95	5	14	4	23	13	70	3	86	1	3	7	11	215
08:15 AM	1	81	9	91	4	14	0	18	7	65	1	73	3	4	6	13	195
08:30 AM	2	65	5	72	5	12	5	22	11	63	5	79	3	4	12	19	192
Total Volume	7	310	27	344	19	61	15	95	40	272	10	322	9	19	34	62	823
% App. Total	2	90.1	7.8		20	64.2	15.8		12.4	84.5	3.1		14.5	30.6	54.8		
PHF	.583	.923	.750	.905	.950	.726	.625	.742	.769	.919	.500	.936	.750	.594	.708	.816	.931



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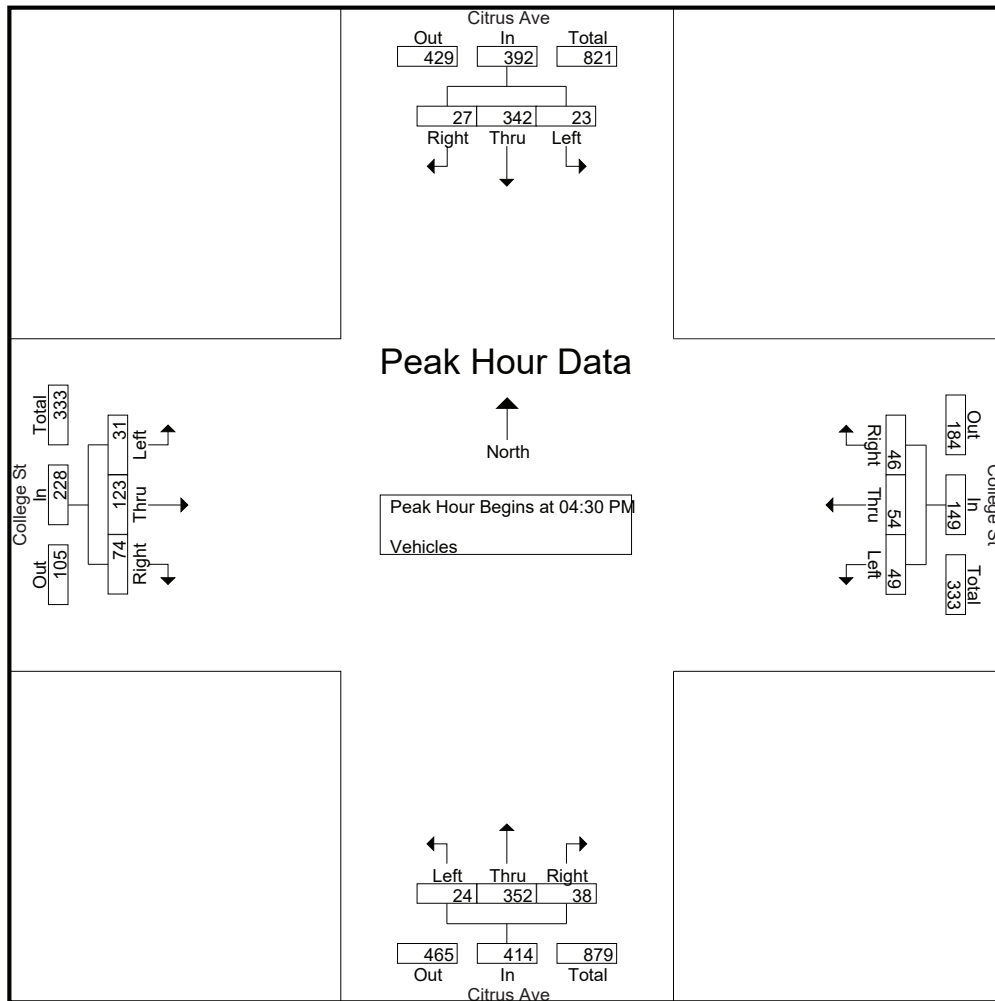
File Name : Citrus_College

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	Citrus Ave Southbound				College St Westbound				Citrus Ave Northbound				College St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	78	13	97	13	13	9	35	5	97	11	113	2	35	17	54	299
04:45 PM	7	86	7	100	13	13	12	38	5	81	12	98	10	21	18	49	285
05:00 PM	7	81	4	92	12	6	12	30	4	88	7	99	7	36	21	64	285
05:15 PM	3	97	3	103	11	22	13	46	10	86	8	104	12	31	18	61	314
Total Volume	23	342	27	392	49	54	46	149	24	352	38	414	31	123	74	228	1183
% App. Total	5.9	87.2	6.9		32.9	36.2	30.9		5.8	85	9.2		13.6	53.9	32.5		
PHF	.821	.881	.519	.951	.942	.614	.885	.810	.600	.907	.792	.916	.646	.854	.881	.891	.942



CITY TRAFFIC COUNTERS

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File Name : Citrus_College_BP

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Bikes & Peds

	Citrus Ave Southbound		College St Westbound		Citrus Ave Northbound		College St Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	5	1	2	0	1	0	0	9
07:15 AM	1	1	0	7	0	1	0	1	11
07:30 AM	0	3	1	7	0	4	0	3	18
07:45 AM	0	4	0	1	0	2	1	2	10
Total	1	13	2	17	0	8	1	6	48
08:00 AM	0	1	1	13	0	4	0	3	22
08:15 AM	0	8	0	16	0	0	0	4	28
08:30 AM	0	3	0	16	0	2	0	6	27
08:45 AM	0	11	3	17	0	3	1	8	43
Total	0	23	4	62	0	9	1	21	120
04:00 PM	0	6	0	2	0	2	0	5	15
04:15 PM	0	1	0	3	0	6	0	6	16
04:30 PM	0	3	0	9	0	2	0	16	30
04:45 PM	0	6	0	13	0	1	0	8	28
Total	0	16	0	27	0	11	0	35	89
05:00 PM	0	2	0	14	0	5	0	9	30
05:15 PM	0	14	0	20	0	1	0	10	45
05:30 PM	0	7	0	20	0	9	0	12	48
05:45 PM	0	5	0	13	0	8	0	13	39
Total	0	28	0	67	0	23	0	44	162
Grand Total	1	80	6	173	0	51	2	106	419
Apprch %	1.2	98.8	3.4	96.6	0	100	1.9	98.1	
Total %	0.2	19.1	1.4	41.3	0	12.2	0.5	25.3	

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	Citrus Ave Southbound			College St Westbound			Citrus Ave Northbound			College St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	1	1	1	13	14	0	4	4	0	3	3	22
08:15 AM	0	8	8	0	16	16	0	0	0	0	4	4	28
08:30 AM	0	3	3	0	16	16	0	2	2	0	6	6	27
08:45 AM	0	11	11	3	17	20	0	3	3	1	8	9	43
Total Volume	0	23	23	4	62	66	0	9	9	1	21	22	120
% App. Total	0	100		6.1	93.9		0	100		4.5	95.5		
PHF	.000	.523	.523	.333	.912	.825	.000	.563	.563	.250	.656	.611	.698

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	Citrus Ave Southbound			College St Westbound			Citrus Ave Northbound			College St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	2	2	0	14	14	0	5	5	0	9	9	30
05:15 PM	0	14	14	0	20	20	0	1	1	0	10	10	45
05:30 PM	0	7	7	0	20	20	0	9	9	0	12	12	48
05:45 PM	0	5	5	0	13	13	0	8	8	0	13	13	39
Total Volume	0	28	28	0	67	67	0	23	23	0	44	44	162
% App. Total	0	100		0	100		0	100		0	100		
PHF	.000	.500	.500	.000	.838	.838	.000	.639	.639	.000	.846	.846	.844

CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_Badillo

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Vehicles

	Citrus Ave Southbound			Badillo St Westbound			Citrus Ave Northbound			Badillo St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	4	51	11	10	243	14	28	43	8	5	56	7	480
07:15 AM	3	53	9	14	260	19	35	31	9	5	69	8	515
07:30 AM	2	82	6	12	253	7	32	48	25	2	103	16	588
07:45 AM	0	93	3	17	200	7	36	72	23	4	152	25	632
Total	9	279	29	53	956	47	131	194	65	16	380	56	2215
08:00 AM	4	86	15	35	189	11	36	67	23	7	134	20	627
08:15 AM	5	80	6	20	146	16	18	64	25	8	121	18	527
08:30 AM	5	68	11	15	178	17	43	53	20	15	101	17	543
08:45 AM	2	66	8	25	163	14	26	66	17	7	87	13	494
Total	16	300	40	95	676	58	123	250	85	37	443	68	2191
04:00 PM	6	83	6	21	113	13	26	84	28	17	170	17	584
04:15 PM	8	89	10	20	114	6	26	88	39	19	149	22	590
04:30 PM	10	101	8	21	113	12	19	89	30	15	160	25	603
04:45 PM	10	94	15	18	112	21	22	73	42	13	187	22	629
Total	34	367	39	80	452	52	93	334	139	64	666	86	2406
05:00 PM	10	94	10	26	123	26	20	72	42	17	164	27	631
05:15 PM	10	114	12	17	127	19	43	94	28	17	181	22	684
05:30 PM	4	95	21	17	125	12	37	90	53	14	180	23	671
05:45 PM	3	75	11	21	136	14	34	101	31	10	175	24	635
Total	27	378	54	81	511	71	134	357	154	58	700	96	2621
Grand Total	86	1324	162	309	2595	228	481	1135	443	175	2189	306	9433
Apprch %	5.5	84.2	10.3	9.9	82.9	7.3	23.4	55.1	21.5	6.6	82	11.5	
Total %	0.9	14	1.7	3.3	27.5	2.4	5.1	12	4.7	1.9	23.2	3.2	

CITY TRAFFIC COUNTERS

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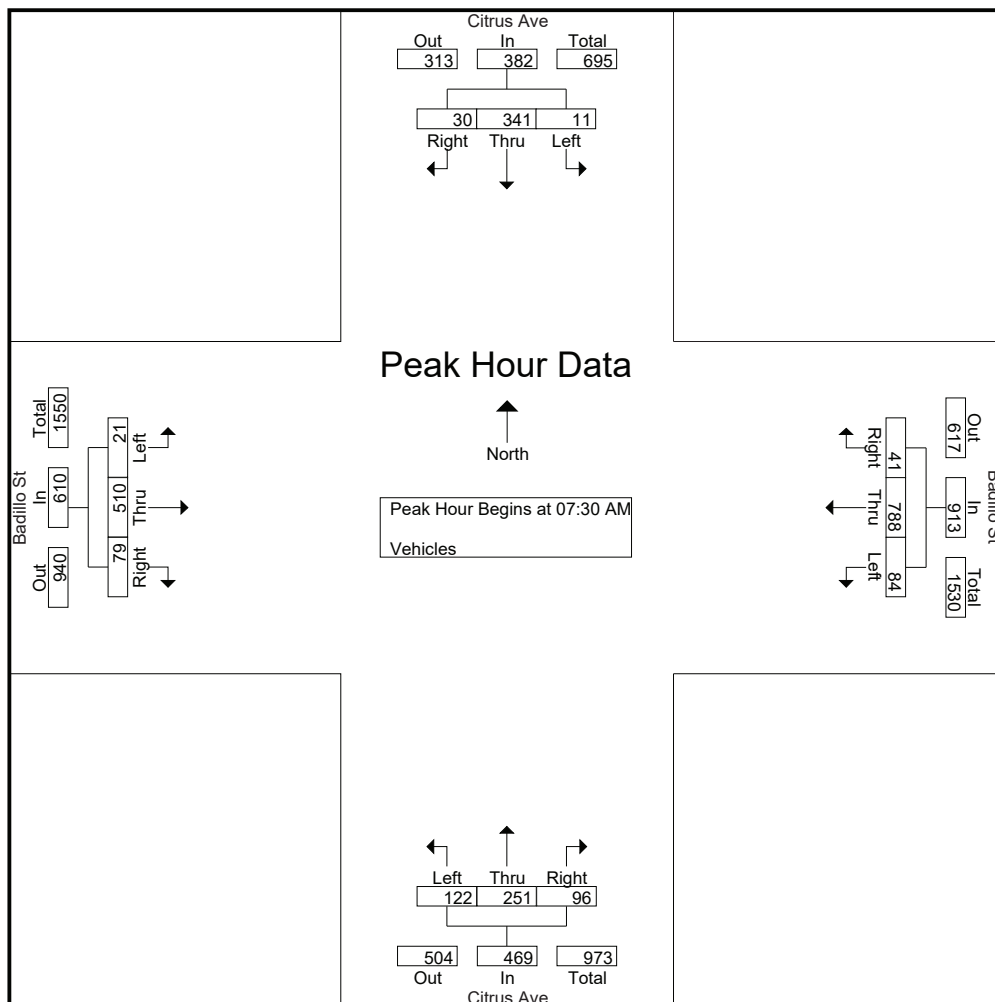
File Name : Citrus_Badillo

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	Citrus Ave Southbound				Badillo St Westbound				Citrus Ave Northbound				Badillo St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	2	82	6	90	12	253	7	272	32	48	25	105	2	103	16	121	588
07:45 AM	0	93	3	96	17	200	7	224	36	72	23	131	4	152	25	181	632
08:00 AM	4	86	15	105	35	189	11	235	36	67	23	126	7	134	20	161	627
08:15 AM	5	80	6	91	20	146	16	182	18	64	25	107	8	121	18	147	527
Total Volume	11	341	30	382	84	788	41	913	122	251	96	469	21	510	79	610	2374
% App. Total	2.9	89.3	7.9		9.2	86.3	4.5		26	53.5	20.5		3.4	83.6	13		
PHF	.550	.917	.500	.910	.600	.779	.641	.839	.847	.872	.960	.895	.656	.839	.790	.843	.939



CITY TRAFFIC COUNTERS

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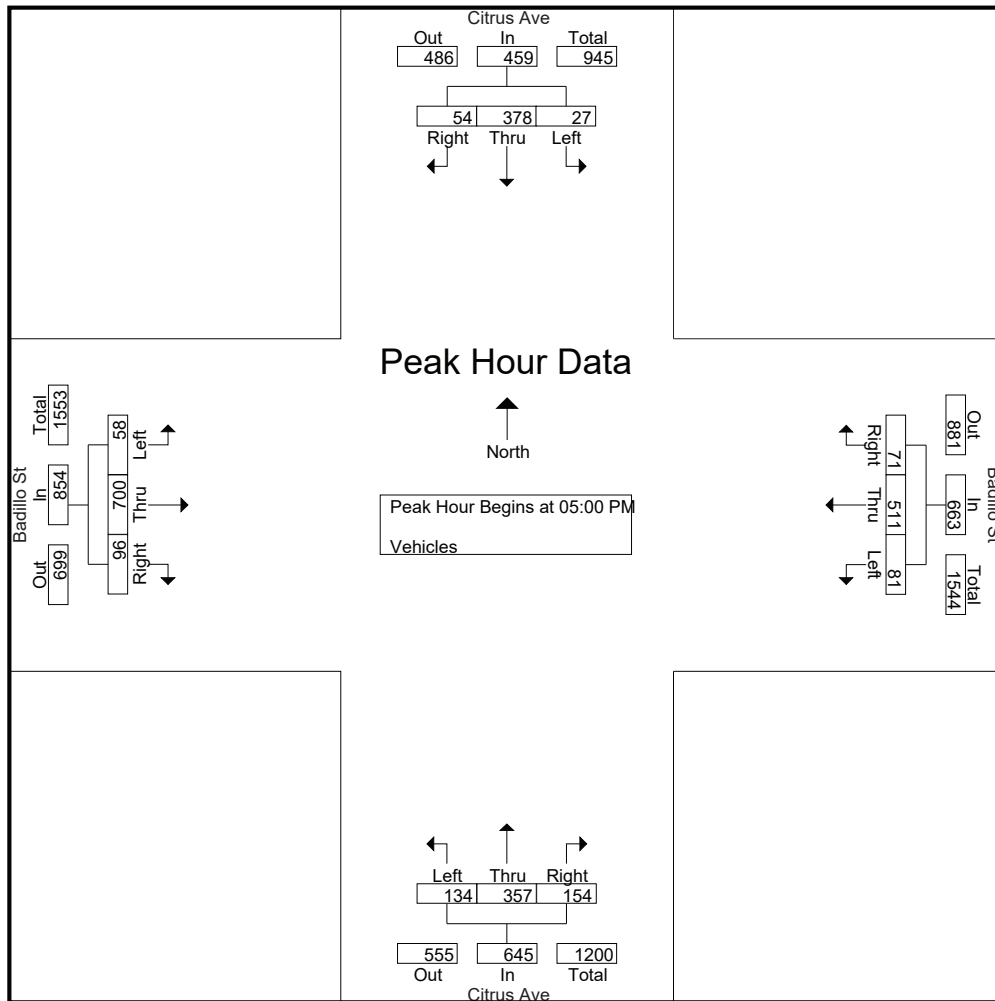
File Name : Citrus_Badillo

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound				Badillo St Westbound				Citrus Ave Northbound				Badillo St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	10	94	10	114	26	123	26	175	20	72	42	134	17	164	27	208	631
05:15 PM	10	114	12	136	17	127	19	163	43	94	28	165	17	181	22	220	684
05:30 PM	4	95	21	120	17	125	12	154	37	90	53	180	14	180	23	217	671
05:45 PM	3	75	11	89	21	136	14	171	34	101	31	166	10	175	24	209	635
Total Volume	27	378	54	459	81	511	71	663	134	357	154	645	58	700	96	854	2621
% App. Total	5.9	82.4	11.8		12.2	77.1	10.7		20.8	55.3	23.9		6.8	82	11.2		
PHF	.675	.829	.643	.844	.779	.939	.683	.947	.779	.884	.726	.896	.853	.967	.889	.970	.958



CITY TRAFFIC COUNTERS

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File Name : Citrus_Badillo_BP

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Bikes & Peds

	Citrus Ave Southbound		Badillo St Westbound		Citrus Ave Northbound		Badillo St Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	0	1	1	0	1	0	0	3
07:15 AM	0	1	0	1	0	0	0	1	3
07:30 AM	1	3	1	3	3	1	0	1	13
07:45 AM	0	0	0	1	0	0	0	0	1
Total	1	4	2	6	3	2	0	2	20
08:00 AM	0	1	0	0	0	1	0	0	2
08:15 AM	0	2	0	4	0	0	0	1	7
08:30 AM	0	3	0	2	0	0	0	0	5
08:45 AM	0	7	0	1	1	0	0	0	9
Total	0	13	0	7	1	1	0	1	23
04:00 PM	0	0	0	0	1	0	0	0	1
04:15 PM	1	6	0	1	0	2	0	0	10
04:45 PM	0	2	0	0	0	0	0	0	2
Total	1	8	0	1	1	2	0	0	13
05:00 PM	0	0	1	2	0	0	0	0	3
05:15 PM	0	2	0	3	0	1	0	0	6
05:30 PM	0	8	0	4	1	7	0	1	21
05:45 PM	2	1	0	0	0	2	0	1	6
Total	2	11	1	9	1	10	0	2	36
Grand Total	4	36	3	23	6	15	0	5	92
Apprch %	10	90	11.5	88.5	28.6	71.4	0	100	
Total %	4.3	39.1	3.3	25	6.5	16.3	0	5.4	

CITY TRAFFIC COUNTERS

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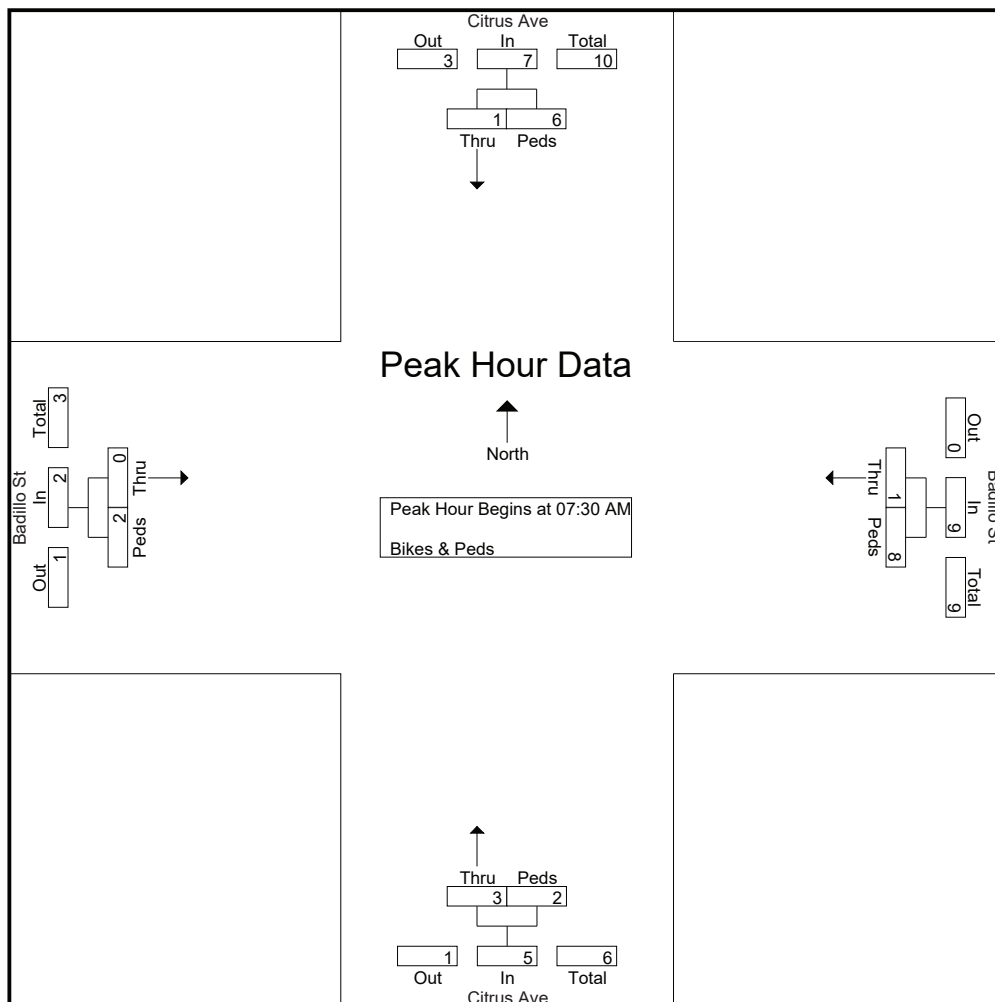
File Name : Citrus_Badillo_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	Citrus Ave Southbound			Badillo St Westbound			Citrus Ave Northbound			Badillo St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	1	3	4	1	3	4	3	1	4	0	1	1	13
07:45 AM	0	0	0	0	1	1	0	0	0	0	0	0	1
08:00 AM	0	1	1	0	0	0	0	1	1	0	0	0	2
08:15 AM	0	2	2	0	4	4	0	0	0	0	1	1	7
Total Volume	1	6	7	1	8	9	3	2	5	0	2	2	23
% App. Total	14.3	85.7		11.1	88.9		60	40		0	100		
PHF	.250	.500	.438	.250	.500	.563	.250	.500	.313	.000	.500	.500	.442



CITY TRAFFIC COUNTERS

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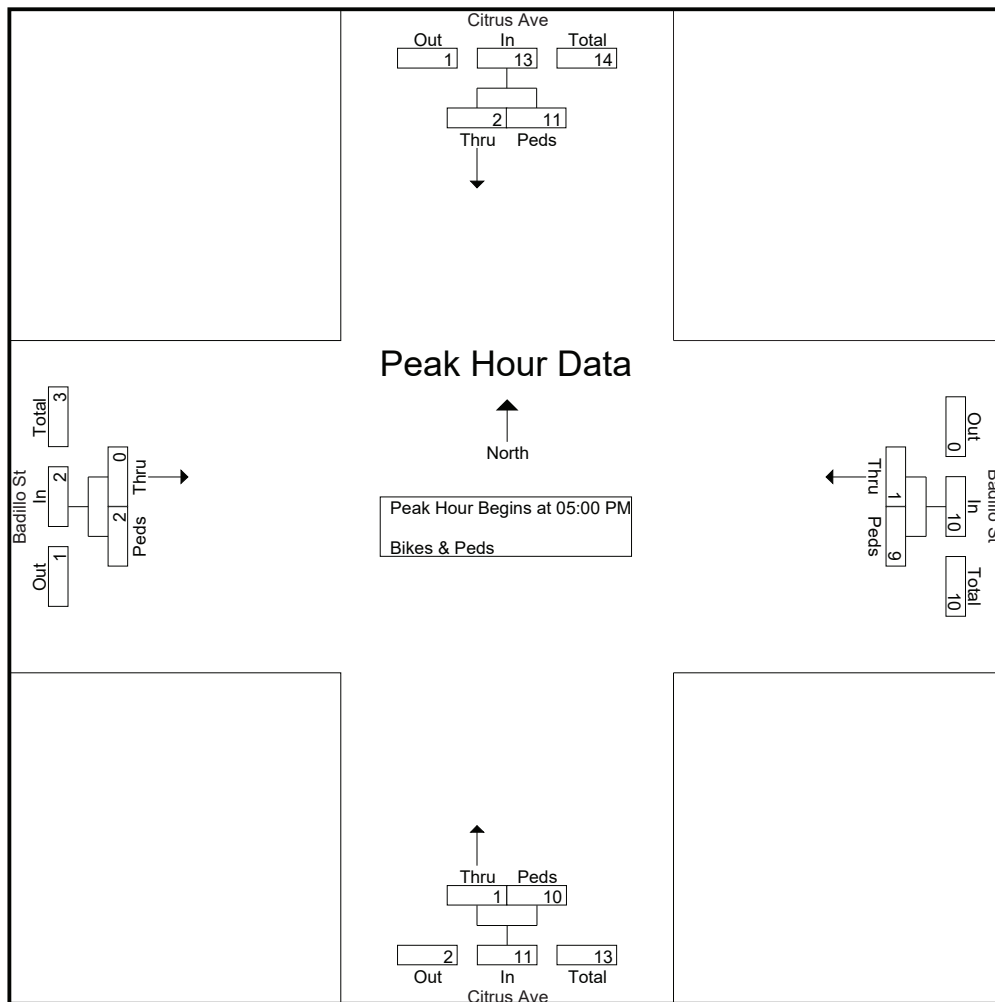
File Name : Citrus_Badillo_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound			Badillo St Westbound			Citrus Ave Northbound			Badillo St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	0	0	1	2	3	0	0	0	0	0	0	3
05:15 PM	0	2	2	0	3	3	0	1	1	0	0	0	6
05:30 PM	0	8	8	0	4	4	1	7	8	0	1	1	21
05:45 PM	2	1	3	0	0	0	0	2	2	0	1	1	6
Total Volume	2	11	13	1	9	10	1	10	11	0	2	2	36
% App. Total	15.4	84.6		10	90		9.1	90.9		0	100		
PHF	.250	.344	.406	.250	.563	.625	.250	.357	.344	.000	.500	.500	.429



CITY TRAFFIC COUNTERS

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File Name : Barranca_SanBernardino

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Vehicles

	Barranca Ave Southbound			San Bernardino Rd Westbound			Barranca Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	7	100	29	7	70	15	15	86	4	6	19	7	365
07:15 AM	10	127	36	6	92	18	17	114	6	13	35	7	481
07:30 AM	12	141	34	13	89	20	18	139	5	24	39	4	538
07:45 AM	17	170	51	13	77	25	17	191	21	25	45	8	660
Total	46	538	150	39	328	78	67	530	36	68	138	26	2044
08:00 AM	29	129	42	13	70	34	11	163	19	36	52	6	604
08:15 AM	29	142	41	12	49	16	16	107	20	30	42	7	511
08:30 AM	13	121	33	7	61	25	9	110	13	17	41	12	462
08:45 AM	13	126	34	10	76	16	9	94	13	15	44	3	453
Total	84	518	150	42	256	91	45	474	65	98	179	28	2030
04:00 PM	17	146	29	17	57	16	10	151	13	45	106	18	625
04:15 PM	18	119	31	13	52	21	10	165	15	47	106	23	620
04:30 PM	20	153	27	14	67	24	8	156	14	35	98	10	626
04:45 PM	18	154	27	13	52	21	13	148	15	40	121	20	642
Total	73	572	114	57	228	82	41	620	57	167	431	71	2513
05:00 PM	17	156	37	21	41	24	13	210	15	60	111	13	718
05:15 PM	14	146	30	14	49	18	11	188	13	39	99	22	643
05:30 PM	17	145	21	16	64	16	8	144	14	44	109	21	619
05:45 PM	20	149	24	15	63	12	5	159	15	45	101	16	624
Total	68	596	112	66	217	70	37	701	57	188	420	72	2604
Grand Total	271	2224	526	204	1029	321	190	2325	215	521	1168	197	9191
Apprch %	9	73.6	17.4	13.1	66.2	20.7	7	85.2	7.9	27.6	61.9	10.4	
Total %	2.9	24.2	5.7	2.2	11.2	3.5	2.1	25.3	2.3	5.7	12.7	2.1	

CITY TRAFFIC COUNTERS

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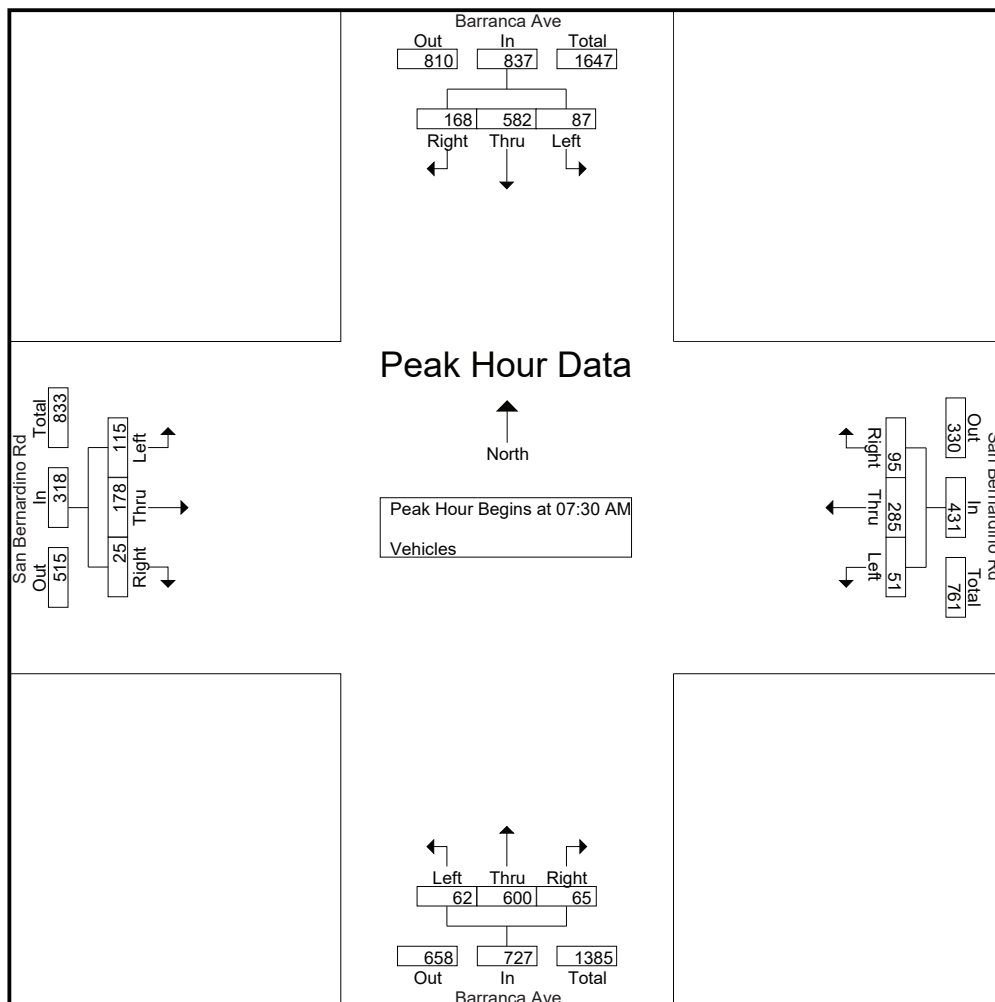
File Name : Barranca_SanBernardino

Site Code : 00000000

Start Date : 3/20/2018

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	Barranca Ave Southbound				San Bernardino Rd Westbound				Barranca Ave Northbound				San Bernardino Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	12	141	34	187	13	89	20	122	18	139	5	162	24	39	4	67	538
07:45 AM	17	170	51	238	13	77	25	115	17	191	21	229	25	45	8	78	660
08:00 AM	29	129	42	200	13	70	34	117	11	163	19	193	36	52	6	94	604
08:15 AM	29	142	41	212	12	49	16	77	16	107	20	143	30	42	7	79	511
Total Volume	87	582	168	837	51	285	95	431	62	600	65	727	115	178	25	318	2313
% App. Total	10.4	69.5	20.1		11.8	66.1	22		8.5	82.5	8.9		36.2	56	7.9		
PHF	.750	.856	.824	.879	.981	.801	.699	.883	.861	.785	.774	.794	.799	.856	.781	.846	.876



CITY TRAFFIC COUNTERS

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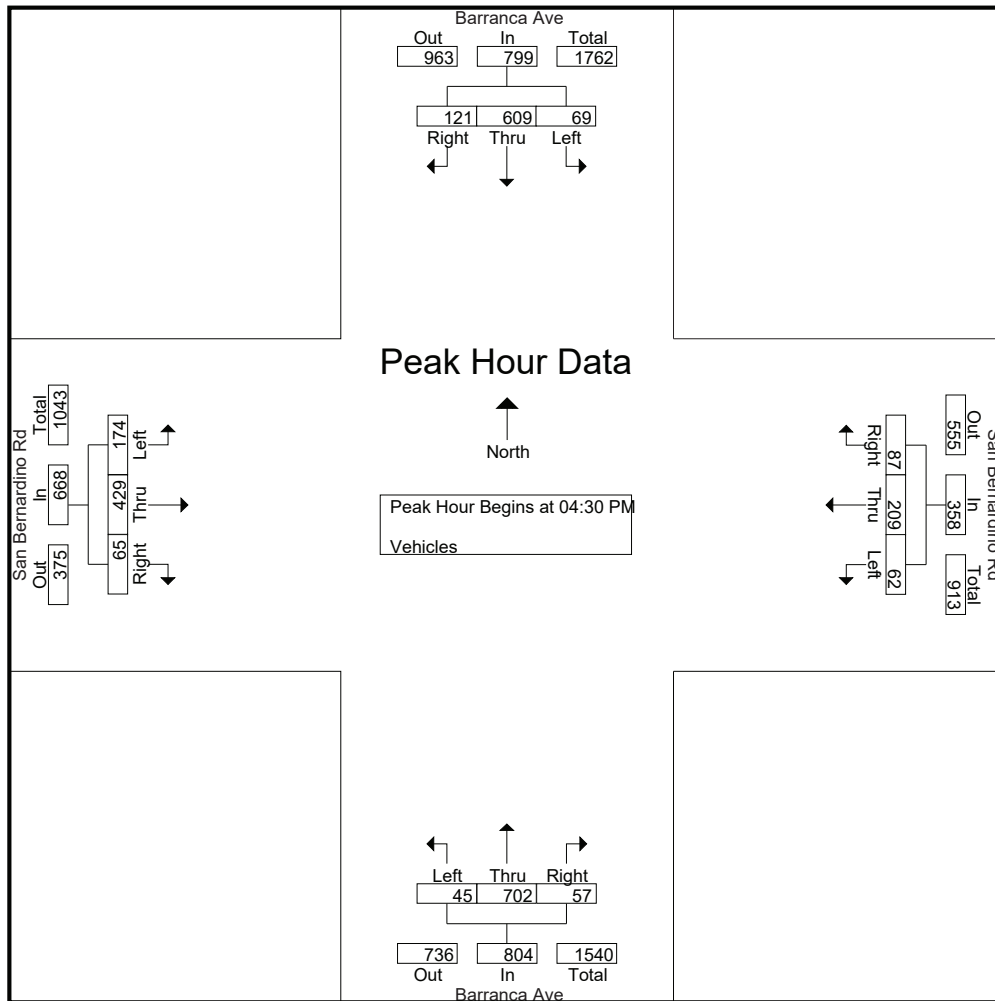
File Name : Barranca_SanBernardino

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Barranca Ave Southbound				San Bernardino Rd Westbound				Barranca Ave Northbound				San Bernardino Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	20	153	27	200	14	67	24	105	8	156	14	178	35	98	10	143	626
04:45 PM	18	154	27	199	13	52	21	86	13	148	15	176	40	121	20	181	642
05:00 PM	17	156	37	210	21	41	24	86	13	210	15	238	60	111	13	184	718
05:15 PM	14	146	30	190	14	49	18	81	11	188	13	212	39	99	22	160	643
Total Volume	69	609	121	799	62	209	87	358	45	702	57	804	174	429	65	668	2629
% App. Total	8.6	76.2	15.1		17.3	58.4	24.3		5.6	87.3	7.1		26	64.2	9.7		
PHF	.863	.976	.818	.951	.738	.780	.906	.852	.865	.836	.950	.845	.725	.886	.739	.908	.915



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Barranca_SanBernardino_BP

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Bikes & Peds

	Barranca Ave Southbound		San Bernardino Rd Westbound		Barranca Ave Northbound		San Bernardino Rd Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	2	0	0	0	1	0	2	5
07:15 AM	1	0	0	0	1	2	1	6	11
07:30 AM	0	1	0	1	0	1	0	2	5
07:45 AM	0	1	0	1	0	0	1	3	6
Total	1	4	0	2	1	4	2	13	27
08:00 AM	1	1	1	2	1	2	2	0	10
08:15 AM	0	4	0	0	0	1	0	4	9
08:30 AM	0	0	0	2	0	2	0	3	7
08:45 AM	0	4	0	3	0	3	0	5	15
Total	1	9	1	7	1	8	2	12	41
04:00 PM	1	0	0	0	0	2	1	1	5
04:15 PM	0	1	0	3	1	5	1	0	11
04:30 PM	0	3	0	2	0	1	0	3	9
04:45 PM	0	5	0	4	0	0	0	4	13
Total	1	9	0	9	1	8	2	8	38
05:00 PM	0	0	0	2	0	0	0	4	6
05:15 PM	0	4	0	5	0	0	0	3	12
05:30 PM	0	2	0	1	1	0	1	2	7
05:45 PM	1	4	0	0	0	3	0	2	10
Total	1	10	0	8	1	3	1	11	35
Grand Total	4	32	1	26	4	23	7	44	141
Apprch %	11.1	88.9	3.7	96.3	14.8	85.2	13.7	86.3	
Total %	2.8	22.7	0.7	18.4	2.8	16.3	5	31.2	

CITY TRAFFIC COUNTERS

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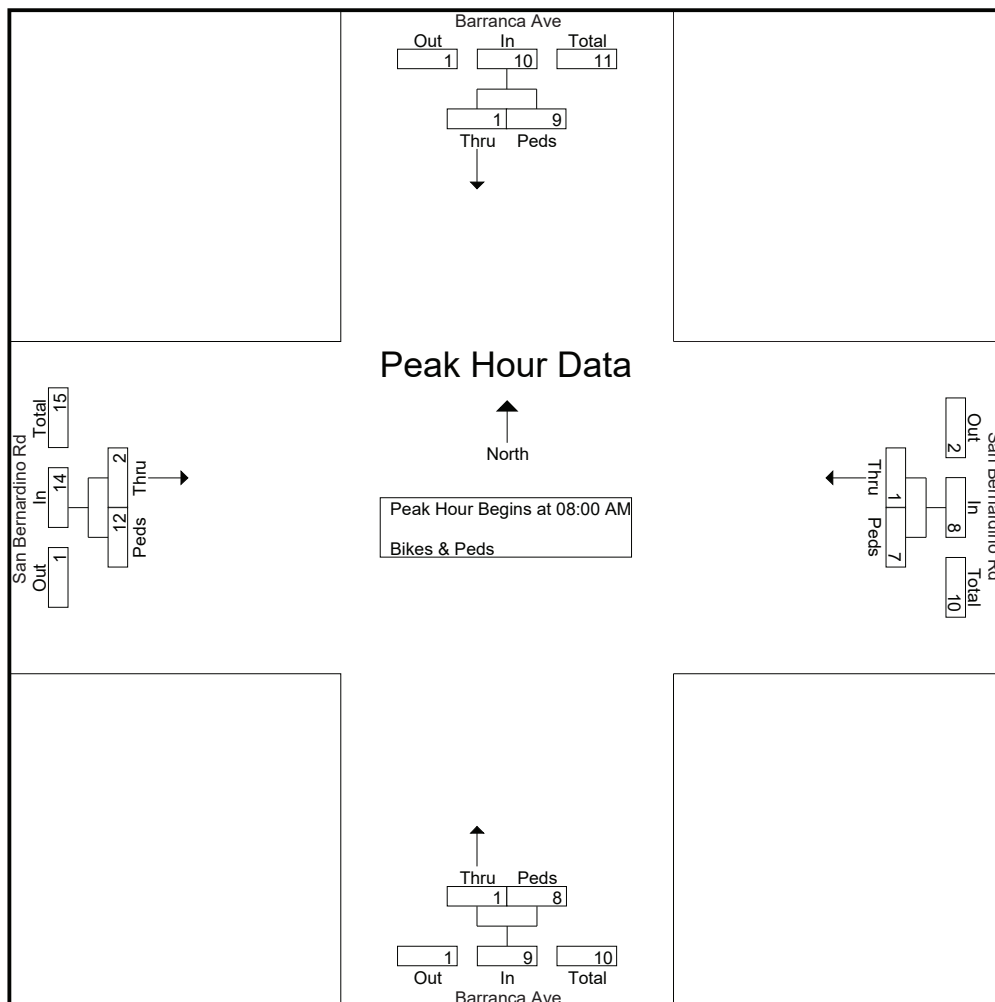
File Name : Barranca_SanBernardino_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	Barranca Ave Southbound			San Bernardino Rd Westbound			Barranca Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	1	1	2	1	2	3	1	2	3	2	0	2	10
08:15 AM	0	4	4	0	0	0	0	1	1	0	4	4	9
08:30 AM	0	0	0	0	2	2	0	2	2	0	3	3	7
08:45 AM	0	4	4	0	3	3	0	3	3	0	5	5	15
Total Volume	1	9	10	1	7	8	1	8	9	2	12	14	41
% App. Total	10	90		12.5	87.5		11.1	88.9		14.3	85.7		
PHF	.250	.563	.625	.250	.583	.667	.250	.667	.750	.250	.600	.700	.683



CITY TRAFFIC COUNTERS

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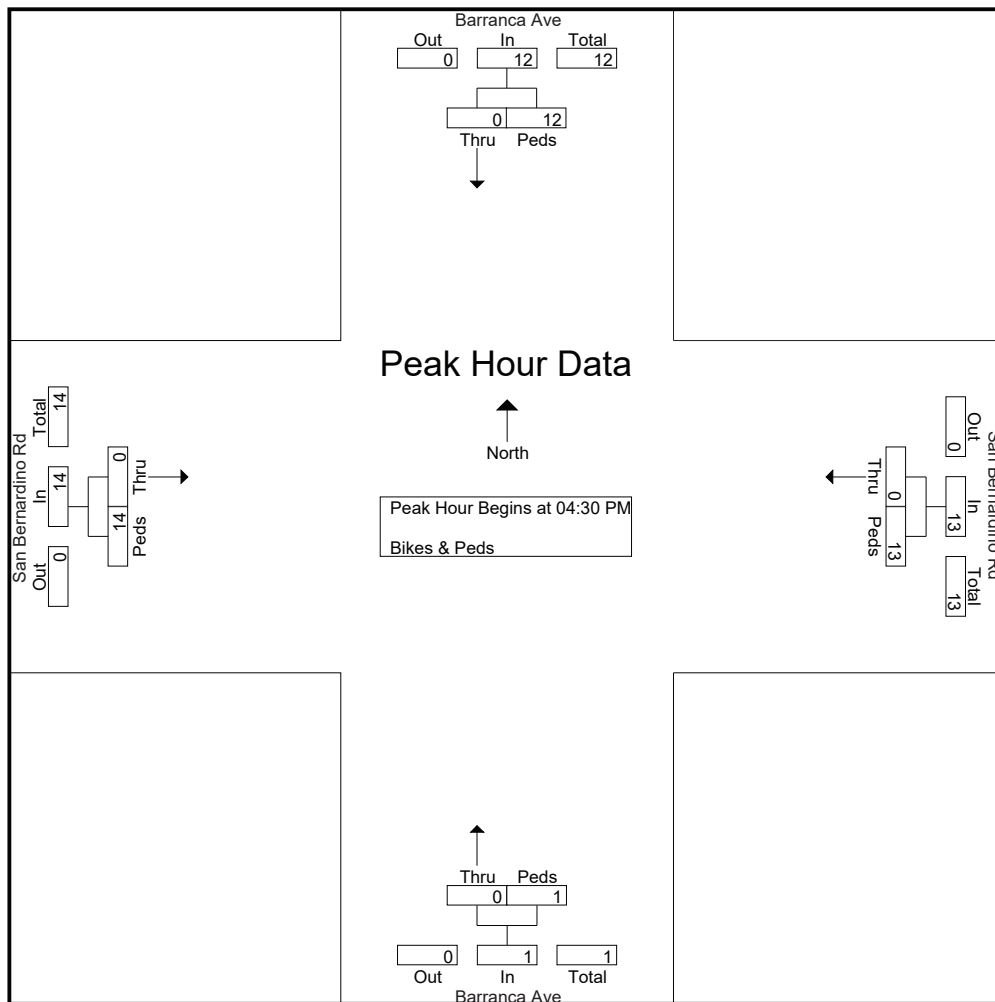
File Name : Barranca_SanBernardino_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Barranca Ave Southbound			San Bernardino Rd Westbound			Barranca Ave Northbound			San Bernardino Rd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	0	3	3	0	2	2	0	1	1	0	3	3	9
04:45 PM	0	5	5	0	4	4	0	0	0	0	4	4	13
05:00 PM	0	0	0	0	2	2	0	0	0	0	4	4	6
05:15 PM	0	4	4	0	5	5	0	0	0	0	3	3	12
Total Volume	0	12	12	0	13	13	0	1	1	0	14	14	40
% App. Total	0	100		0	100		0	100		0	100		
PHF	.000	.600	.600	.000	.650	.650	.000	.250	.250	.000	.875	.875	.769



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Citrus_College

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Vehicles

	Citrus Ave Southbound			College St Westbound			Citrus Ave Northbound			College St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	49	2	7	22	4	9	45	5	0	1	6	151
07:15 AM	1	57	4	3	21	6	6	35	2	2	5	5	147
07:30 AM	3	74	4	4	17	2	4	47	2	4	9	7	177
07:45 AM	1	80	5	5	21	6	9	74	1	2	8	9	221
Total	6	260	15	19	81	18	28	201	10	8	23	27	696
08:00 AM	3	84	8	5	14	4	13	70	3	1	3	7	215
08:15 AM	1	81	9	4	14	0	7	65	1	3	4	6	195
08:30 AM	2	65	5	5	12	5	11	63	5	3	4	12	192
08:45 AM	3	57	9	4	22	3	11	54	3	7	7	6	186
Total	9	287	31	18	62	12	42	252	12	14	18	31	788
04:00 PM	3	89	8	3	23	11	9	85	11	5	26	9	282
04:15 PM	6	90	9	8	15	13	5	93	8	6	28	15	296
04:30 PM	6	78	13	13	13	9	5	97	11	2	35	17	299
04:45 PM	7	86	7	13	13	12	5	81	12	10	21	18	285
Total	22	343	37	37	64	45	24	356	42	23	110	59	1162
05:00 PM	7	81	4	12	6	12	4	88	7	7	36	21	285
05:15 PM	3	97	3	11	22	13	10	86	8	12	31	18	314
05:30 PM	0	94	4	5	13	6	3	99	6	5	24	14	273
05:45 PM	5	75	8	6	7	8	4	102	13	6	13	11	258
Total	15	347	19	34	48	39	21	375	34	30	104	64	1130
Grand Total	52	1237	102	108	255	114	115	1184	98	75	255	181	3776
Apprch %	3.7	88.9	7.3	22.6	53.5	23.9	8.2	84.8	7	14.7	49.9	35.4	
Total %	1.4	32.8	2.7	2.9	6.8	3	3	31.4	2.6	2	6.8	4.8	

CITY TRAFFIC COUNTERS

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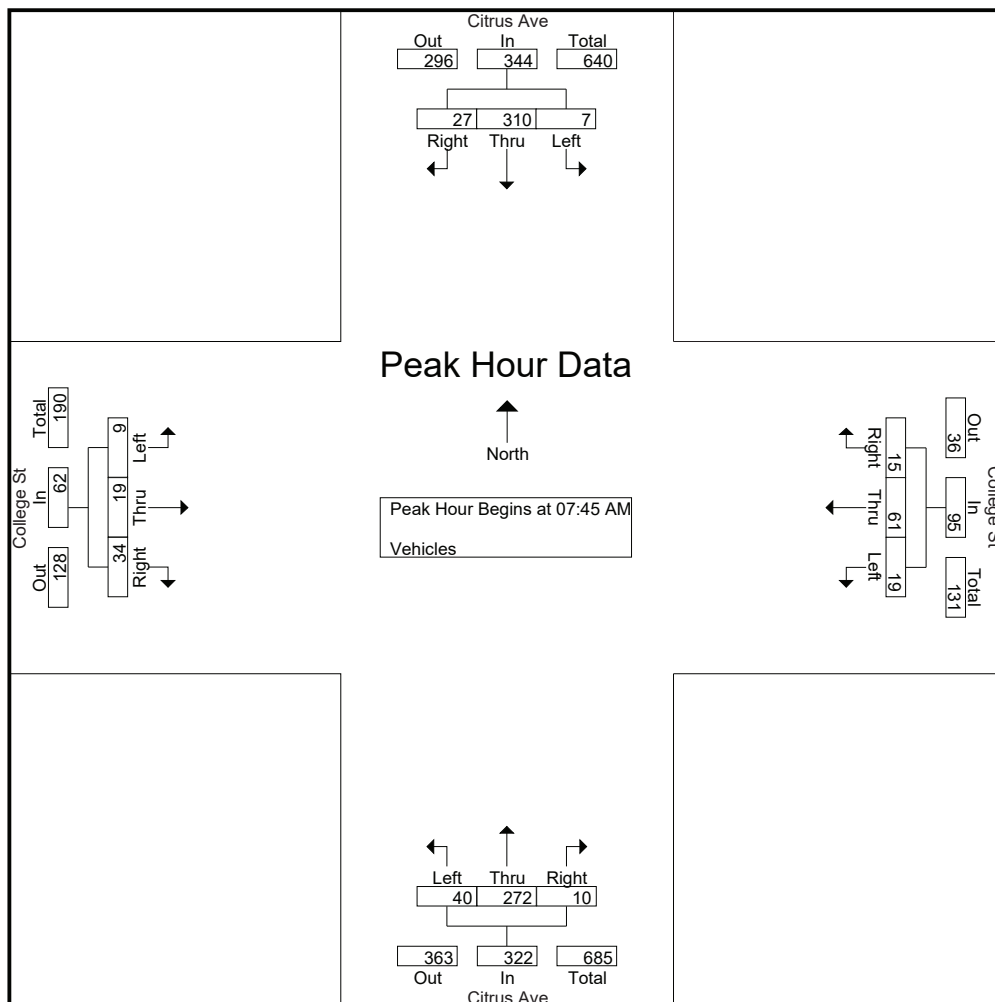
File Name : Citrus_College

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound				College St Westbound				Citrus Ave Northbound				College St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	80	5	86	5	21	6	32	9	74	1	84	2	8	9	19	221
08:00 AM	3	84	8	95	5	14	4	23	13	70	3	86	1	3	7	11	215
08:15 AM	1	81	9	91	4	14	0	18	7	65	1	73	3	4	6	13	195
08:30 AM	2	65	5	72	5	12	5	22	11	63	5	79	3	4	12	19	192
Total Volume	7	310	27	344	19	61	15	95	40	272	10	322	9	19	34	62	823
% App. Total	2	90.1	7.8		20	64.2	15.8		12.4	84.5	3.1		14.5	30.6	54.8		
PHF	.583	.923	.750	.905	.950	.726	.625	.742	.769	.919	.500	.936	.750	.594	.708	.816	.931



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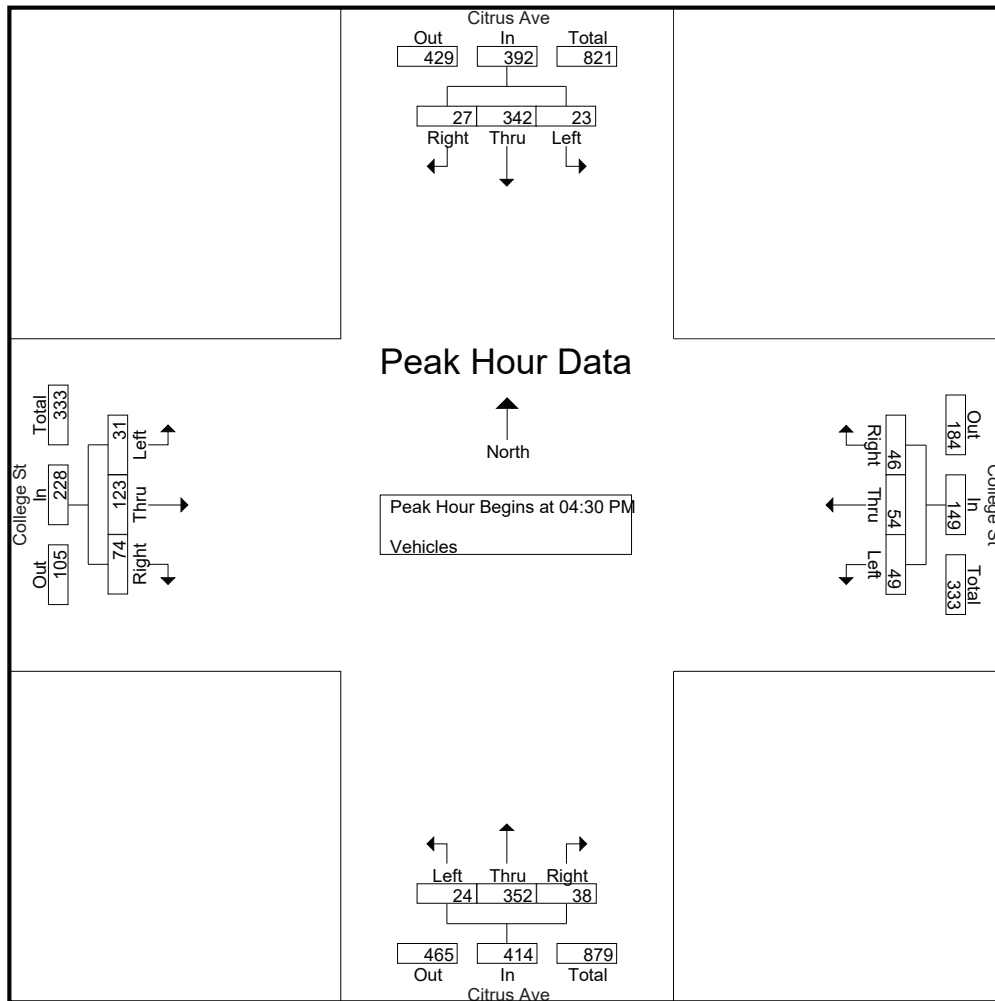
File Name : Citrus_College

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound				College St Westbound				Citrus Ave Northbound				College St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	78	13	97	13	13	9	35	5	97	11	113	2	35	17	54	299
04:45 PM	7	86	7	100	13	13	12	38	5	81	12	98	10	21	18	49	285
05:00 PM	7	81	4	92	12	6	12	30	4	88	7	99	7	36	21	64	285
05:15 PM	3	97	3	103	11	22	13	46	10	86	8	104	12	31	18	61	314
Total Volume	23	342	27	392	49	54	46	149	24	352	38	414	31	123	74	228	1183
% App. Total	5.9	87.2	6.9		32.9	36.2	30.9		5.8	85	9.2		13.6	53.9	32.5		
PHF	.821	.881	.519	.951	.942	.614	.885	.810	.600	.907	.792	.916	.646	.854	.881	.891	.942



CITY TRAFFIC COUNTERS

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File Name : Citrus_College_BP

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Start Date : 3/20/2018

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Groups Printed- Bikes & Peds

	Citrus Ave Southbound		College St Westbound		Citrus Ave Northbound		College St Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	5	1	2	0	1	0	0	9
07:15 AM	1	1	0	7	0	1	0	1	11
07:30 AM	0	3	1	7	0	4	0	3	18
07:45 AM	0	4	0	1	0	2	1	2	10
Total	1	13	2	17	0	8	1	6	48
08:00 AM	0	1	1	13	0	4	0	3	22
08:15 AM	0	8	0	16	0	0	0	4	28
08:30 AM	0	3	0	16	0	2	0	6	27
08:45 AM	0	11	3	17	0	3	1	8	43
Total	0	23	4	62	0	9	1	21	120
04:00 PM	0	6	0	2	0	2	0	5	15
04:15 PM	0	1	0	3	0	6	0	6	16
04:30 PM	0	3	0	9	0	2	0	16	30
04:45 PM	0	6	0	13	0	1	0	8	28
Total	0	16	0	27	0	11	0	35	89
05:00 PM	0	2	0	14	0	5	0	9	30
05:15 PM	0	14	0	20	0	1	0	10	45
05:30 PM	0	7	0	20	0	9	0	12	48
05:45 PM	0	5	0	13	0	8	0	13	39
Total	0	28	0	67	0	23	0	44	162
Grand Total	1	80	6	173	0	51	2	106	419
Apprch %	1.2	98.8	3.4	96.6	0	100	1.9	98.1	
Total %	0.2	19.1	1.4	41.3	0	12.2	0.5	25.3	

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	Citrus Ave Southbound			College St Westbound			Citrus Ave Northbound			College St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	1	1	1	13	14	0	4	4	0	3	3	22
08:15 AM	0	8	8	0	16	16	0	0	0	0	4	4	28
08:30 AM	0	3	3	0	16	16	0	2	2	0	6	6	27
08:45 AM	0	11	11	3	17	20	0	3	3	1	8	9	43
Total Volume	0	23	23	4	62	66	0	9	9	1	21	22	120
% App. Total	0	100		6.1	93.9		0	100		4.5	95.5		
PHF	.000	.523	.523	.333	.912	.825	.000	.563	.563	.250	.656	.611	.698

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Start Date : 3/20/2018

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	Citrus Ave Southbound			College St Westbound			Citrus Ave Northbound			College St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	2	2	0	14	14	0	5	5	0	9	9	30
05:15 PM	0	14	14	0	20	20	0	1	1	0	10	10	45
05:30 PM	0	7	7	0	20	20	0	9	9	0	12	12	48
05:45 PM	0	5	5	0	13	13	0	8	8	0	13	13	39
Total Volume	0	28	28	0	67	67	0	23	23	0	44	44	162
% App. Total	0	100		0	100		0	100		0	100		
PHF	.000	.500	.500	.000	.838	.838	.000	.639	.639	.000	.846	.846	.844

CITY TRAFFIC COUNTERS

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File Name : Citrus_Badillo

Site Code : 00000000

Start Date : 3/20/2018

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Groups Printed- Vehicles

	Citrus Ave Southbound			Badillo St Westbound			Citrus Ave Northbound			Badillo St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	4	51	11	10	243	14	28	43	8	5	56	7	480
07:15 AM	3	53	9	14	260	19	35	31	9	5	69	8	515
07:30 AM	2	82	6	12	253	7	32	48	25	2	103	16	588
07:45 AM	0	93	3	17	200	7	36	72	23	4	152	25	632
Total	9	279	29	53	956	47	131	194	65	16	380	56	2215
08:00 AM	4	86	15	35	189	11	36	67	23	7	134	20	627
08:15 AM	5	80	6	20	146	16	18	64	25	8	121	18	527
08:30 AM	5	68	11	15	178	17	43	53	20	15	101	17	543
08:45 AM	2	66	8	25	163	14	26	66	17	7	87	13	494
Total	16	300	40	95	676	58	123	250	85	37	443	68	2191
04:00 PM	6	83	6	21	113	13	26	84	28	17	170	17	584
04:15 PM	8	89	10	20	114	6	26	88	39	19	149	22	590
04:30 PM	10	101	8	21	113	12	19	89	30	15	160	25	603
04:45 PM	10	94	15	18	112	21	22	73	42	13	187	22	629
Total	34	367	39	80	452	52	93	334	139	64	666	86	2406
05:00 PM	10	94	10	26	123	26	20	72	42	17	164	27	631
05:15 PM	10	114	12	17	127	19	43	94	28	17	181	22	684
05:30 PM	4	95	21	17	125	12	37	90	53	14	180	23	671
05:45 PM	3	75	11	21	136	14	34	101	31	10	175	24	635
Total	27	378	54	81	511	71	134	357	154	58	700	96	2621
Grand Total	86	1324	162	309	2595	228	481	1135	443	175	2189	306	9433
Apprch %	5.5	84.2	10.3	9.9	82.9	7.3	23.4	55.1	21.5	6.6	82	11.5	
Total %	0.9	14	1.7	3.3	27.5	2.4	5.1	12	4.7	1.9	23.2	3.2	

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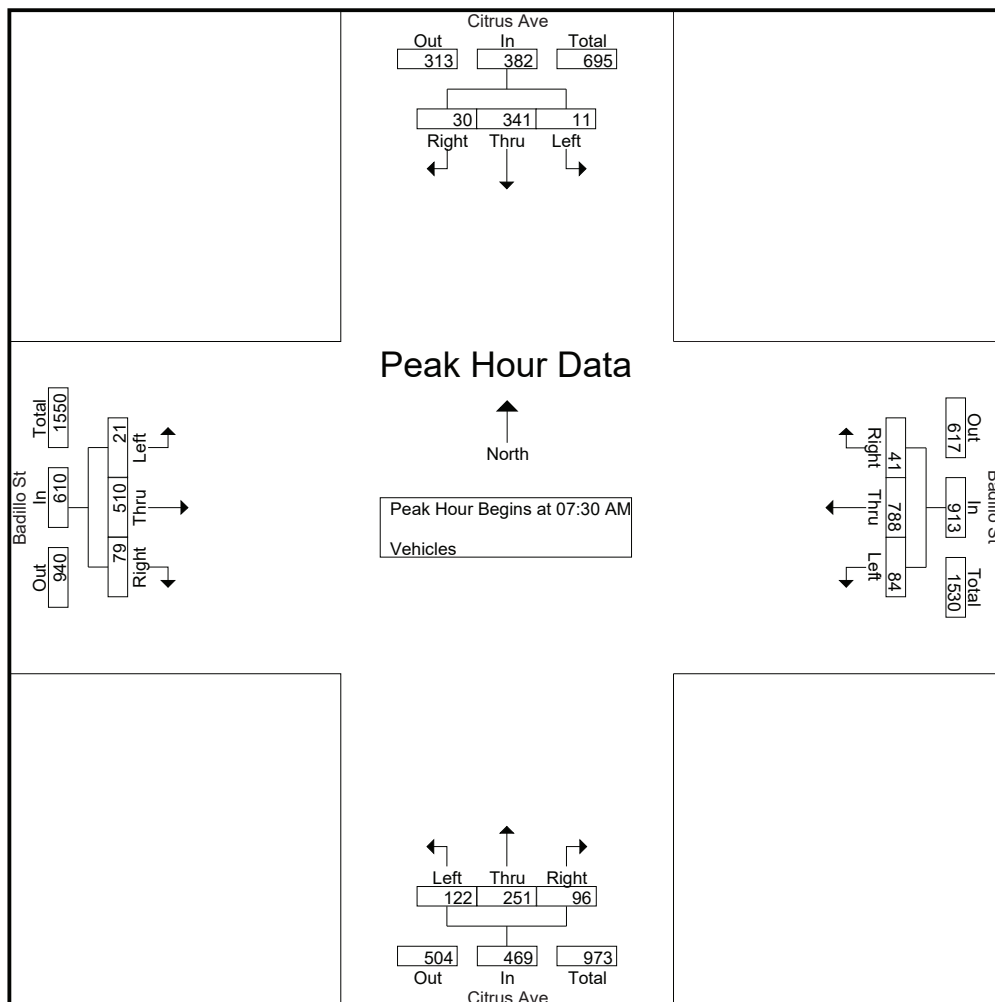
File Name : Citrus_Badillo

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound				Badillo St Westbound				Citrus Ave Northbound				Badillo St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	2	82	6	90	12	253	7	272	32	48	25	105	2	103	16	121	588
07:45 AM	0	93	3	96	17	200	7	224	36	72	23	131	4	152	25	181	632
08:00 AM	4	86	15	105	35	189	11	235	36	67	23	126	7	134	20	161	627
08:15 AM	5	80	6	91	20	146	16	182	18	64	25	107	8	121	18	147	527
Total Volume	11	341	30	382	84	788	41	913	122	251	96	469	21	510	79	610	2374
% App. Total	2.9	89.3	7.9		9.2	86.3	4.5		26	53.5	20.5		3.4	83.6	13		
PHF	.550	.917	.500	.910	.600	.779	.641	.839	.847	.872	.960	.895	.656	.839	.790	.843	.939



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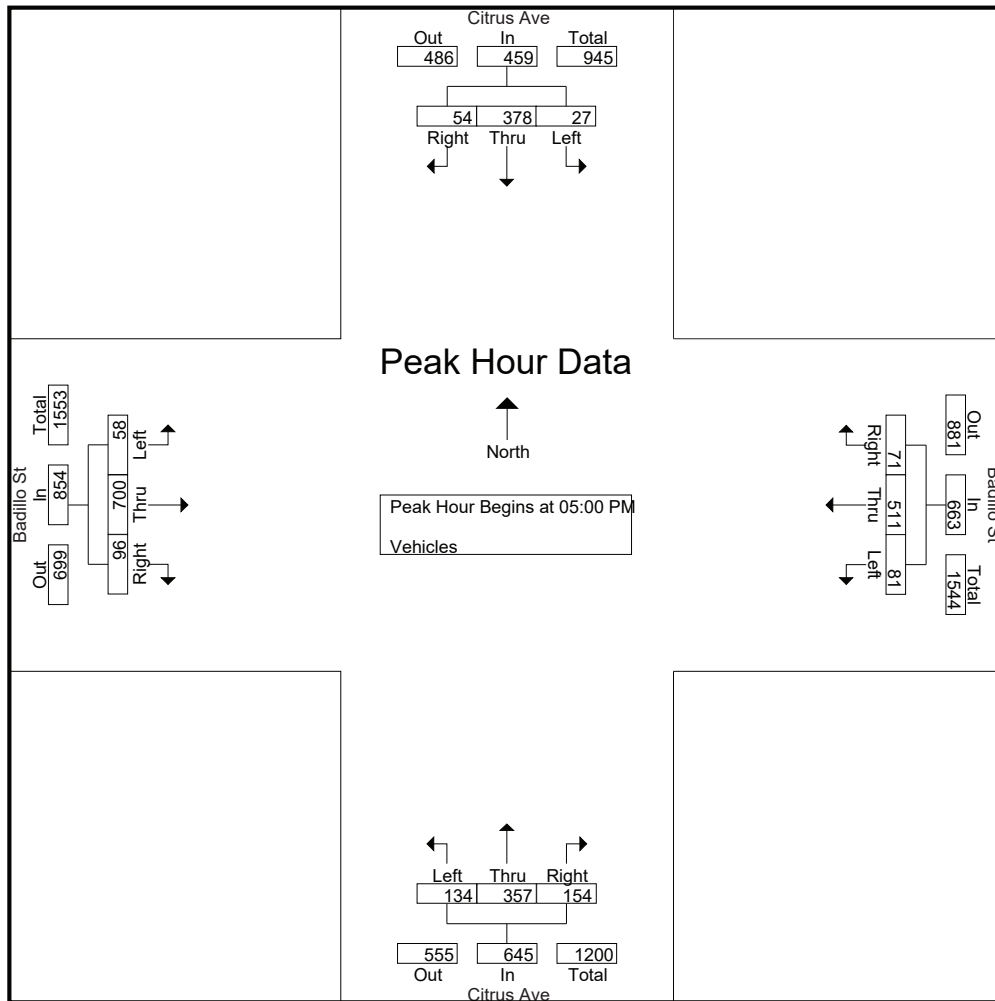
File Name : Citrus_Badillo

Site Code : 00000000

Start Date : 3/20/2018

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	Citrus Ave Southbound				Badillo St Westbound				Citrus Ave Northbound				Badillo St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	10	94	10	114	26	123	26	175	20	72	42	134	17	164	27	208	631
05:15 PM	10	114	12	136	17	127	19	163	43	94	28	165	17	181	22	220	684
05:30 PM	4	95	21	120	17	125	12	154	37	90	53	180	14	180	23	217	671
05:45 PM	3	75	11	89	21	136	14	171	34	101	31	166	10	175	24	209	635
Total Volume	27	378	54	459	81	511	71	663	134	357	154	645	58	700	96	854	2621
% App. Total	5.9	82.4	11.8		12.2	77.1	10.7		20.8	55.3	23.9		6.8	82	11.2		
PHF	.675	.829	.643	.844	.779	.939	.683	.947	.779	.884	.726	.896	.853	.967	.889	.970	.958



CITY TRAFFIC COUNTERS

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File Name : Citrus_Badillo_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 1

Groups Printed- Bikes & Peds

	Citrus Ave Southbound		Badillo St Westbound		Citrus Ave Northbound		Badillo St Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	0	1	1	0	1	0	0	3
07:15 AM	0	1	0	1	0	0	0	1	3
07:30 AM	1	3	1	3	3	1	0	1	13
07:45 AM	0	0	0	1	0	0	0	0	1
Total	1	4	2	6	3	2	0	2	20
08:00 AM	0	1	0	0	0	1	0	0	2
08:15 AM	0	2	0	4	0	0	0	1	7
08:30 AM	0	3	0	2	0	0	0	0	5
08:45 AM	0	7	0	1	1	0	0	0	9
Total	0	13	0	7	1	1	0	1	23
04:00 PM	0	0	0	0	1	0	0	0	1
04:15 PM	1	6	0	1	0	2	0	0	10
04:45 PM	0	2	0	0	0	0	0	0	2
Total	1	8	0	1	1	2	0	0	13
05:00 PM	0	0	1	2	0	0	0	0	3
05:15 PM	0	2	0	3	0	1	0	0	6
05:30 PM	0	8	0	4	1	7	0	1	21
05:45 PM	2	1	0	0	0	2	0	1	6
Total	2	11	1	9	1	10	0	2	36
Grand Total	4	36	3	23	6	15	0	5	92
Apprch %	10	90	11.5	88.5	28.6	71.4	0	100	
Total %	4.3	39.1	3.3	25	6.5	16.3	0	5.4	

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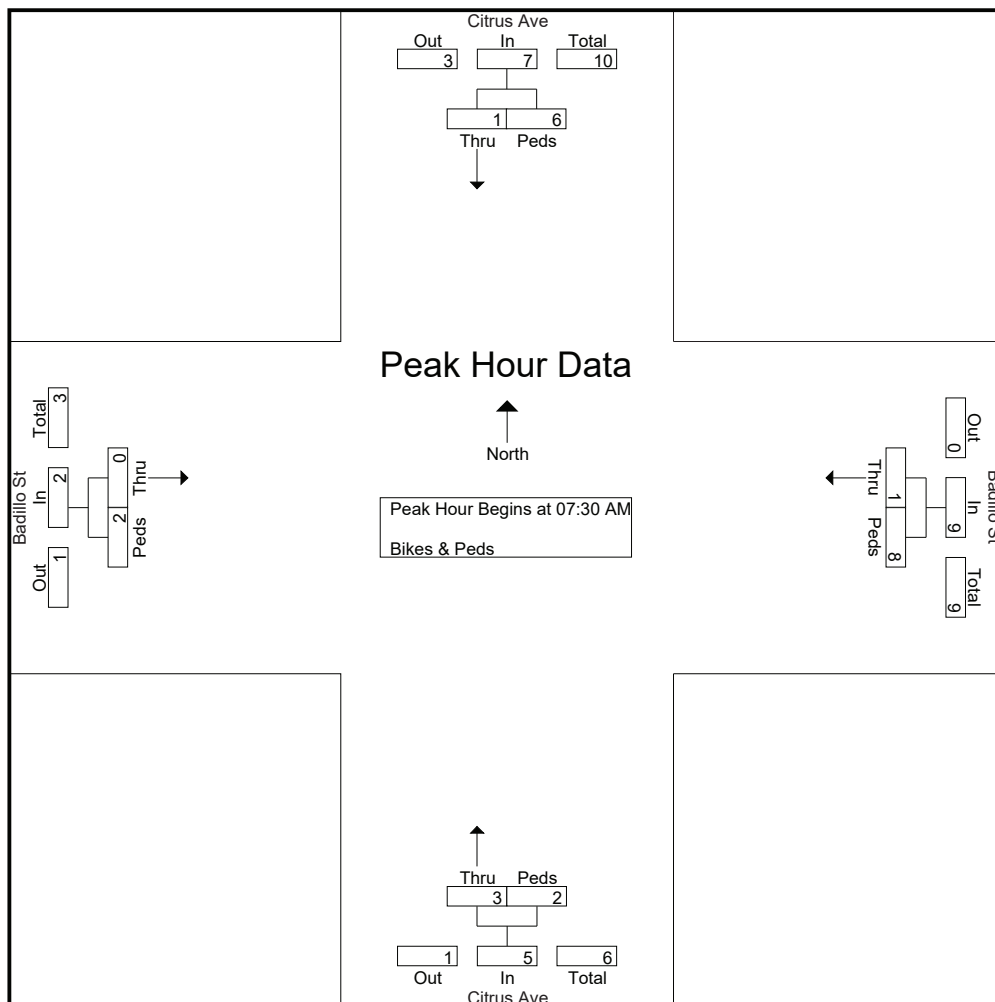
File Name : Citrus_Badillo_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 2

	Citrus Ave Southbound			Badillo St Westbound			Citrus Ave Northbound			Badillo St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	1	3	4	1	3	4	3	1	4	0	1	1	13
07:45 AM	0	0	0	0	1	1	0	0	0	0	0	0	1
08:00 AM	0	1	1	0	0	0	0	1	1	0	0	0	2
08:15 AM	0	2	2	0	4	4	0	0	0	0	1	1	7
Total Volume	1	6	7	1	8	9	3	2	5	0	2	2	23
% App. Total	14.3	85.7		11.1	88.9		60	40		0	100		
PHF	.250	.500	.438	.250	.500	.563	.250	.500	.313	.000	.500	.500	.442



CITY TRAFFIC COUNTERS

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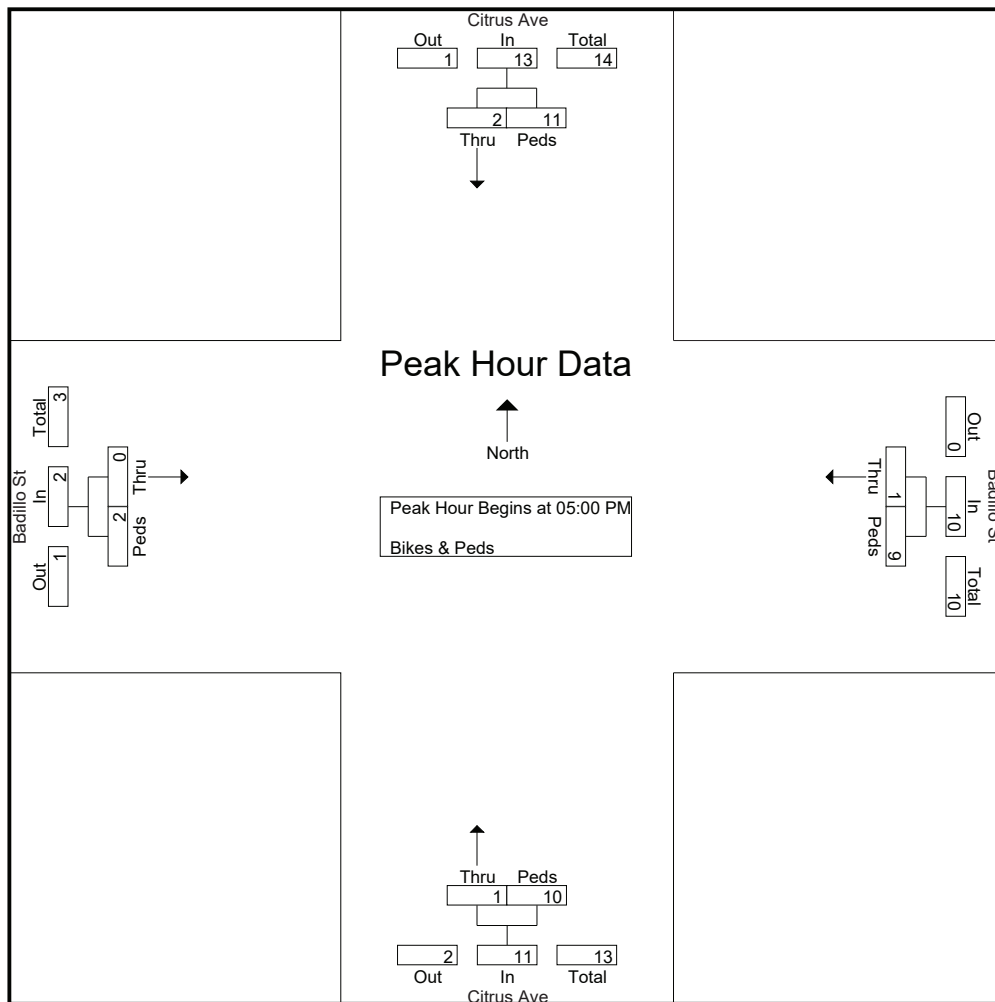
File Name : Citrus_Badillo_BP

Site Code : 00000000

Start Date : 3/20/2018

Page No : 3

	Citrus Ave Southbound			Badillo St Westbound			Citrus Ave Northbound			Badillo St Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	0	0	1	2	3	0	0	0	0	0	0	3
05:15 PM	0	2	2	0	3	3	0	1	1	0	0	0	6
05:30 PM	0	8	8	0	4	4	1	7	8	0	1	1	21
05:45 PM	2	1	3	0	0	0	0	2	2	0	1	1	6
Total Volume	2	11	13	1	9	10	1	10	11	0	2	2	36
% App. Total	15.4	84.6		10	90		9.1	90.9		0	100		
PHF	.250	.344	.406	.250	.563	.625	.250	.357	.344	.000	.500	.500	.429



APPENDIX B

**ICU AND LEVELS OF SERVICE EXPLANATION
HCM AND LEVELS OF SERVICE EXPLANATION**

**ICU AND HCM DATA WORKSHEETS –
WEEKDAY AM & PM PEAK HOURS**

INTERSECTION CAPACITY UTILIZATION (ICU) DESCRIPTION

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

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

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

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

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

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

SERVICE LEVEL A

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

SERVICE LEVEL B

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

SERVICE LEVEL C

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

SERVICE LEVEL D

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

SERVICE LEVEL E

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

SERVICE LEVEL F

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

LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

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

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

Level of Service Criteria for TWSC/AWSC Intersections	
Level of Service	Average Control Delay (Sec/Veh)
A	≤ 10
B	$> 10 \text{ and } \leq 15$
C	$> 15 \text{ and } \leq 25$
D	$> 25 \text{ and } \leq 35$
E	$> 35 \text{ and } \leq 50$
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.

INTERSECTION CAPACITY UTILIZATION

N-S St:	Hollenbeck Avenue	Peak hr:	AM	Date:	04/23/2018
E-W St:	San Bernardino Road	Annual Growth:	1.00%	Date of Count:	2018
Project:	Covina Townhomes (Site A) Project/1-15-4127-3			Projection Year:	2020

Yellow Allowance:

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Hollenbeck Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU1

INTERSECTION CAPACITY UTILIZATION

Hollenbeck Avenue @ San Bernardino Road
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	49	1600	0.031	0	49	1600	0.031	0	49	1600	0.031	0	50	1600	0.031	0	50	1600	0.031
Nb Thru	601	1600	0.386 *	0	601	1600	0.389 *	0	601	1600	0.389 *	8	621	1600	0.400 *	0	621	1600	0.403 *
Nb Right	17	0	-	5	22	0	-	0	22	0	-	2	19	0	-	5	24	0	-
Sb Left	80	1600	0.050 *	2	82	1600	0.051 *	0	82	1600	0.051 *	2	84	1600	0.053 *	2	86	1600	0.054 *
Sb Thru	463	1600	0.289	0	463	1600	0.289	0	463	1600	0.289	9	481	1600	0.301	0	481	1600	0.301
Sb Right	172	1600	0.108	0	172	1600	0.108	0	172	1600	0.108	0	175	1600	0.110	0	175	1600	0.110
Eb Left	197	1600	0.123 *	0	197	1600	0.123 *	0	197	1600	0.123 *	0	201	1600	0.126 *	0	201	1600	0.126 *
Eb Thru	520	1600	0.325	7	527	1600	0.329	0	527	1600	0.329	15	545	1600	0.341	7	552	1600	0.345
Eb Right	79	1600	0.049	0	79	1600	0.049	0	79	1600	0.049	0	81	1600	0.050	0	81	1600	0.050
Wb Left	41	1600	0.026	4	45	1600	0.028	0	45	1600	0.028	2	44	1600	0.027	4	48	1600	0.030
Wb Thru	347	1600	0.309 *	5	352	1600	0.314 *	0	352	1600	0.314 *	19	373	1600	0.328 *	5	378	1600	0.333 *
Wb Right	147	0	-	3	150	0	-	0	150	0	-	1	151	0	-	3	154	0	-
Yellow Allowance:				0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *	
ICU			0.918				0.927				0.927								0.966
LOS			E				E				E							E	

* Key conflicting movement as a part of ICU

1 Counts conducted by City Traffic Counters

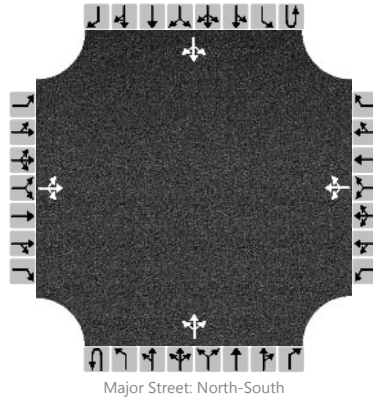
2 Capacity expressed in veh/hour of green

HCS7 Two-Way Stop-Control Report

General Information

Analyst	DR	Intersection	Int. 2
Agency/Co.	LLG Engineers	Jurisdiction	City of Covina
Date Performed	4/12/18	East/West Street	Vintage Walk - Geneva Place
Analysis Year	2018	North/South Street	Third Avenue
Time Analyzed	AM Peak Hour-Existing	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covina Townhomes Project/1-15-4127-3		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	2	18		19	4	3		4	32	2		3	24	1
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

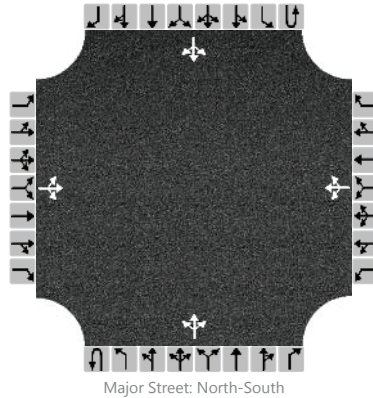
Flow Rate, v (veh/h)			20				26			4				3		
Capacity, c (veh/h)			1028				894			1603				1591		
v/c Ratio			0.02				0.03			0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.1				0.1			0.0				0.0		
Control Delay (s/veh)			8.6				9.1			7.3				7.3		
Level of Service, LOS			A				A			A				A		
Approach Delay (s/veh)	8.6				9.1				0.8				0.8			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

General Information

Analyst	DR	Intersection	Int. 2
Agency/Co.	LLG Engineers	Jurisdiction	City of Covina
Date Performed	4/12/18	East/West Street	Vintage Walk - Geneva Place
Analysis Year	2018	North/South Street	Third Avenue
Time Analyzed	PM Peak Hour-Existing	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covina Townhomes Project/1-15-4127-3		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	2	6		42	3	3		3	13	10		4	29	0
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8				48			3				4		
Capacity, c (veh/h)			984				925			1597				1605		
v/c Ratio			0.01				0.05			0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.0				0.2			0.0				0.0		
Control Delay (s/veh)			8.7				9.1			7.3				7.2		
Level of Service, LOS			A				A			A				A		
Approach Delay (s/veh)	8.7				9.1				0.8				0.9			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

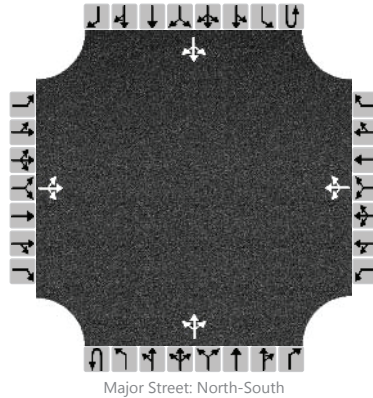
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	Existing with Project
Time Analyzed	Weekday AM Peak Hour
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	0	18		11	0	0		4	32	2		0	24	1
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		7.10	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			18				11			4				0		
Capacity, c (veh/h)			1058				904			1603				1591		
v/c Ratio			0.02				0.01			0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.1				0.0			0.0				0.0		
Control Delay (s/veh)			8.5				9.0			7.3				7.3		
Level of Service, LOS			A				A			A				A		
Approach Delay (s/veh)	8.5				9.0				0.8				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

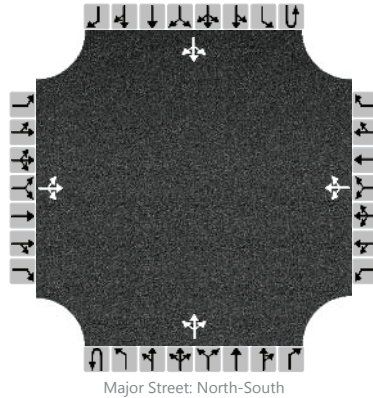
General Information

Analyst	Dr
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	Existing with Project
Time Analyzed	Weekday PM Peak Hour
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	0	6		5	0	0		3	13	10		0	29	0
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			6				5				3				0	
Capacity, c (veh/h)			1052				940				1597				1605	
v/c Ratio			0.01				0.01				0.00				0.00	
95% Queue Length, Q ₉₅ (veh)			0.0				0.0				0.0				0.0	
Control Delay (s/veh)			8.4				8.9				7.3				7.2	
Level of Service, LOS			A				A				A				A	
Approach Delay (s/veh)	8.4				8.9				0.8				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

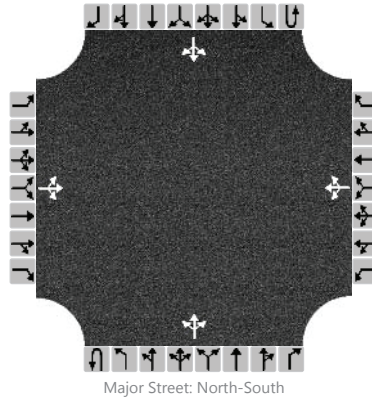
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	2020
Time Analyzed	AM Pk Hr - Future Pre-Prj
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	2	18		19	4	3		4	33	2		3	24	1
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			20				26				4				3	
Capacity, c (veh/h)			1028				904				1603				1589	
v/c Ratio			0.02				0.03				0.00				0.00	
95% Queue Length, Q ₉₅ (veh)			0.1				0.1				0.0				0.0	
Control Delay (s/veh)			8.6				9.1				7.3				7.3	
Level of Service, LOS			A				A				A				A	
Approach Delay (s/veh)	8.6				9.1				0.8				0.8			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

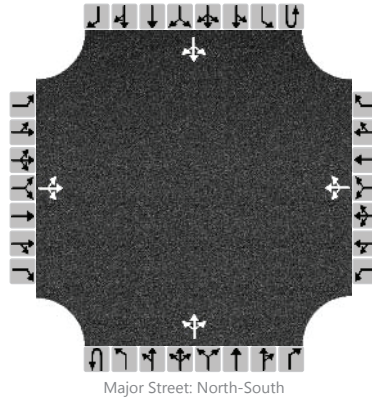
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	2020
Time Analyzed	PM Pk Hr - Future Pre-Prj
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	2	6		42	3	3		3	13	10		4	30	0
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8				48				3				4	
Capacity, c (veh/h)			983				934				1596				1605	
v/c Ratio			0.01				0.05				0.00				0.00	
95% Queue Length, Q ₉₅ (veh)			0.0				0.2				0.0				0.0	
Control Delay (s/veh)			8.7				9.1				7.3				7.2	
Level of Service, LOS			A				A				A				A	
Approach Delay (s/veh)	8.7				9.1				0.8				0.9			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

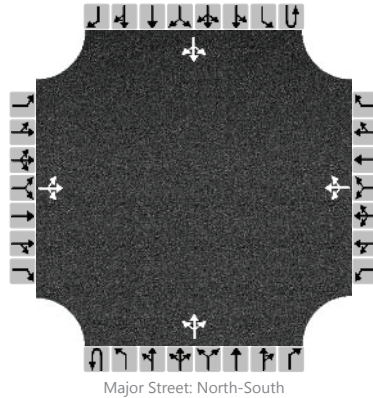
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	2020
Time Analyzed	AM Pk Hr - Future w/ Prj.
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	0	18		11	0	0		4	33	2		0	24	1
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			18				11				4				0	
Capacity, c (veh/h)			1058				915				1603				1589	
v/c Ratio			0.02				0.01				0.00				0.00	
95% Queue Length, Q ₉₅ (veh)			0.1				0.0				0.0				0.0	
Control Delay (s/veh)			8.5				9.0				7.3				7.3	
Level of Service, LOS			A				A				A				A	
Approach Delay (s/veh)	8.5				9.0				0.8				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

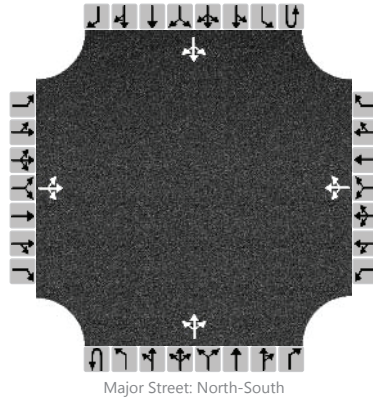
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	2020
Time Analyzed	PM Pk Hr - Future w/ Prj.
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	0	6		5	0	0		3	13	10		0	30	0
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			6				5				3				0	
Capacity, c (veh/h)			1050				949				1596				1605	
v/c Ratio			0.01				0.01				0.00				0.00	
95% Queue Length, Q ₉₅ (veh)			0.0				0.0				0.0				0.0	
Control Delay (s/veh)			8.4				8.8				7.3				7.2	
Level of Service, LOS			A				A				A				A	
Approach Delay (s/veh)	8.4				8.8				0.8				0.0			
Approach LOS	A				A											

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Third Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU3

Third Avenue @ San Bernardino Road
Peak hr: AM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

Movement	2018 EXIST. TRAFFIC			2018 EXISTING PLUS PROJECT			2018 EXIST. W/PROJECT + MITIGATION			2020 FUTURE PRE-PROJECT			2020 FUTURE WITH PROJECT		
	1	2	V/C	Added	Total	V/C	Added	Total	2	V/C	Added	Total	Added	Total	V/C
	Volume	Capacity	Ratio	Volume	Volume	Capacity	Volume	Volume	Capacity	Ratio	Volume	Volume	Volume	Capacity	Ratio
Nb Left	32	0	0.020 *	0	32	0	0	32	0	0.020 *	1	34	0	34	0.021 *
Nb Thru	12	1600	0.028	0	12	1600	0	12	1600	0.028	0	12	0	12	0.029
Nb Right	16	1600	0.010	1	17	1600	0	17	1600	0.011	0	16	1	17	0.011
Sb Left	5	0	0.003	0	5	0	0	5	0	0.003	0	5	0	5	0.003
Sb Thru	18	1600	0.039 *	-1	17	1600	0	17	1600	0.034 *	0	18	-1	17	0.035 *
Sb Right	40	0	-	-8	32	0	0	32	0	-	0	41	-8	33	-
EB Left	18	1600	0.011 *	0	18	1600	0	18	1600	0.011 *	0	18	0	18	0.011 *
EB Thru	258	1600	0.161	6	264	1600	0	264	1600	0.165	17	280	6	286	0.179
EB Right	35	1600	0.022	0	35	1600	0	35	1600	0.022	0	36	0	36	0.022
Wb Left	38	1600	0.024	3	41	1600	0	41	1600	0.026	0	39	3	42	0.026
Wb Thru	569	1600	0.359 *	46	615	1600	0	615	1600	0.388 *	15	595	46	641	0.404 *
Wb Right	5	0	-	0	5	0	0	5	0	-	0	5	0	5	-
Yellow Allowance:	0.050 *			0.050 *			0.050 *			0.050 *			0.050 *		
ICU	0.479			0.503			0.503			0.498			0.521		
LOS	A			A			A			A			A		

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Third Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU3

Third Avenue @ San Bernardino Road
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	65	0	0.041 *	0	65	0	0.041 *	0	65	0	0.041 *	1	67	0	0.042 *	0	67	0	0.042 *
Nb Thru	4	1600	0.043	2	6	1600	0.044	0	6	1600	0.044	0	4	1600	0.045	2	6	1600	0.046
Nb Right	73	1600	0.046	3	76	1600	0.048	0	76	1600	0.048	0	74	1600	0.047	3	77	1600	0.048
Sb Left	4	0	0.003	0	4	0	0.003	0	4	0	0.003	0	4	0	0.003	0	4	0	0.003
Sb Thru	14	1600	0.037 *	-7	7	1600	0.014 *	0	7	1600	0.014 *	0	14	1600	0.038 *	-7	7	1600	0.015 *
Sb Right	41	0	-	-29	12	0	-	0	12	0	-	0	42	0	-	-29	13	0	-
Eb Left	11	1600	0.007	-2	9	1600	0.006	0	9	1600	0.006	0	11	1600	0.007	-2	9	1600	0.006
Eb Thru	658	1600	0.411 *	16	674	1600	0.421 *	0	674	1600	0.421 *	20	691	1600	0.432 *	16	707	1600	0.442 *
Eb Right	47	1600	0.029	0	47	1600	0.029	0	47	1600	0.029	0	48	1600	0.030	0	48	1600	0.030
Wb Left	30	1600	0.019 *	1	31	1600	0.019 *	0	31	1600	0.019 *	0	31	1600	0.019 *	1	32	1600	0.020 *
Wb Thru	394	1600	0.249	54	448	1600	0.283	0	448	1600	0.283	22	424	1600	0.268	54	478	1600	0.302
Wb Right	5	0	-	0	5	0	-	0	5	0	-	0	5	0	-	0	5	0	-
Yellow Allowance:				0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *	
ICU			0.558				0.546				0.546				0.581				0.569
LOS			A				A				A				A				A

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Covina Boulevard
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU4

Citrus Avenue @ Covina Boulevard
Peak hr: AM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

Movement	2018 EXIST. TRAFFIC			2018 EXISTING PLUS PROJECT			2018 EXIST. W/PROJECT + MITIGATION			2020 FUTURE PRE-PROJECT			2020 FUTURE WITH PROJECT		
	1	2	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C
	Volume	Capacity	Ratio	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity
Nb Left	24	1600	0.015 *	2	26	1600	0.016 *	0	26	1600	0.016 *	1	25	1600	0.016 *
Nb Thru	329	3200	0.111	6	335	3200	0.114	0	335	3200	0.114	34	370	3200	0.125
Nb Right	27	0	-	2	29	0	-	0	29	0	-	2	30	0	-
Sb Left	73	1600	0.046	0	73	1600	0.046	0	73	1600	0.046	6	80	1600	0.050
Sb Thru	485	3200	0.163 *	3	488	3200	0.164 *	0	488	3200	0.164 *	33	528	3200	0.179 *
Sb Right	38	0	-	0	38	0	-	0	38	0	-	6	45	0	-
Eb Left	96	1600	0.060 *	0	96	1600	0.060 *	0	96	1600	0.060 *	7	105	1600	0.066 *
Eb Thru	294	3200	0.101	0	294	3200	0.101	0	294	3200	0.101	5	305	3200	0.105
Eb Right	29	0	-	1	30	0	-	0	30	0	-	0	30	0	-
Wb Left	75	1600	0.047	1	76	1600	0.048	0	76	1600	0.048	1	78	1600	0.049
Wb Thru	534	3200	0.185 *	0	534	3200	0.185 *	0	534	3200	0.185 *	3	548	3200	0.192 *
Wb Right	59	0	-	0	59	0	-	0	59	0	-	7	67	0	-
Yellow Allowance:	0.050 *			0.050 *			0.050 *			0.050 *			0.050 *		
ICU	0.474			0.476			0.476			0.503			0.505		
LOS	A			A			A			A			A		

* Key conflicting movement as a part of ICU
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2 Capacity expressed in veh/hour of green

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Covina Boulevard
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU4

Citrus Avenue @ Covina Boulevard
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	54	1600	0.034	2	56	1600	0.035	0	56	1600	0.035	0	55	1600	0.034	2	57	1600	0.036
Nb Thru	530	3200	0.193 *	5	535	3200	0.196 *	0	535	3200	0.196 *	38	579	3200	0.209 *	5	584	3200	0.212 *
Nb Right	89	0	-	2	91	0	-	0	91	0	-	1	92	0	-	2	94	0	-
Sb Left	133	1600	0.083 *	0	133	1600	0.083 *	0	133	1600	0.083 *	8	144	1600	0.090 *	0	144	1600	0.090 *
Sb Thru	458	3200	0.166	7	465	3200	0.168	0	465	3200	0.168	40	507	3200	0.184	7	514	3200	0.186
Sb Right	72	0	-	0	72	0	-	0	72	0	-	8	81	0	-	0	81	0	-
Eb Left	75	1600	0.047 *	0	75	1600	0.047	0	75	1600	0.047	9	86	1600	0.053 *	0	86	1600	0.053 *
Eb Thru	434	3200	0.147	0	434	3200	0.148 *	0	434	3200	0.148 *	4	447	3200	0.151	0	447	3200	0.152
Eb Right	36	0	-	3	39	0	-	0	39	0	-	1	38	0	-	3	41	0	-
Wb Left	65	1600	0.041	3	68	1600	0.043 *	0	68	1600	0.043 *	2	68	1600	0.043	3	71	1600	0.045
Wb Thru	376	3200	0.142 *	0	376	3200	0.142	0	376	3200	0.142	6	390	3200	0.149 *	0	390	3200	0.149 *
Wb Right	77	0	-	0	77	0	-	0	77	0	-	9	88	0	-	0	88	0	-
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *
ICU			0.515				0.519				0.519				0.552				0.554
LOS			A				A				A				A				A

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

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(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Cypress Street
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU5

Citrus Avenue @ Cypress Street
Peak hr: AM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	45	1600	0.028 *	5	50	1600	0.031 *	0	50	1600	0.031 *	1	47	1600	0.029 *	5	52	1600	0.032 *
Nb Thru	220	3200	0.071	10	230	3200	0.076	0	230	3200	0.076	29	253	3200	0.082	10	263	3200	0.087
Nb Right	8	0	-	6	14	0	-	0	14	0	-	2	10	0	-	6	16	0	-
Sb Left	54	1600	0.034	0	54	1600	0.034	0	54	1600	0.034	3	58	1600	0.036	0	58	1600	0.036
Sb Thru	346	3200	0.166 *	6	352	3200	0.168 *	0	352	3200	0.168 *	28	381	3200	0.179 *	6	387	3200	0.181 *
Sb Right	186	0	-	0	186	0	-	0	186	0	-	3	193	0	-	0	193	0	-
Eb Left	56	1600	0.035 *	0	56	1600	0.035 *	0	56	1600	0.035 *	3	60	1600	0.038 *	0	60	1600	0.038 *
Eb Thru	222	3200	0.078	0	222	3200	0.079	0	222	3200	0.079	9	235	3200	0.083	0	235	3200	0.084
Eb Right	29	0	-	3	32	0	-	0	32	0	-	0	30	0	-	3	33	0	-
Wb Left	45	1600	0.028	3	48	1600	0.030	0	48	1600	0.030	1	47	1600	0.029	3	50	1600	0.031
Wb Thru	581	3200	0.197 *	0	581	3200	0.197 *	0	581	3200	0.197 *	3	596	3200	0.203 *	0	596	3200	0.203 *
Wb Right	49	0	-	0	49	0	-	0	49	0	-	3	53	0	-	0	53	0	-
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *				0.050 *				0.050 *
ICU			0.476				0.481				0.481				0.499				0.504
LOS		A				A				A				A				A	

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

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(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Cypress Street
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU5

Citrus Avenue @ Cypress Street
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	73	1600	0.046 *	4	77	1600	0.048 *	0	77	1600	0.048 *	1	75	1600	0.047 *	4	79	1600	0.050 *
Nb Thru	478	3200	0.161	8	486	3200	0.165	0	486	3200	0.165	32	520	3200	0.174	8	528	3200	0.179
Nb Right	37	0	-	5	42	0	-	0	42	0	-	1	39	0	-	5	44	0	-
Sb Left	64	1600	0.040	0	64	1600	0.040	0	64	1600	0.040	4	69	1600	0.043	0	69	1600	0.043
Sb Thru	396	3200	0.156 *	14	410	3200	0.161 *	0	410	3200	0.161 *	33	437	3200	0.171 *	14	451	3200	0.175 *
Sb Right	104	0	-	0	104	0	-	0	104	0	-	4	110	0	-	0	110	0	-
Eb Left	140	1600	0.088	0	140	1600	0.088	0	140	1600	0.088	4	147	1600	0.092	0	147	1600	0.092
Eb Thru	596	3200	0.205 *	0	596	3200	0.207 *	0	596	3200	0.207 *	4	612	3200	0.211 *	0	612	3200	0.213 *
Eb Right	59	0	-	7	66	0	-	0	66	0	-	2	62	0	-	7	69	0	-
Wb Left	33	1600	0.021 *	7	40	1600	0.025 *	0	40	1600	0.025 *	2	36	1600	0.022 *	7	43	1600	0.027 *
Wb Thru	333	3200	0.121	0	333	3200	0.121	0	333	3200	0.121	10	350	3200	0.127	0	350	3200	0.127
Wb Right	53	0	-	0	53	0	-	0	53	0	-	4	58	0	-	0	58	0	-
Yellow Allowance:				0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *	
ICU			0.477				0.491				0.491								0.514
LOS			A				A				A							A	

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

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600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Front Street
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU6

Citrus Avenue @ Front Street
Peak hr: AM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

Movement	2018 EXIST. TRAFFIC			2018 EXISTING PLUS PROJECT			2018 EXIST. W/PROJECT + MITIGATION			2020 FUTURE PRE-PROJECT			2020 FUTURE WITH PROJECT		
	1	2	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C
Nb Left	8	1600	0.005 *	5	13	1600	0.008 *	0	13	1600	0.008 *	0	5	13	1600
Nb Thru	247	3200	0.078	14	261	3200	0.083	0	261	3200	0.083	31	14	297	3200
Nb Right	3	0	-	0	3	0	-	0	3	0	-	0	0	3	0
Sb Left	40	1600	0.025	0	40	1600	0.025	0	40	1600	0.025	1	0	42	1600
Sb Thru	430	3200	0.136 *	11	441	3200	0.139 *	0	441	3200	0.139 *	28	11	478	3200
Sb Right	4	0	-	0	4	0	-	0	4	0	-	0	0	4	0
Eb Left	2	1600	0.001 *	0	2	1600	0.001 *	0	2	1600	0.001 *	0	0	2	1600
Eb Thru	2	1600	0.003	0	2	1600	0.003	0	2	1600	0.003	0	0	2	1600
Eb Right	2	0	-	0	2	0	-	0	2	0	-	0	0	2	0
Wb Left	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002	0	0	3	1600
Wb Thru	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006	0	0	10	1600
Wb Right	64	1600	0.040 *	0	64	1600	0.040 *	0	64	1600	0.040 *	1	0	66	1600
Yellow Allowance:	0.050 *			0.050 *			0.050 *			0.050 *			0.050 *		
ICU	0.232			0.238			0.238			0.245			0.251		
LOS	A			A			A			A			A		

* Key conflicting movement as a part of ICU
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E-W St: Front Street
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU6

Citrus Avenue @ Front Street
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	5	1600	0.003	13	18	1600	0.011	0	18	1600	0.011	0	5	1600	0.003	13	18	1600	0.011
Nb Thru	471	3200	0.150 *	8	479	3200	0.153 *	0	479	3200	0.153 *	33	513	3200	0.163 *	8	521	3200	0.166 *
Nb Right	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-
Sb Left	48	1600	0.030	0	48	1600	0.030	0	48	1600	0.030	2	51	1600	0.032	0	51	1600	0.032
Sb Thru	447	3200	0.141	26	473	3200	0.149	0	473	3200	0.149	35	491	3200	0.155	26	517	3200	0.163
Sb Right	5	0	-	0	5	0	-	0	5	0	-	0	5	0	-	0	5	0	-
Eb Left	34	1600	0.021 *	0	34	1600	0.021 *	0	34	1600	0.021 *	0	35	1600	0.022 *	0	35	1600	0.022 *
Eb Thru	12	1600	0.018	0	12	1600	0.018	0	12	1600	0.018	0	12	1600	0.018	0	12	1600	0.018
Eb Right	17	0	-	0	17	0	-	0	17	0	-	0	17	0	-	0	17	0	-
Wb Left	9	1600	0.006	0	9	1600	0.006	0	9	1600	0.006	0	9	1600	0.006	0	9	1600	0.006
Wb Thru	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001
Wb Right	126	1600	0.079 *	0	126	1600	0.079 *	0	126	1600	0.079 *	1	130	1600	0.081 *	0	130	1600	0.081 *
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *
ICU			0.330				0.333				0.333				0.348				0.350
LOS			A				A				A				A				A

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

HCS7 Two-Way Stop-Control Report

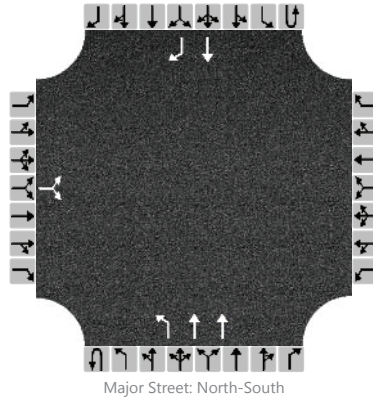
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	2018
Time Analyzed	AM Peak Hour-Existing
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 7
Jurisdiction	City of Covina
East/West Street	Geneva Place
North/South Street	Citrus Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume, V (veh/h)		6		2						3	264				389	38
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8							3						
Capacity, c (veh/h)			520							1143						
v/c Ratio			0.02							0.00						
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
Control Delay (s/veh)			12.0							8.2						
Level of Service, LOS			B							A						
Approach Delay (s/veh)	12.0								0.1							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

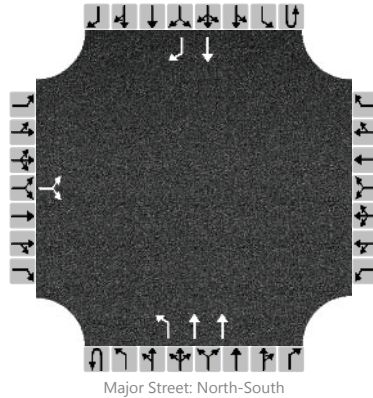
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	2018
Time Analyzed	PM Peak Hour-Existing
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 7
Jurisdiction	City of Covina
East/West Street	Geneva Place
North/South Street	Citrus Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume, V (veh/h)		9		8						3	474				430	47
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

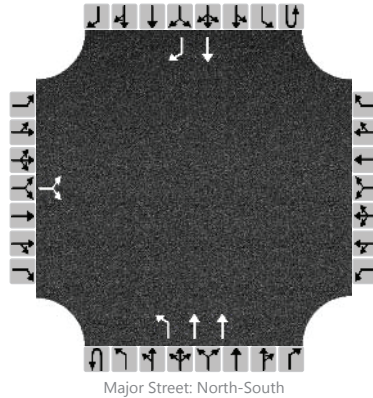
Flow Rate, v (veh/h)			17							3						
Capacity, c (veh/h)			477							1096						
v/c Ratio			0.04							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			12.8							8.3						
Level of Service, LOS			B							A						
Approach Delay (s/veh)	12.8								0.1							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

General Information

Analyst	DR	Intersection	Int. 7
Agency/Co.	LLG Engineers	Jurisdiction	City of Covina
Date Performed	4/12/18	East/West Street	Geneva Place
Analysis Year	Existing with Project	North/South Street	Citrus Avenue
Time Analyzed	Weekday AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covina Townhomes Project/1-15-4127-3		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume, V (veh/h)		8		15						19	282				430	9
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23							19						
Capacity, c (veh/h)			539							1132						
v/c Ratio			0.04							0.02						
95% Queue Length, Q ₉₅ (veh)			0.1							0.1						
Control Delay (s/veh)			12.0							8.2						
Level of Service, LOS			B							A						
Approach Delay (s/veh)	12.0								0.5							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

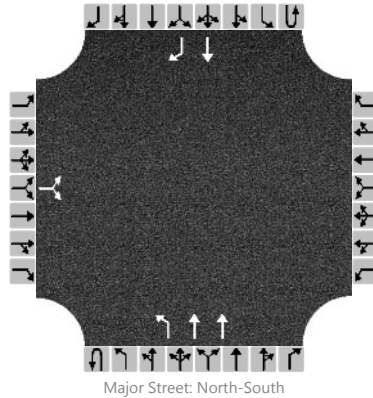
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	Existing with Project
Time Analyzed	Weekday PM Peak Hour
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 7
Jurisdiction	City of Covina
East/West Street	Geneva Place
North/South Street	Citrus Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume, V (veh/h)		12		27						28	493				492	13
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

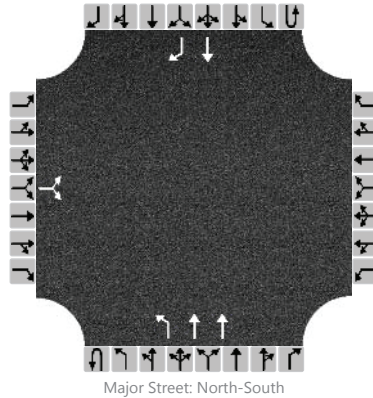
Flow Rate, v (veh/h)			39							28						
Capacity, c (veh/h)			465							1070						
v/c Ratio			0.08							0.03						
95% Queue Length, Q ₉₅ (veh)			0.3							0.1						
Control Delay (s/veh)			13.4							8.5						
Level of Service, LOS			B							A						
Approach Delay (s/veh)	13.4								0.5							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

General Information

Analyst	DR	Intersection	Int. 7
Agency/Co.	LLG Engineers	Jurisdiction	City of Covina
Date Performed	4/12/18	East/West Street	Geneva Place
Analysis Year	2020	North/South Street	Citrus Avenue
Time Analyzed	AM Pk Hr - Future Pre-Prj	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covina Townhomes Project/1-15-4127-3		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume, V (veh/h)		6		2						3	300				425	38
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8							3						
Capacity, c (veh/h)			484							1109						
v/c Ratio			0.02							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			12.6							8.3						
Level of Service, LOS			B							A						
Approach Delay (s/veh)	12.6								0.1							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

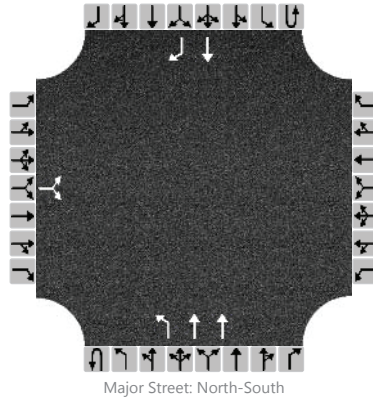
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	2020
Time Analyzed	PM Pk Hr - Future Pre-Prj
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 7
Jurisdiction	City of Covina
East/West Street	Geneva Place
North/South Street	Citrus Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume, V (veh/h)		9		8						3	516				474	47
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

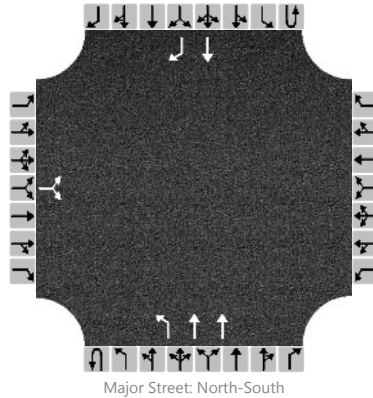
Flow Rate, v (veh/h)			17							3						
Capacity, c (veh/h)			439							1056						
v/c Ratio			0.04							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			13.5							8.4						
Level of Service, LOS			B							A						
Approach Delay (s/veh)	13.5								0.0							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

General Information

Analyst	DR	Intersection	Int. 7
Agency/Co.	LLG Engineers	Jurisdiction	City of Covina
Date Performed	4/12/18	East/West Street	Geneva Place
Analysis Year	2020	North/South Street	Citrus Avenue
Time Analyzed	AM Pk Hr - Future w/ Prj.	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covina Townhomes Project/1-15-4127-3		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume, V (veh/h)		8		15						19	318				466	9
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23							19						
Capacity, c (veh/h)			507							1098						
v/c Ratio			0.05							0.02						
95% Queue Length, Q ₉₅ (veh)			0.1							0.1						
Control Delay (s/veh)			12.4							8.3						
Level of Service, LOS			B							A						
Approach Delay (s/veh)	12.4								0.5							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

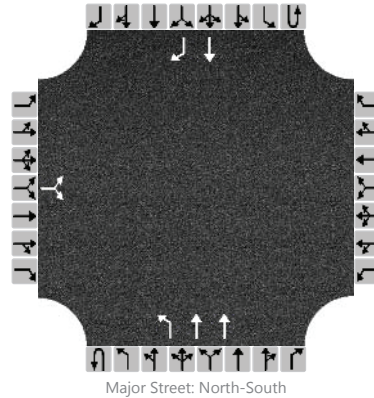
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	4/12/18
Analysis Year	2020
Time Analyzed	PM Pk Hr - Future w/ Prj.
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-3

Site Information

Intersection	Int. 7
Jurisdiction	City of Covina
East/West Street	Geneva Place
North/South Street	Citrus Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume, V (veh/h)		12		27						28	535				536	13
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			39							28						
Capacity, c (veh/h)			431							1031						
v/c Ratio			0.09							0.03						
95% Queue Length, Q ₉₅ (veh)			0.3							0.1						
Control Delay (s/veh)			14.2							8.6						
Level of Service, LOS			B							A						
Approach Delay (s/veh)	14.2								0.4							
Approach LOS	B															

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU8

Citrus Avenue @ San Bernardino Road
Peak hr: AM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

Movement	2018 EXIST. TRAFFIC			2018 EXISTING PLUS PROJECT			2018 EXIST. W/PROJECT + MITIGATION			2020 FUTURE PRE-PROJECT			2020 FUTURE WITH PROJECT		
	1	2	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C
	Volume	Capacity	Ratio	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity
Nb Left	41	1600	0.026 *	2	43	1600	0.027 *	0	43	1600	0.027 *	0	42	1600	0.026 *
Nb Thru	195	3200	0.066	8	203	3200	0.069	0	203	3200	0.069	25	224	3200	0.076
Nb Right	17	0	-	0	17	0	-	0	17	0	-	2	19	0	-
Sb Left	63	1600	0.039	5	68	1600	0.043	0	68	1600	0.043	3	67	1600	0.042
Sb Thru	300	1600	0.188 *	5	305	1600	0.191 *	0	305	1600	0.191 *	21	327	1600	0.204 *
Sb Right	41	1600	0.026	44	85	1600	0.053	0	85	1600	0.053	3	45	1600	0.028
Eb Left	41	1600	0.026 *	19	60	1600	0.038 *	0	60	1600	0.038 *	3	45	1600	0.028 *
Eb Thru	241	1600	0.174	15	256	1600	0.188	0	256	1600	0.188	18	264	1600	0.190
Eb Right	38	0	-	7	45	0	-	0	45	0	-	1	40	0	-
Wb Left	24	1600	0.015	0	24	1600	0.015	0	24	1600	0.015	2	26	1600	0.017
Wb Thru	420	1600	0.274 *	3	423	1600	0.281 *	0	423	1600	0.281 *	8	436	1600	0.287 *
Wb Right	19	0	-	7	26	0	-	0	26	0	-	3	22	0	-
Yellow Allowance:	0.050 *			0.050 *			0.050 *			0.050 *			0.050 *		
ICU	0.563			0.586			0.586			0.595			0.618		
LOS	A			A			A			A			B		

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU8

Citrus Avenue @ San Bernardino Road
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	62	1600	0.039 *	9	71	1600	0.044 *	0	71	1600	0.044 *	0	63	1600	0.040 *	9	72	1600	0.045 *
Nb Thru	323	3200	0.111	11	334	3200	0.114	0	334	3200	0.114	24	353	3200	0.121	11	364	3200	0.125
Nb Right	31	0	-	0	31	0	-	0	31	0	-	3	35	0	-	0	35	0	-
Sb Left	80	1600	0.050	10	90	1600	0.056	0	90	1600	0.056	4	86	1600	0.054	10	96	1600	0.060
Sb Thru	309	1600	0.193 *	3	312	1600	0.195 *	0	312	1600	0.195 *	27	342	1600	0.214 *	3	345	1600	0.216 *
Sb Right	51	1600	0.032	68	119	1600	0.074	0	119	1600	0.074	4	56	1600	0.035	68	124	1600	0.078
Eb Left	91	1600	0.057	23	114	1600	0.071	0	114	1600	0.071	4	97	1600	0.061	23	120	1600	0.075
Eb Thru	574	1600	0.395 *	7	581	1600	0.401 *	0	581	1600	0.401 *	13	598	1600	0.412 *	7	605	1600	0.418 *
Eb Right	58	0	-	3	61	0	-	0	61	0	-	1	60	0	-	3	63	0	-
Wb Left	31	1600	0.019 *	0	31	1600	0.019 *	0	31	1600	0.019 *	3	35	1600	0.022 *	0	35	1600	0.022 *
Wb Thru	320	1600	0.222	14	334	1600	0.238	0	334	1600	0.238	22	348	1600	0.243	14	362	1600	0.258
Wb Right	35	0	-	11	46	0	-	0	46	0	-	4	40	0	-	11	51	0	-
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *	0.050 *				0.050 *			0.050 *
ICU							0.710				0.710								0.750
LOS			0.696 B				C				C								C

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: College Street
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU9

Citrus Avenue @ College Street
Peak hr: AM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	
Nb Left	40	0	0.025 *	0	40	0	0	0.025 *	0	40	0	0	0.026 *	0	41	0	0	0.026 *	
Nb Thru	272	1600	0.201	9	281	1600	0.207	0.207	22	299	1600	0.219	0.219	9	308	1600	0	0.225	
Nb Right	10	0	-	0	10	0	-	-	0	10	0	-	-	0	10	0	-	-	
Sb Left	7	0	0.004	0	7	0	0.004	0.004	0	7	0	0.004	0.004	0	7	0	0	0.004	
Sb Thru	310	1600	0.215 *	12	322	1600	0.223 *	0.223 *	27	343	1600	0.236 *	0.236 *	12	355	1600	0	0.244 *	
Sb Right	27	0	-	0	27	0	-	-	0	28	0	-	-	0	28	0	-	-	
Eb Left	9	0	0.006 *	0	9	0	0.006 *	0.006 *	0	9	0	0.006 *	0.006 *	0	9	0	0	0.006 *	
Eb Thru	19	1600	0.039	0	19	1600	0.039	0.039	0	19	1600	0.040	0.040	0	19	1600	0	0.040	
Eb Right	34	0	-	0	34	0	-	-	0	35	0	-	-	0	35	0	-	-	
Wb Left	19	1600	0.012	0	19	1600	0.012	0.012	0	19	1600	0.012	0.012	0	19	1600	0	0.012	
Wb Thru	61	1600	0.048 *	0	61	1600	0.048 *	0.048 *	0	62	1600	0.048 *	0.048 *	0	62	1600	0	0.048 *	
Wb Right	15	0	-	0	15	0	-	-	0	15	0	-	-	0	15	0	-	-	
Yellow Allowance:																			
0.050 * 0.050 * 0.050 * 0.050 *																			
ICU	0.343																		
LOS	A																		
0.366																			
A																			
0.373																			
A																			

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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N-S St: Citrus Avenue
E-W St: College Street
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU9

INTERSECTION CAPACITY UTILIZATION

Citrus Avenue @ College Street
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT								
Movement	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	
Nb Left	24	0	0.015	0	24	0	0.015	0	0.015	0	24	0	0.015	0	24	0	0.015	0	0	24	0	0.015	0	
Nb Thru	352	1600	0.259 *	19	371	1600	0.271 *	0	0.271 *	371	1600	0.283 *	31	390	1600	0.283 *	19	409	1600	0.295 *	409	1600	0.295 *	
Nb Right	38	0	-	0	38	0	-	0	-	38	0	-	0	39	0	-	0	39	0	39	0	-	0	
Sb Left	23	0	0.014 *	0	23	0	0.014 *	0	0.014 *	23	0	0.015 *	0	23	0	0.015 *	0	23	0	23	0	0.015 *	0	
Sb Thru	342	1600	0.245	12	354	1600	0.253	0	0.253	354	1600	0.267	28	377	1600	0.267	12	389	1600	0.275	389	1600	0.275	
Sb Right	27	0	-	0	27	0	-	0	-	27	0	-	0	28	0	-	0	28	0	28	0	-	0	
Eb Left	31	0	0.019	0	31	0	0.019	0	0.019	31	0	0.020	0	32	0	0.020	0	32	0	32	0	0.020	0	
Eb Thru	123	1600	0.143 *	0	123	1600	0.143 *	0	0.143 *	123	1600	0.145 *	0	125	1600	0.145 *	0	125	1600	0.145 *	125	1600	0.145 *	
Eb Right	74	0	-	0	74	0	-	0	-	74	0	-	0	75	0	-	0	75	0	75	0	-	0	
Wb Left	49	1600	0.031 *	0	49	1600	0.031 *	0	0.031 *	49	1600	0.031 *	0	50	1600	0.031 *	0	50	1600	0.031 *	50	1600	0.031 *	
Wb Thru	54	1600	0.063	0	54	1600	0.063	0	0.063	54	1600	0.064	0	55	1600	0.064	0	55	1600	0.064	55	1600	0.064	
Wb Right	46	0	-	0	46	0	-	0	-	46	0	-	0	47	0	-	0	47	0	47	0	-	0	
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *				0.050 *				
ICU	0.496			0.508			0.508			0.508			0.525			0.525			0.536			0.536		
LOS	A			A			A			A			A			A			A			A		

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Badillo Street
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU10

Citrus Avenue @ Badillo Street
Peak hr: AM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	122	1600	0.076 *	0	122	1600	0.076 *	0	122	1600	0.076 *	6	130	1600	0.081 *	0	130	1600	0.081 *
Nb Thru	251	1600	0.157	5	256	1600	0.160	0	256	1600	0.160	21	277	1600	0.173	5	282	1600	0.176
Nb Right	96	1600	0.060	0	96	1600	0.060	0	96	1600	0.060	6	104	1600	0.065	0	104	1600	0.065
Sb Left	11	0	0.007	4	15	0	0.009	0	15	0	0.009	2	13	0	0.008	4	17	0	0.011
Sb Thru	341	1600	0.239 *	7	348	1600	0.246 *	0	348	1600	0.246 *	24	372	1600	0.261 *	7	379	1600	0.268 *
Sb Right	30	0	-	1	31	0	-	0	31	0	-	1	32	0	-	1	33	0	-
Eb Left	21	1600	0.013 *	2	23	1600	0.014 *	0	23	1600	0.014 *	0	21	1600	0.013 *	2	23	1600	0.014 *
Eb Thru	510	1600	0.319	0	510	1600	0.319	0	510	1600	0.319	12	532	1600	0.333	0	532	1600	0.333
Eb Right	79	1600	0.049	3	82	1600	0.051	0	82	1600	0.051	6	87	1600	0.054	3	90	1600	0.056
Wb Left	84	1600	0.053	0	84	1600	0.053	0	84	1600	0.053	6	92	1600	0.057	0	92	1600	0.058
Wb Thru	788	1600	0.493 *	0	788	1600	0.493 *	0	788	1600	0.493 *	6	810	1600	0.506 *	0	810	1600	0.506 *
Wb Right	41	1600	0.026	2	43	1600	0.027	0	43	1600	0.027	1	43	1600	0.027	2	45	1600	0.028
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *				0.050 *				0.050 *
ICU			0.871				0.879				0.879				0.911				0.919
LOS			D				D				D				E				E

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Badillo Street
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU10

Citrus Avenue @ Badillo Street
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	134	1600	0.084 *	0	134	1600	0.084 *	0	134	1600	0.084 *	4	141	1600	0.088 *	0	141	1600	0.088 *
Nb Thru	357	1600	0.223	12	369	1600	0.231	0	369	1600	0.231	27	391	1600	0.244	12	403	1600	0.252
Nb Right	154	1600	0.096	0	154	1600	0.096	0	154	1600	0.096	4	161	1600	0.101	0	161	1600	0.101
Sb Left	27	0	0.017	4	31	0	0.019	0	31	0	0.019	2	30	0	0.018	4	34	0	0.021
Sb Thru	378	1600	0.287 *	7	385	1600	0.295 *	0	385	1600	0.295 *	25	411	1600	0.310 *	7	418	1600	0.318 *
Sb Right	54	0	-	2	56	0	-	0	56	0	-	1	56	0	-	2	58	0	-
Eb Left	58	1600	0.036	3	61	1600	0.038	0	61	1600	0.038	2	61	1600	0.038	3	64	1600	0.040
Eb Thru	700	1600	0.438 *	0	700	1600	0.438 *	0	700	1600	0.438 *	9	723	1600	0.452 *	0	723	1600	0.452 *
Eb Right	96	1600	0.060	1	97	1600	0.061	0	97	1600	0.061	5	103	1600	0.064	1	104	1600	0.065
Wb Left	81	1600	0.051 *	0	81	1600	0.051 *	0	81	1600	0.051 *	5	88	1600	0.055 *	0	88	1600	0.055 *
Wb Thru	511	1600	0.319	0	511	1600	0.319	0	511	1600	0.319	14	535	1600	0.335	0	535	1600	0.335
Wb Right	71	1600	0.044	5	76	1600	0.048	0	76	1600	0.048	2	74	1600	0.047	5	79	1600	0.050
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *			
ICU	0.910			0.918			0.918			0.955			0.955			0.963			
LOS	E			E			E			E			E			E			

* Key conflicting movement as a part of ICU

1 Counts conducted by City Traffic Counters

2 Capacity expressed in veh/hour of green

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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N-S St: Barranca Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU11

Barranca Avenue @ San Bernardino Road
Peak hr: AM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

INTERSECTION CAPACITY UTILIZATION

Movement	2018 EXIST. TRAFFIC			2018 EXISTING PLUS PROJECT			2018 EXIST. W/PROJECT + MITIGATION			2020 FUTURE PRE-PROJECT			2020 FUTURE WITH PROJECT		
	1	2	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C
	Volume	Capacity	Ratio	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity
Nb Left	62	1600	0.039 *	3	65	1600	0.041 *	0	65	1600	0.041 *	2	65	1600	0.041 *
Nb Thru	600	3200	0.208	0	600	3200	0.208	0	600	3200	0.208	21	633	3200	0.219
Nb Right	65	0	-	0	65	0	-	0	65	0	-	0	66	0	-
Sb Left	87	1600	0.054	0	87	1600	0.054	0	87	1600	0.054	1	90	1600	0.056
Sb Thru	582	3200	0.234 *	0	582	3200	0.235 *	0	582	3200	0.235 *	11	605	3200	0.243 *
Sb Right	168	0	-	3	171	0	-	0	171	0	-	3	174	0	-
Eb Left	115	1600	0.072 *	5	120	1600	0.075 *	0	120	1600	0.075 *	10	127	1600	0.080 *
Eb Thru	178	3200	0.063	7	185	3200	0.068	0	185	3200	0.068	10	192	3200	0.068
Eb Right	25	0	-	6	31	0	-	0	31	0	-	2	28	0	-
Wb Left	51	1600	0.032	0	51	1600	0.032	0	51	1600	0.032	0	52	1600	0.033
Wb Thru	285	3200	0.119 *	3	288	3200	0.120 *	0	288	3200	0.120 *	10	301	3200	0.127 *
Wb Right	95	0	-	0	95	0	-	0	95	0	-	8	105	0	-
Yellow Allowance:	0.050 *			0.050 *			0.050 *			0.050 *			0.050 *		
ICU	0.514			0.521			0.521			0.541			0.547		
LOS	A			A			A			A			A		

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

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(626) 796.2322 Fax (626) 792-0941

N-S St: Barranca Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-3
File: ICU11

INTERSECTION CAPACITY UTILIZATION

Barranca Avenue @ San Bernardino Road
Peak hr: PM
Annual Growth: 1.00%

Date: 04/23/2018
Date of Count: 2018
Projection Year: 2020

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2020 FUTURE PRE-PROJECT				2020 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	45	1600	0.028	7	52	1600	0.033	0	52	1600	0.033	3	49	1600	0.031	7	56	1600	0.035
Nb Thru	702	3200	0.237 *	0	702	3200	0.237 *	0	702	3200	0.237 *	10	726	3200	0.245 *	0	726	3200	0.245 *
Nb Right	57	0	-	0	57	0	-	0	57	0	-	0	58	0	-	0	58	0	-
Sb Left	69	1600	0.043 *	0	69	1600	0.043 *	0	69	1600	0.043 *	8	78	1600	0.049 *	0	78	1600	0.049 *
Sb Thru	609	3200	0.228	0	609	3200	0.230	0	609	3200	0.230	22	643	3200	0.243	0	643	3200	0.245
Sb Right	121	0	-	6	127	0	-	0	127	0	-	10	133	0	-	6	139	0	-
Eb Left	174	1600	0.109 *	5	179	1600	0.112 *	0	179	1600	0.112 *	4	181	1600	0.113 *	5	186	1600	0.117 *
Eb Thru	429	3200	0.154	6	435	3200	0.158	0	435	3200	0.158	14	452	3200	0.163	6	458	3200	0.166
Eb Right	65	0	-	5	70	0	-	0	70	0	-	3	69	0	-	5	74	0	-
Wb Left	62	1600	0.039	0	62	1600	0.039	0	62	1600	0.039	0	63	1600	0.040	0	63	1600	0.040
Wb Thru	209	3200	0.093 *	8	217	3200	0.095 *	0	217	3200	0.095 *	14	227	3200	0.099 *	8	235	3200	0.102 *
Wb Right	87	0	-	0	87	0	-	0	87	0	-	1	90	0	-	0	90	0	-
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *
ICU			0.532				0.537				0.537				0.557				0.562
LOS			A				A				A				A				A

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

MEMORANDUM

To: Ms. Nancy Fong
City of Covina - Community Development
Department

Date: June 25, 2019

From: Clare M. Look-Jaeger, P.E. *CL-Jaeger* LLG Ref: 1-15-4127-4
Chin S. Taing, PTP *CS*
Linscott, Law & Greenspan, Engineers

Subject: Covina Townhomes Mixed-Use (Site A) Project – Addendum

Linscott, Law & Greenspan, Engineers (LLG) has prepared this memorandum as an addendum to the transportation impact study dated May 9, 2018¹, which was previously reviewed and approved by the City Engineer with the City of Covina. Based on our recent coordination, we understand that this addendum is needed since the project buildout and occupancy year has been revised since the preparation and review of the transportation impact study as discussed further below.

Prior Project Buildout/Occupancy Year

The prior transportation impact study prepared for the proposed Covina Townhomes Mixed-Use project (“proposed project”) for Site A is generally bounded by the existing Covina Metrolink Station parking structure and Geneva Place to the north, San Bernardino Road to the south, Citrus Avenue to the east, and Third Avenue to the west. Site A also encompasses a portion of Geneva Place which the project proposes to vacate.

Site A included the development of 161 townhome units, 13,500 square feet of retail space and 3,800 square feet of restaurant space. As noted in the transportation impact study, the project buildout and occupancy was previously anticipated by the year 2020. It was also noted that since the project buildout was anticipated by the year 2020, an annual growth factor had been applied to the existing baseline traffic counts to forecast future (year 2020) pre-project conditions. The forecast of future pre-project traffic conditions also included the potential trips associated with other known development projects/related projects in the area which was provided based on coordination with the City of Covina Community Development Department and the City of West Covina Planning Department.

Current Project Buildout/Occupancy Year

Since the City’s review and approval of the transportation study, it is our understanding that the project buildout and occupancy year would likely be extended by one year to year 2021. No other changes to the project development are

¹ *Traffic Impact Study for Covina Townhomes (Site A) Project*, prepared by Linscott, Law & Greenspan, Engineers, dated May 9, 2018.

contemplated for Site A. Since the project buildout and occupancy is now contemplated to occur in the year 2021, an annual growth factor of one percent (1.0%) per year has been applied in order to forecast future (year 2021) conditions. The forecast of future pre-project traffic conditions also includes the potential trips associated with all of the related projects (i.e., 22 other known development projects) in the area which was previously included in the transportation impact study.

Summary

The prior transportation impact study concluded that the Covina Townhomes Mixed-Use (Site A) project was not expected to create a significant impact at any of 11 study intersections. Since the project buildout and occupancy year would likely extend beyond what was originally contemplated in the transportation study (i.e., year 2020), an additional year of ambient growth has been applied to the analysis of the future pre-project and with project conditions. Furthermore, the analysis is conservative as it assumes inclusion of both a forecast of traffic generated by all of the related projects previously included in the transportation impact study plus the use of an annual traffic growth factor. **Table A** provides a summary of the updated Levels of Service at the study intersections for the future conditions based on the application of the City of Covina's impact threshold criteria. The corresponding updated Intersection Capacity Utilization/Highway Capacity Manual data worksheets for the analyzed intersections are included in **Attachment A**. As shown in **Table A**, the proposed project is not anticipated to result in a significant traffic impact at any of the study intersections. Similar to the transportation study, incremental but not significant impacts are noted at the study intersections evaluated in this updated analysis. Thus, the prior conclusions/findings in the transportation impact study remain valid.

Please feel free to call us at 626-796-2322 with any questions or comments regarding this addendum prepared for the proposed Covina Townhomes Mixed-Use (Site A) project.

c: Jeff Tuck, Hassen Development Corporation
File

Table A
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		[2]				[3]		[4]			
			YEAR 2018 EXISTING V/C OR DELAY	LOS	YEAR 2018 EXISTING WITH PROJECT V/C OR DELAY	LOS	CHANGE V/C OR DELAY [(2)-(1)]	SIGNIF. IMPACT [a]	YEAR 2021 FUTURE PRE-PROJECT V/C OR DELAY	LOS	YEAR 2021 FUTURE W/ PROPOSED PROJECT V/C OR DELAY	LOS	CHANGE V/C OR DELAY [(4)-(3)]	SIGNIF. IMPACT [a]
1	Hollenbeck Avenue/ San Bernardino Road	AM PM	0.809 0.918	D E	0.814 0.927	D E	0.005 0.009	No No	0.846 0.964	D E	0.852 0.973	D E	0.006 0.009	No No
2	Third Avenue/ Vintage Walk - Geneva Place [b]	AM PM	9.1 9.1	A A	9.0 8.9	A A	-0.1 -0.2	No No	9.1 9.1	A A	9.0 8.8	A A	-0.1 -0.3	No No
3	Third Avenue/ San Bernardino Road	AM PM	0.479 0.558	A A	0.503 0.546	A A	0.024 -0.012	No No	0.502 0.586	A A	0.525 0.574	A A	0.023 -0.012	No No
4	Citrus Avenue/ Covina Boulevard	AM PM	0.474 0.515	A A	0.476 0.519	A A	0.002 0.004	No No	0.507 0.556	A A	0.509 0.559	A A	0.002 0.003	No No
5	Citrus Avenue/ Cypress Street	AM PM	0.476 0.477	A A	0.481 0.491	A A	0.005 0.014	No No	0.503 0.505	A A	0.508 0.519	A A	0.005 0.014	No No
6	Citrus Avenue/ Front Street	AM PM	0.232 0.330	A A	0.238 0.333	A A	0.006 0.003	No No	0.247 0.351	A A	0.253 0.353	A A	0.006 0.002	No No
7	Citrus Avenue/ Geneva Place [b]	AM PM	12.0 12.8	B B	12.0 13.4	B B	0.0 0.6	No No	12.6 13.6	B B	12.5 14.2	B B	-0.1 0.6	No No
8	Citrus Avenue/ San Bernardino Road	AM PM	0.563 0.696	A B	0.586 0.710	A C	0.023 0.014	No No	0.600 0.743	A C	0.623 0.757	B C	0.023 0.014	No No
9	Citrus Avenue/ College Street	AM PM	0.343 0.496	A A	0.351 0.508	A A	0.008 0.012	No No	0.369 0.529	A A	0.376 0.541	A A	0.007 0.012	No No
10	Citrus Avenue/ Badillo Street	AM PM	0.871 0.910	D E	0.879 0.918	D E	0.008 0.008	No No	0.921 0.963	E E	0.929 0.971	E E	0.008 0.008	No No
11	Barranca Avenue/ San Bernardino Road	AM PM	0.514 0.532	A A	0.521 0.537	A A	0.007 0.005	No No	0.545 0.561	A A	0.552 0.567	A A	0.007 0.006	No No

[a] City of Covina intersection impact threshold criteria is as follows:

Signalized intersections:

Level of Service	Pre-Project V/C
C	> 0.700 - 0.800
D	> 0.800 - 0.900
E/F	> 0.900

Project-Related Increase in V/C
equal to or greater than 0.040
equal to or greater than 0.020
equal to or greater than 0.010

Unsignalized intersections:

Level of Service	Pre-Project Delay
A/B/C	≤ 25.0 sec.
D/E/F	> 25.0 sec.

Project-Related Increase in Delay
LOS D or worse
equal to or greater than 5.0 seconds

[b] Unsignalized intersection. Two-way stop controlled.

ATTACHMENT A

ICU AND HCM DATA WORKSHEETS - WEEKDAY AM AND PM PEAK HOURS

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Hollenbeck Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU1

Hollenbeck Avenue @ San Bernardino Road
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

Movement	2018 EXIST. TRAFFIC			2018 EXISTING PLUS PROJECT			2018 EXIST. W/PROJECT + MITIGATION			2021 FUTURE PRE-PROJECT			2021 FUTURE WITH PROJECT		
	1	2	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C
	Volume	Capacity	Ratio	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity
Nb Left	34	1600	0.021 *	0	34	1600	0.021 *	0	34	1600	0.021 *	0	0	35	1600
Nb Thru	415	1600	0.269	0	415	1600	0.270	0	415	1600	0.270	0	0	436	1600
Nb Right	15	0	-	2	17	0	-	0	17	0	-	1	2	18	0
Sb Left	86	1600	0.054	1	87	1600	0.054	0	87	1600	0.054	1	1	91	1600
Sb Thru	545	1600	0.341 *	0	545	1600	0.341 *	0	545	1600	0.341 *	9	0	570	1600
Sb Right	374	1600	0.234	0	374	1600	0.234	0	374	1600	0.234	0	0	385	1600
Eb Left	103	1600	0.064 *	0	103	1600	0.064 *	0	103	1600	0.064 *	0	0	106	1600
Eb Thru	241	1600	0.151	2	243	1600	0.152	0	243	1600	0.152	15	2	265	1600
Eb Right	38	1600	0.024	0	38	1600	0.024	0	38	1600	0.024	0	0	39	1600
Wb Left	38	1600	0.024	4	42	1600	0.026	0	42	1600	0.026	2	4	45	1600
Wb Thru	467	1600	0.333 *	6	473	1600	0.338 *	0	473	1600	0.338 *	13	6	500	1600
Wb Right	65	0	-	3	68	0	-	0	68	0	-	2	3	72	0
Yellow Allowance:	0.050 *			0.050 *			0.050 *			0.050 *			0.050 *		
ICU	0.809			0.814			0.814			0.846			0.852		
LOS	D			D			D			D			D		

* Key conflicting movement as a part of ICU
1 Counts conducted by City Traffic Counters
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E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU1

INTERSECTION CAPACITY UTILIZATION

Hollenbeck Avenue @ San Bernardino Road
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	49	1600	0.031	0	49	1600	0.031	0	49	1600	0.031	0	50	1600	0.032	0	50	1600	0.032
Nb Thru	601	1600	0.386 *	0	601	1600	0.389 *	0	601	1600	0.389 *	8	627	1600	0.404 *	0	627	1600	0.407 *
Nb Right	17	0	-	5	22	0	-	0	22	0	-	2	20	0	-	5	25	0	-
Sb Left	80	1600	0.050 *	2	82	1600	0.051 *	0	82	1600	0.051 *	2	84	1600	0.053 *	2	86	1600	0.054 *
Sb Thru	463	1600	0.289	0	463	1600	0.289	0	463	1600	0.289	9	486	1600	0.304	0	486	1600	0.304
Sb Right	172	1600	0.108	0	172	1600	0.108	0	172	1600	0.108	0	177	1600	0.111	0	177	1600	0.111
Eb Left	197	1600	0.123 *	0	197	1600	0.123 *	0	197	1600	0.123 *	0	203	1600	0.127 *	0	203	1600	0.127 *
Eb Thru	520	1600	0.325	7	527	1600	0.329	0	527	1600	0.329	15	551	1600	0.344	7	558	1600	0.349
Eb Right	79	1600	0.049	0	79	1600	0.049	0	79	1600	0.049	0	81	1600	0.051	0	81	1600	0.051
Wb Left	41	1600	0.026	4	45	1600	0.028	0	45	1600	0.028	2	44	1600	0.028	4	48	1600	0.030
Wb Thru	347	1600	0.309 *	5	352	1600	0.314 *	0	352	1600	0.314 *	19	376	1600	0.330 *	5	381	1600	0.335 *
Wb Right	147	0	-	3	150	0	-	0	150	0	-	1	152	0	-	3	155	0	-
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *			
ICU				0.918			0.927	0.927			E	0.964			E	0.973			E
LOS				E			E	E			E	E			E	E			E

* Key conflicting movement as a part of ICU

1 Counts conducted by City Traffic Counters

2 Capacity expressed in veh/hour of green

HCS7 Two-Way Stop-Control Report

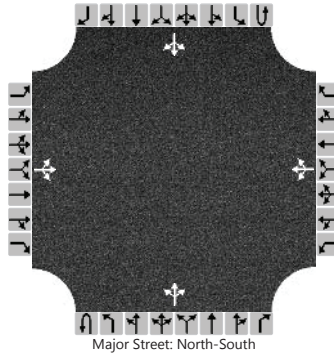
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	6/24/19
Analysis Year	2021
Time Analyzed	AM Pk Hr - Future Pre-Prj
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-4

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	2	19		19	4	3		4	33	2		3	25	1
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		6.40	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21				26			4				3		
Capacity, c (veh/h)			1027				901			1601				1589		
v/c Ratio			0.02				0.03			0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.1				0.1			0.0				0.0		
Control Delay (s/veh)			8.6				9.1			7.3				7.3		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.6				9.1				0.8				0.8			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

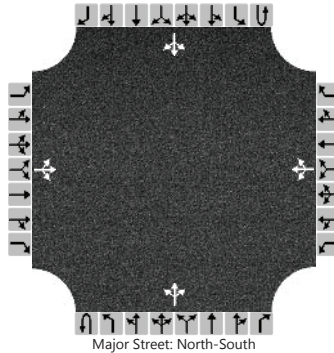
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	6/24/19
Analysis Year	2021
Time Analyzed	PM Pk Hr - Future Pre-Prj
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-4

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	2	6		42	3	3		3	13	10		4	30	0
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		6.40	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8				48			3				4		
Capacity, c (veh/h)			983				934			1596				1605		
v/c Ratio			0.01				0.05			0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.0				0.2			0.0				0.0		
Control Delay (s/veh)			8.7				9.1			7.3				7.2		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.7				9.1				0.8				0.9			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

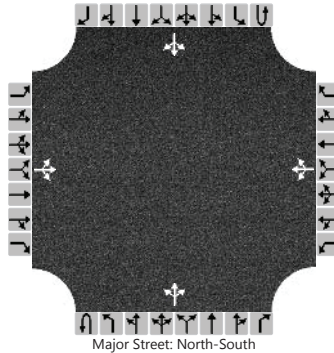
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	6/24/19
Analysis Year	2021
Time Analyzed	AM Pk Hr - Future w/ Prj.
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-4

Site Information

Intersection	Int. 2
Jurisdiction	City of Covina
East/West Street	Vintage Walk - Geneva Place
North/South Street	Third Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	19		11	0	0		4	33	2		0	25	1
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		6.40	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

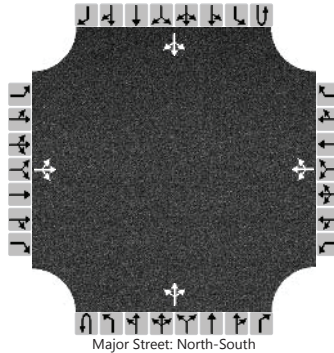
Flow Rate, v (veh/h)			19				11			4				0		
Capacity, c (veh/h)			1056				912			1601				1589		
v/c Ratio			0.02				0.01			0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.1				0.0			0.0				0.0		
Control Delay (s/veh)			8.5				9.0			7.3				7.3		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.5				9.0				0.8				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

General Information

Analyst	DR	Intersection	Int. 2
Agency/Co.	LLG Engineers	Jurisdiction	City of Covina
Date Performed	6/24/19	East/West Street	Vintage Walk - Geneva Place
Analysis Year	2021	North/South Street	Third Avenue
Time Analyzed	PM Pk Hr - Future w/ Prj.	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covina Townhomes Project/1-15-4127-4		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	6		5	0	0		3	13	10		0	30	0
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		6.40	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			6				5				3				0	
Capacity, c (veh/h)			1050				949				1596				1605	
v/c Ratio			0.01				0.01				0.00				0.00	
95% Queue Length, Q ₉₅ (veh)			0.0				0.0				0.0				0.0	
Control Delay (s/veh)			8.4				8.8				7.3				7.2	
Level of Service (LOS)			A				A				A				A	
Approach Delay (s/veh)	8.4				8.8				0.8				0.0			
Approach LOS	A				A											

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Third Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU3

Third Avenue @ San Bernardino Road
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT										
Movement	1	2	V/C	Added	Total	Volume	Capacity	V/C	Ratio	Added	Total	Volume	Capacity	V/C	Ratio	Added	Total	Volume	Capacity	V/C	Ratio					
Nb Left	32	0	0.020 *	0	32	0	0.020 *	0	0.020 *	0	32	0	0.020 *	1	34	0	0.021 *	0	34	0	0.021 *					
Nb Thru	12	1600	0.028	0	12	1600	0.028	0	0.028	0	12	1600	0.029	0	12	1600	0.029	0	12	1600	0.029					
Nb Right	16	1600	0.010	1	17	1600	0.011	0	0.011	0	17	1600	0.011	0	16	1600	0.010	1	17	1600	0.011					
Sb Left	5	0	0.003	0	5	0	0.003	0	0.003	0	5	0	0.003	0	5	0	0.003	0	5	0	0.003					
Sb Thru	18	1600	0.039 *	-1	17	1600	0.034 *	0	0.034 *	0	17	1600	0.034 *	0	19	1600	0.041 *	-1	18	1600	0.035 *					
Sb Right	40	0	-	-8	32	0	-	0	-	0	32	0	-	0	41	0	-	-8	33	0	-					
EB Left	18	1600	0.011 *	0	18	1600	0.011 *	0	0.011 *	0	18	1600	0.011 *	0	19	1600	0.012 *	0	19	1600	0.012 *					
EB Thru	258	1600	0.161	6	264	1600	0.165	0	0.165	0	264	1600	0.177	17	283	1600	0.177	6	289	1600	0.180					
EB Right	35	1600	0.022	0	35	1600	0.022	0	0.022	0	35	1600	0.022	0	36	1600	0.023	0	36	1600	0.023					
Wb Left	38	1600	0.024	3	41	1600	0.026	0	0.026	0	41	1600	0.026	0	39	1600	0.024	3	42	1600	0.026					
Wb Thru	569	1600	0.359 *	46	615	1600	0.388 *	0	0.388 *	0	615	1600	0.388 *	15	601	1600	0.379 *	46	647	1600	0.408 *					
Wb Right	5	0	-	0	5	0	-	0	-	0	5	0	-	0	5	0	-	0	5	0	-					
Yellow Allowance:																						0.050 *	0.050 *	0.050 *	0.050 *	0.050 *
ICU	0.479				0.503				0.503				0.502				0.525									
LOS	A				A				A				A				A									

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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(626) 796.2322 Fax (626) 792-0941

N-S St: Third Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU3

Third Avenue @ San Bernardino Road
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	65	0	0.041 *	0	65	0	0.041 *	0	65	0	0.041 *	1	68	0	0.042 *	0	68	0	0.042 *
Nb Thru	4	1600	0.043	2	6	1600	0.044	0	6	1600	0.044	0	4	1600	0.045	2	6	1600	0.046
Nb Right	73	1600	0.046	3	76	1600	0.048	0	76	1600	0.048	0	75	1600	0.047	3	78	1600	0.049
Sb Left	4	0	0.003	0	4	0	0.003	0	4	0	0.003	0	4	0	0.003	0	4	0	0.003
Sb Thru	14	1600	0.037 *	-7	7	1600	0.014 *	0	7	1600	0.014 *	0	14	1600	0.038 *	-7	7	1600	0.015 *
Sb Right	41	0	-	-29	12	0	-	0	12	0	-	0	42	0	-	-29	13	0	-
Eb Left	11	1600	0.007	-2	9	1600	0.006	0	9	1600	0.006	0	11	1600	0.007	-2	9	1600	0.006
Eb Thru	658	1600	0.411 *	16	674	1600	0.421 *	0	674	1600	0.421 *	20	698	1600	0.436 *	16	714	1600	0.446 *
Eb Right	47	1600	0.029	0	47	1600	0.029	0	47	1600	0.029	0	48	1600	0.030	0	48	1600	0.030
Wb Left	30	1600	0.019 *	1	31	1600	0.019 *	0	31	1600	0.019 *	0	31	1600	0.019 *	1	32	1600	0.020 *
Wb Thru	394	1600	0.249	54	448	1600	0.283	0	448	1600	0.283	22	428	1600	0.271	54	482	1600	0.304
Wb Right	5	0	-	0	5	0	-	0	5	0	-	0	5	0	-	0	5	0	-
Yellow Allowance:			0.050 *				0.050 *				0.050 *				0.050 *				0.050 *
ICU			0.558				0.546				0.546				0.586				0.574
LOS			A				A				A				A				A

* Key conflicting movement as a part of ICU

1 Counts conducted by City Traffic Counters

2 Capacity expressed in veh/hour of green

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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N-S St: Citrus Avenue
E-W St: Covina Boulevard
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU4

Citrus Avenue @ Covina Boulevard
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

Movement	2018 EXIST. TRAFFIC			2018 EXISTING PLUS PROJECT			2018 EXIST. W/PROJECT + MITIGATION			2021 FUTURE PRE-PROJECT			2021 FUTURE WITH PROJECT		
	1	2	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C	Added	Total	V/C
	Volume	Capacity	Ratio	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity	Volume	Volume	Capacity
Nb Left	24	1600	0.015 *	2	26	1600	0.016 *	0	26	1600	0.016 *	1	26	1600	0.017 *
Nb Thru	329	3200	0.111	6	335	3200	0.114	0	335	3200	0.114	34	373	3200	0.126
Nb Right	27	0	-	2	29	0	-	0	29	0	-	2	30	0	-
Sb Left	73	1600	0.046	0	73	1600	0.046	0	73	1600	0.046	6	81	1600	0.051
Sb Thru	485	3200	0.163 *	3	488	3200	0.164 *	0	488	3200	0.164 *	33	533	3200	0.181 *
Sb Right	38	0	-	0	38	0	-	0	38	0	-	6	45	0	-
Eb Left	96	1600	0.060 *	0	96	1600	0.060 *	0	96	1600	0.060 *	7	106	1600	0.066 *
Eb Thru	294	3200	0.101	0	294	3200	0.101	0	294	3200	0.101	5	308	3200	0.106
Eb Right	29	0	-	1	30	0	-	0	30	0	-	0	30	0	-
Wb Left	75	1600	0.047	1	76	1600	0.048	0	76	1600	0.048	1	78	1600	0.050
Wb Thru	534	3200	0.185 *	0	534	3200	0.185 *	0	534	3200	0.185 *	3	553	3200	0.194 *
Wb Right	59	0	-	0	59	0	-	0	59	0	-	7	68	0	-
Yellow Allowance:	0.050 *			0.050 *			0.050 *			0.050 *			0.050 *		
ICU	0.474			0.476			0.476			0.507			0.509		
LOS	A			A			A			A			A		

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

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N-S St: Citrus Avenue
E-W St: Covina Boulevard
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU4

Citrus Avenue @ Covina Boulevard
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	54	1600	0.034	2	56	1600	0.035	0	56	1600	0.035	0	56	1600	0.035	2	58	1600	0.036
Nb Thru	530	3200	0.193 *	5	535	3200	0.196 *	0	535	3200	0.196 *	38	584	3200	0.211 *	5	589	3200	0.214 *
Nb Right	89	0	-	2	91	0	-	0	91	0	-	1	93	0	-	2	95	0	-
Sb Left	133	1600	0.083 *	0	133	1600	0.083 *	0	133	1600	0.083 *	8	145	1600	0.091 *	0	145	1600	0.091 *
Sb Thru	458	3200	0.166	7	465	3200	0.168	0	465	3200	0.168	40	512	3200	0.186	7	519	3200	0.188
Sb Right	72	0	-	0	72	0	-	0	72	0	-	8	82	0	-	0	82	0	-
Eb Left	75	1600	0.047 *	0	75	1600	0.047	0	75	1600	0.047	9	86	1600	0.054 *	0	86	1600	0.054 *
Eb Thru	434	3200	0.147	0	434	3200	0.148 *	0	434	3200	0.148 *	4	451	3200	0.153	0	451	3200	0.154
Eb Right	36	0	-	3	39	0	-	0	39	0	-	1	38	0	-	3	41	0	-
Wb Left	65	1600	0.041	3	68	1600	0.043 *	0	68	1600	0.043 *	2	69	1600	0.043	3	72	1600	0.045
Wb Thru	376	3200	0.142 *	0	376	3200	0.142	0	376	3200	0.142	6	393	3200	0.150 *	0	393	3200	0.150 *
Wb Right	77	0	-	0	77	0	-	0	77	0	-	9	88	0	-	0	88	0	-
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *
ICU			0.515				0.519				0.519				0.556				0.559
LOS			A				A				A				A				A

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Cypress Street
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU5

Citrus Avenue @ Cypress Street
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	45	1600	0.028 *	5	50	1600	0.031 *	0	50	1600	0.031 *	1	47	1600	0.030 *	5	52	1600	0.033 *
Nb Thru	220	3200	0.071	10	230	3200	0.076	0	230	3200	0.076	29	256	3200	0.083	10	266	3200	0.088
Nb Right	8	0	-	6	14	0	-	0	14	0	-	2	10	0	-	6	16	0	-
Sb Left	54	1600	0.034	0	54	1600	0.034	0	54	1600	0.034	3	59	1600	0.037	0	59	1600	0.037
Sb Thru	346	3200	0.166 *	6	352	3200	0.168 *	0	352	3200	0.168 *	28	384	3200	0.181 *	6	390	3200	0.183 *
Sb Right	186	0	-	0	186	0	-	0	186	0	-	3	195	0	-	0	195	0	-
Eb Left	56	1600	0.035 *	0	56	1600	0.035 *	0	56	1600	0.035 *	3	61	1600	0.038 *	0	61	1600	0.038 *
Eb Thru	222	3200	0.078	0	222	3200	0.079	0	222	3200	0.079	9	238	3200	0.084	0	238	3200	0.085
Eb Right	29	0	-	3	32	0	-	0	32	0	-	0	30	0	-	3	33	0	-
Wb Left	45	1600	0.028	3	48	1600	0.030	0	48	1600	0.030	1	47	1600	0.030	3	50	1600	0.031
Wb Thru	581	3200	0.197 *	0	581	3200	0.197 *	0	581	3200	0.197 *	3	601	3200	0.205 *	0	601	3200	0.205 *
Wb Right	49	0	-	0	49	0	-	0	49	0	-	3	53	0	-	0	53	0	-
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *			
ICU							0.481				A				0.503				A
LOS							A												0.508

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Cypress Street
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU5

Citrus Avenue @ Cypress Street
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	73	1600	0.046 *	4	77	1600	0.048 *	0	77	1600	0.048 *	1	76	1600	0.048 *	4	80	1600	0.050 *
Nb Thru	478	3200	0.161	8	486	3200	0.165	0	486	3200	0.165	32	524	3200	0.176	8	532	3200	0.180
Nb Right	37	0	-	5	42	0	-	0	42	0	-	1	39	0	-	5	44	0	-
Sb Left	64	1600	0.040	0	64	1600	0.040	0	64	1600	0.040	4	70	1600	0.044	0	70	1600	0.044
Sb Thru	396	3200	0.156 *	14	410	3200	0.161 *	0	410	3200	0.161 *	33	441	3200	0.173 *	14	455	3200	0.177 *
Sb Right	104	0	-	0	104	0	-	0	104	0	-	4	111	0	-	0	111	0	-
Eb Left	140	1600	0.088	0	140	1600	0.088	0	140	1600	0.088	4	148	1600	0.093	0	148	1600	0.093
Eb Thru	596	3200	0.205 *	0	596	3200	0.207 *	0	596	3200	0.207 *	4	618	3200	0.213 *	0	618	3200	0.215 *
Eb Right	59	0	-	7	66	0	-	0	66	0	-	2	63	0	-	7	70	0	-
Wb Left	33	1600	0.021 *	7	40	1600	0.025 *	0	40	1600	0.025 *	2	36	1600	0.022 *	7	43	1600	0.027 *
Wb Thru	333	3200	0.121	0	333	3200	0.121	0	333	3200	0.121	10	353	3200	0.129	0	353	3200	0.129
Wb Right	53	0	-	0	53	0	-	0	53	0	-	4	59	0	-	0	59	0	-
Yellow Allowance:				0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *	
ICU			0.477				0.491				0.491								0.519
LOS			A				A				A							A	

* Key conflicting movement as a part of ICU
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2 Capacity expressed in veh/hour of green

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Front Street
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU6

Citrus Avenue @ Front Street
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	8	1600	0.005 *	5	13	1600	0.008 *	0	13	1600	0.008 *	0	8	1600	0.005 *	5	13	1600	0.008 *
Nb Thru	247	3200	0.078	14	261	3200	0.083	0	261	3200	0.083	31	285	3200	0.090	14	299	3200	0.095
Nb Right	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Sb Left	40	1600	0.025	0	40	1600	0.025	0	40	1600	0.025	1	42	1600	0.026	0	42	1600	0.026
Sb Thru	430	3200	0.136 *	11	441	3200	0.139 *	0	441	3200	0.139 *	28	471	3200	0.148 *	11	482	3200	0.152 *
Sb Right	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
Eb Left	2	1600	0.001 *	0	2	1600	0.001 *	0	2	1600	0.001 *	0	2	1600	0.001 *	0	2	1600	0.001 *
Eb Thru	2	1600	0.003	0	2	1600	0.003	0	2	1600	0.003	0	2	1600	0.003	0	2	1600	0.003
Eb Right	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
Wb Left	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002
Wb Thru	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006
Wb Right	64	1600	0.040 *	0	64	1600	0.040 *	0	64	1600	0.040 *	1	67	1600	0.042 *	0	67	1600	0.042 *
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *			
ICU	0.232			0.238			0.238			0.238			0.247			0.253			
LOS	A			A			A			A			A			A			

* Key conflicting movement as a part of ICU
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(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Front Street
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU6

Citrus Avenue @ Front Street
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	5	1600	0.003	13	18	1600	0.011	0	18	1600	0.011	0	5	1600	0.003	13	18	1600	0.011
Nb Thru	471	3200	0.150 *	8	479	3200	0.153 *	0	479	3200	0.153 *	33	518	3200	0.165 *	8	526	3200	0.167 *
Nb Right	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-
Sb Left	48	1600	0.030	0	48	1600	0.030	0	48	1600	0.030	2	51	1600	0.032	0	51	1600	0.032
Sb Thru	447	3200	0.141	26	473	3200	0.149	0	473	3200	0.149	35	495	3200	0.156	26	521	3200	0.165
Sb Right	5	0	-	0	5	0	-	0	5	0	-	0	5	0	-	0	5	0	-
Eb Left	34	1600	0.021 *	0	34	1600	0.021 *	0	34	1600	0.021 *	0	35	1600	0.022 *	0	35	1600	0.022 *
Eb Thru	12	1600	0.018	0	12	1600	0.018	0	12	1600	0.018	0	12	1600	0.019	0	12	1600	0.019
Eb Right	17	0	-	0	17	0	-	0	17	0	-	0	18	0	-	0	18	0	-
Wb Left	9	1600	0.006	0	9	1600	0.006	0	9	1600	0.006	0	9	1600	0.006	0	9	1600	0.006
Wb Thru	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001
Wb Right	126	1600	0.079 *	0	126	1600	0.079 *	0	126	1600	0.079 *	1	131	1600	0.082 *	0	131	1600	0.082 *
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *	0.050 *			0.050 *
ICU			0.330				0.333				0.333				0.351				0.353
LOS			A				A				A				A				A

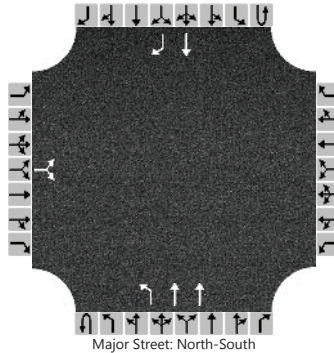
* Key conflicting movement as a part of ICU
1 Counts conducted by City Traffic Counters
2 Capacity expressed in veh/hour of green

HCS7 Two-Way Stop-Control Report

General Information

Analyst	DR	Intersection	Int. 7
Agency/Co.	LLG Engineers	Jurisdiction	City of Covina
Date Performed	6/24/19	East/West Street	Geneva Place
Analysis Year	2021	North/South Street	Citrus Avenue
Time Analyzed	AM Pk Hr - Future Pre-Prj	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covina Townhomes Project/1-15-4127-4		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume (veh/h)		6		2						3	303				429	38
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.80		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

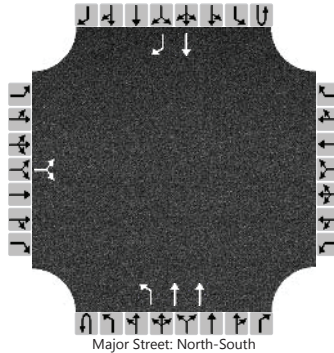
Flow Rate, v (veh/h)			8							3						
Capacity, c (veh/h)			480							1105						
v/c Ratio			0.02							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			12.6							8.3						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)	12.6								0.1							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

General Information

Analyst	DR	Intersection	Int. 7
Agency/Co.	LLG Engineers	Jurisdiction	City of Covina
Date Performed	6/24/19	East/West Street	Geneva Place
Analysis Year	2021	North/South Street	Citrus Avenue
Time Analyzed	PM Pk Hr - Future Pre-Prj	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Covina Townhomes Project/1-15-4127-4		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume (veh/h)		9		8						3	521				478	47
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.80		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			17							3						
Capacity, c (veh/h)			436							1052						
v/c Ratio			0.04							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			13.6							8.4						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)	13.6								0.0							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

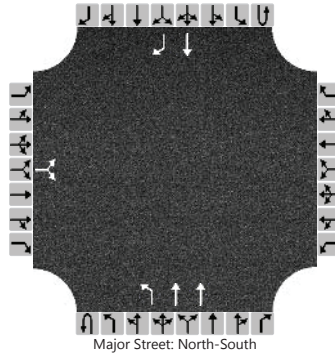
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	6/24/19
Analysis Year	2021
Time Analyzed	AM Pk Hr - Future w/ Prj.
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-4

Site Information

Intersection	Int. 7
Jurisdiction	City of Covina
East/West Street	Geneva Place
North/South Street	Citrus Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume (veh/h)		8		15						19	321				470	9
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.80		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23							19						
Capacity, c (veh/h)			504							1094						
v/c Ratio			0.05							0.02						
95% Queue Length, Q ₉₅ (veh)			0.1							0.1						
Control Delay (s/veh)			12.5							8.3						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)	12.5								0.5							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

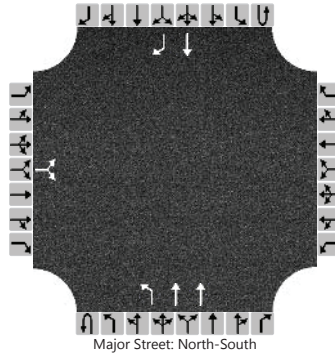
General Information

Analyst	DR
Agency/Co.	LLG Engineers
Date Performed	6/24/19
Analysis Year	2021
Time Analyzed	PM Pk Hr - Future w/ Prj.
Intersection Orientation	North-South
Project Description	Covina Townhomes Project/1-15-4127-4

Site Information

Intersection	Int. 7
Jurisdiction	City of Covina
East/West Street	Geneva Place
North/South Street	Citrus Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	1	1
Configuration			LR							L	T				T	R
Volume (veh/h)		12		27						28	540				540	13
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.2						4.1						
Critical Headway (sec)		6.80		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			39							28						
Capacity, c (veh/h)			428							1027						
v/c Ratio			0.09							0.03						
95% Queue Length, Q ₉₅ (veh)			0.3							0.1						
Control Delay (s/veh)			14.2							8.6						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)	14.2								0.4							
Approach LOS	B															

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N-S St: Citrus Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU8

Citrus Avenue @ San Bernardino Road
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	41	1600	0.026 *	2	43	1600	0.027 *	0	43	1600	0.027 *	0	42	1600	0.026 *	2	44	1600	0.028 *
Nb Thru	195	3200	0.066	8	203	3200	0.069	0	203	3200	0.069	25	226	3200	0.077	8	234	3200	0.079
Nb Right	17	0	-	0	17	0	-	0	17	0	-	2	20	0	-	0	20	0	-
Sb Left	63	1600	0.039	5	68	1600	0.043	0	68	1600	0.043	3	68	1600	0.042	5	73	1600	0.046
Sb Thru	300	1600	0.188 *	5	305	1600	0.191 *	0	305	1600	0.191 *	21	330	1600	0.206 *	5	335	1600	0.209 *
Sb Right	41	1600	0.026	44	85	1600	0.053	0	85	1600	0.053	3	45	1600	0.028	44	89	1600	0.056
Eb Left	41	1600	0.026 *	19	60	1600	0.038 *	0	60	1600	0.038 *	3	45	1600	0.028 *	19	64	1600	0.040 *
Eb Thru	241	1600	0.174	15	256	1600	0.188	0	256	1600	0.188	18	266	1600	0.191	15	281	1600	0.205
Eb Right	38	0	-	7	45	0	-	0	45	0	-	1	40	0	-	7	47	0	-
Wb Left	24	1600	0.015	0	24	1600	0.015	0	24	1600	0.015	2	27	1600	0.017	0	27	1600	0.017
Wb Thru	420	1600	0.274 *	3	423	1600	0.281 *	0	423	1600	0.281 *	8	441	1600	0.289 *	3	444	1600	0.296 *
Wb Right	19	0	-	7	26	0	-	0	26	0	-	3	23	0	-	7	30	0	-
Yellow Allowance:			0.050 *				0.050 *				0.050 *				0.050 *				0.050 *
ICU			0.563				0.586				0.586				0.600				0.623
LOS		A				A				A				A				B	

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU8

Citrus Avenue @ San Bernardino Road
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	62	1600	0.039 *	9	71	1600	0.044 *	0	71	1600	0.044 *	0	64	1600	0.040 *	9	73	1600	0.046 *
Nb Thru	323	3200	0.111	11	334	3200	0.114	0	334	3200	0.114	24	357	3200	0.122	11	368	3200	0.126
Nb Right	31	0	-	0	31	0	-	0	31	0	-	3	35	0	-	0	35	0	-
Sb Left	80	1600	0.050	10	90	1600	0.056	0	90	1600	0.056	4	86	1600	0.054	10	96	1600	0.060
Sb Thru	309	1600	0.193 *	3	312	1600	0.195 *	0	312	1600	0.195 *	27	345	1600	0.216 *	3	348	1600	0.218 *
Sb Right	51	1600	0.032	68	119	1600	0.074	0	119	1600	0.074	4	57	1600	0.035	68	125	1600	0.078
Eb Left	91	1600	0.057	23	114	1600	0.071	0	114	1600	0.071	4	98	1600	0.061	23	121	1600	0.075
Eb Thru	574	1600	0.395 *	7	581	1600	0.401 *	0	581	1600	0.401 *	13	604	1600	0.416 *	7	611	1600	0.422 *
Eb Right	58	0	-	3	61	0	-	0	61	0	-	1	61	0	-	3	64	0	-
Wb Left	31	1600	0.019 *	0	31	1600	0.019 *	0	31	1600	0.019 *	3	35	1600	0.022 *	0	35	1600	0.022 *
Wb Thru	320	1600	0.222	14	334	1600	0.238	0	334	1600	0.238	22	352	1600	0.245	14	366	1600	0.260
Wb Right	35	0	-	11	46	0	-	0	46	0	-	4	40	0	-	11	51	0	-
Yellow Allowance:				0.050 *			0.050 *	0.050 *			0.050 *	0.050 *				0.050 *			0.050 *
ICU							0.710				0.710								
LOS			0.696 B				C				C								0.757 C

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: College Street
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU9

Citrus Avenue @ College Street
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT											
Movement	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio				
Nb Left	40	0	0.025 *	0	40	0	0.025 *	0	40	0	0.025 *	0	41	0	0.026 *	0	41	0	0	41	0	0.026 *					
Nb Thru	272	1600	0.201	9	281	1600	0.207	0	281	1600	0.207	22	302	1600	0.221	9	311	1600	9	311	1600	0.227					
Nb Right	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	0	10	0	-					
Sb Left	7	0	0.004	0	7	0	0.004	0	7	0	0.004	0	7	0	0.005	0	7	0	0	7	0	0.005					
Sb Thru	310	1600	0.215 *	12	322	1600	0.223 *	0	322	1600	0.223 *	27	346	1600	0.238 *	12	358	1600	12	358	1600	0.246 *					
Sb Right	27	0	-	0	27	0	-	0	27	0	-	0	28	0	-	0	28	0	0	28	0	-					
Eb Left	9	0	0.006 *	0	9	0	0.006 *	0	9	0	0.006 *	0	9	0	0.006 *	0	9	0	0	9	0	0.006 *					
Eb Thru	19	1600	0.039	0	19	1600	0.039	0	19	1600	0.039	0	20	1600	0.040	0	20	1600	0	20	1600	0.040					
Eb Right	34	0	-	0	34	0	-	0	34	0	-	0	35	0	-	0	35	0	0	35	0	-					
Wb Left	19	1600	0.012	0	19	1600	0.012	0	19	1600	0.012	0	20	1600	0.012	0	20	1600	0	20	1600	0.012					
Wb Thru	61	1600	0.048 *	0	61	1600	0.048 *	0	61	1600	0.048 *	0	63	1600	0.049 *	0	63	1600	0	63	1600	0.049 *					
Wb Right	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-	0	15	0	0	15	0	-					
Yellow Allowance:																							0.050 *	0.050 *	0.050 *	0.050 *	0.050 *
ICU	0.343				0.351				0.351				0.369				0.376										
LOS	A				A				A				A				A										

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: College Street
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU9

INTERSECTION CAPACITY UTILIZATION

Citrus Avenue @ College Street
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	Ratio	Added Volume	Total Volume	Capacity	V/C	Added Volume	Total Volume	Capacity	V/C	Added Volume	Total Volume	Capacity	V/C	Added Volume	Total Volume	Capacity	V/C
Nb Left	24	0	0.015	0	24	0	0.015	0	24	0	0.015	0	25	0	0.015	0	25	0	0.015
Nb Thru	352	1600	0.259 *	19	371	1600	0.271 *	0	371	1600	0.286 *	31	394	1600	0.298 *	19	413	1600	0.298 *
Nb Right	38	0	-	0	38	0	-	0	38	0	-	0	39	0	-	0	39	0	-
Sb Left	23	0	0.014 *	0	23	0	0.014 *	0	23	0	0.015 *	0	24	0	0.015 *	0	24	0	0.015 *
Sb Thru	342	1600	0.245	12	354	1600	0.253	0	354	1600	0.270	28	380	1600	0.277	12	392	1600	0.277
Sb Right	27	0	-	0	27	0	-	0	27	0	-	0	28	0	-	0	28	0	-
Eb Left	31	0	0.019	0	31	0	0.019	0	31	0	0.020	0	32	0	0.020	0	32	0	0.020
Eb Thru	123	1600	0.143 *	0	123	1600	0.143 *	0	123	1600	0.147 *	0	127	1600	0.147 *	0	127	1600	0.147 *
Eb Right	74	0	-	0	74	0	-	0	74	0	-	0	76	0	-	0	76	0	-
Wb Left	49	1600	0.031 *	0	49	1600	0.031 *	0	49	1600	0.032 *	0	50	1600	0.032 *	0	50	1600	0.032 *
Wb Thru	54	1600	0.063	0	54	1600	0.063	0	54	1600	0.064	0	56	1600	0.064	0	56	1600	0.064
Wb Right	46	0	-	0	46	0	-	0	46	0	-	0	47	0	-	0	47	0	-
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *			
ICU	0.496			0.508			0.508			0.529			0.529			0.541			
LOS	A			A			A			A			A			A			

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Badillo Street
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU10

Citrus Avenue @ Badillo Street
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	122	1600	0.076 *	0	122	1600	0.076 *	0	122	1600	0.076 *	6	132	1600	0.083 *	0	132	1600	0.083 *
Nb Thru	251	1600	0.157	5	256	1600	0.160	0	256	1600	0.160	21	280	1600	0.175	5	285	1600	0.178
Nb Right	96	1600	0.060	0	96	1600	0.060	0	96	1600	0.060	6	105	1600	0.066	0	105	1600	0.066
Sb Left	11	0	0.007	4	15	0	0.009	0	15	0	0.009	2	13	0	0.008	4	17	0	0.011
Sb Thru	341	1600	0.239 *	7	348	1600	0.246 *	0	348	1600	0.246 *	24	375	1600	0.263 *	7	382	1600	0.270 *
Sb Right	30	0	-	1	31	0	-	0	31	0	-	1	32	0	-	1	33	0	-
Eb Left	21	1600	0.013 *	2	23	1600	0.014 *	0	23	1600	0.014 *	0	22	1600	0.014 *	2	24	1600	0.015 *
Eb Thru	510	1600	0.319	0	510	1600	0.319	0	510	1600	0.319	12	537	1600	0.336	0	537	1600	0.336
Eb Right	79	1600	0.049	3	82	1600	0.051	0	82	1600	0.051	6	87	1600	0.055	3	90	1600	0.056
Wb Left	84	1600	0.053	0	84	1600	0.053	0	84	1600	0.053	6	93	1600	0.058	0	93	1600	0.058
Wb Thru	788	1600	0.493 *	0	788	1600	0.493 *	0	788	1600	0.493 *	6	818	1600	0.511 *	0	818	1600	0.511 *
Wb Right	41	1600	0.026	2	43	1600	0.027	0	43	1600	0.027	1	43	1600	0.027	2	45	1600	0.028
Yellow Allowance:				0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *		0.050 *	
ICU			0.871				0.879				0.879								0.929
LOS			D				D				D								E

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Citrus Avenue
E-W St: Badillo Street
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU10

Citrus Avenue @ Badillo Street
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	134	1600	0.084 *	0	134	1600	0.084 *	0	134	1600	0.084 *	4	142	1600	0.089 *	0	142	1600	0.089 *
Nb Thru	357	1600	0.223	12	369	1600	0.231	0	369	1600	0.231	27	395	1600	0.247	12	407	1600	0.254
Nb Right	154	1600	0.096	0	154	1600	0.096	0	154	1600	0.096	4	163	1600	0.102	0	163	1600	0.102
Sb Left	27	0	0.017	4	31	0	0.019	0	31	0	0.019	2	30	0	0.019	4	34	0	0.021 *
Sb Thru	378	1600	0.287 *	7	385	1600	0.295 *	0	385	1600	0.295 *	25	414	1600	0.313 *	7	421	1600	0.321 *
Sb Right	54	0	-	2	56	0	-	0	56	0	-	1	57	0	-	2	59	0	-
Eb Left	58	1600	0.036	3	61	1600	0.038	0	61	1600	0.038	2	62	1600	0.039	3	65	1600	0.040
Eb Thru	700	1600	0.438 *	0	700	1600	0.438 *	0	700	1600	0.438 *	9	730	1600	0.456 *	0	730	1600	0.456 *
Eb Right	96	1600	0.060	1	97	1600	0.061	0	97	1600	0.061	5	104	1600	0.065	1	105	1600	0.066
Wb Left	81	1600	0.051 *	0	81	1600	0.051 *	0	81	1600	0.051 *	5	88	1600	0.055 *	0	88	1600	0.055 *
Wb Thru	511	1600	0.319	0	511	1600	0.319	0	511	1600	0.319	14	540	1600	0.338	0	540	1600	0.338
Wb Right	71	1600	0.044	5	76	1600	0.048	0	76	1600	0.048	2	75	1600	0.047	5	80	1600	0.050
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *			
ICU	0.910			0.918			0.918			0.918			0.963			0.971			
LOS	E			E			E			E			E			E			

* Key conflicting movement as a part of ICU

1 Counts conducted by City Traffic Counters

2 Capacity expressed in veh/hour of green

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Barranca Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU11

Barranca Avenue @ San Bernardino Road
Peak hr: AM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	1	2	V/C	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	Added	Total	Volume	Capacity	Ratio	
Nb Left	62	1600	0.039 *	3	65	1600	0.041 *	0	65	1600	0.041 *	2	66	1600	0.041 *	3	69	1600	0.043 *
Nb Thru	600	3200	0.208	0	600	3200	0.208	0	600	3200	0.208	21	639	3200	0.221	0	639	3200	0.221
Nb Right	65	0	-	0	65	0	-	0	65	0	-	0	67	0	-	0	67	0	-
Sb Left	87	1600	0.054	0	87	1600	0.054	0	87	1600	0.054	1	91	1600	0.057	0	91	1600	0.057 *
Sb Thru	582	3200	0.234 *	0	582	3200	0.235 *	0	582	3200	0.235 *	11	610	3200	0.246 *	0	610	3200	0.247 *
Sb Right	168	0	-	3	171	0	-	0	171	0	-	3	176	0	-	3	179	0	-
Eb Left	115	1600	0.072 *	5	120	1600	0.075 *	0	120	1600	0.075 *	10	128	1600	0.080 *	5	133	1600	0.083 *
Eb Thru	178	3200	0.063	7	185	3200	0.068	0	185	3200	0.068	10	193	3200	0.069	7	200	3200	0.073
Eb Right	25	0	-	6	31	0	-	0	31	0	-	2	28	0	-	6	34	0	-
Wb Left	51	1600	0.032	0	51	1600	0.032	0	51	1600	0.032	0	53	1600	0.033	0	53	1600	0.033
Wb Thru	285	3200	0.119 *	3	288	3200	0.120 *	0	288	3200	0.120 *	10	304	3200	0.128 *	3	307	3200	0.129 *
Wb Right	95	0	-	0	95	0	-	0	95	0	-	8	106	0	-	0	106	0	-
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *			
ICU	0.514			0.521				0.521				0.545				0.552			
LOS	A			A				A				A				A			

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

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Suite 500, Pasadena CA 91106
(626) 796.2322 Fax (626) 792-0941

N-S St: Barranca Avenue
E-W St: San Bernardino Road
Project: Covina Townhomes (Site A) Project/1-15-4127-4
File: ICU11

Barranca Avenue @ San Bernardino Road
Peak hr: PM
Annual Growth: 1.00%

Date: 06/24/2019
Date of Count: 2018
Projection Year: 2021

INTERSECTION CAPACITY UTILIZATION

2018 EXIST. TRAFFIC				2018 EXISTING PLUS PROJECT				2018 EXIST. W/PROJECT + MITIGATION				2021 FUTURE PRE-PROJECT				2021 FUTURE WITH PROJECT			
Movement	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	45	1600	0.028	7	52	1600	0.033	0	52	1600	0.033	3	49	1600	0.031	7	56	1600	0.035
Nb Thru	702	3200	0.237 *	0	702	3200	0.237 *	0	702	3200	0.237 *	10	733	3200	0.247 *	0	733	3200	0.247 *
Nb Right	57	0	-	0	57	0	-	0	57	0	-	0	59	0	-	0	59	0	-
Sb Left	69	1600	0.043 *	0	69	1600	0.043 *	0	69	1600	0.043 *	8	79	1600	0.049 *	0	79	1600	0.049 *
Sb Thru	609	3200	0.228	0	609	3200	0.230	0	609	3200	0.230	22	649	3200	0.245	0	649	3200	0.247
Sb Right	121	0	-	6	127	0	-	0	127	0	-	10	135	0	-	6	141	0	-
Eb Left	174	1600	0.109 *	5	179	1600	0.112 *	0	179	1600	0.112 *	4	183	1600	0.115 *	5	188	1600	0.118 *
Eb Thru	429	3200	0.154	6	435	3200	0.158	0	435	3200	0.158	14	456	3200	0.164	6	462	3200	0.168
Eb Right	65	0	-	5	70	0	-	0	70	0	-	3	70	0	-	5	75	0	-
Wb Left	62	1600	0.039	0	62	1600	0.039	0	62	1600	0.039	0	64	1600	0.040	0	64	1600	0.040
Wb Thru	209	3200	0.093 *	8	217	3200	0.095 *	0	217	3200	0.095 *	14	229	3200	0.100 *	8	237	3200	0.102 *
Wb Right	87	0	-	0	87	0	-	0	87	0	-	1	91	0	-	0	91	0	-
Yellow Allowance:				0.050 *				0.050 *				0.050 *				0.050 *			
ICU							0.537				0.537				0.561				0.567
LOS							A				A				A				A

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