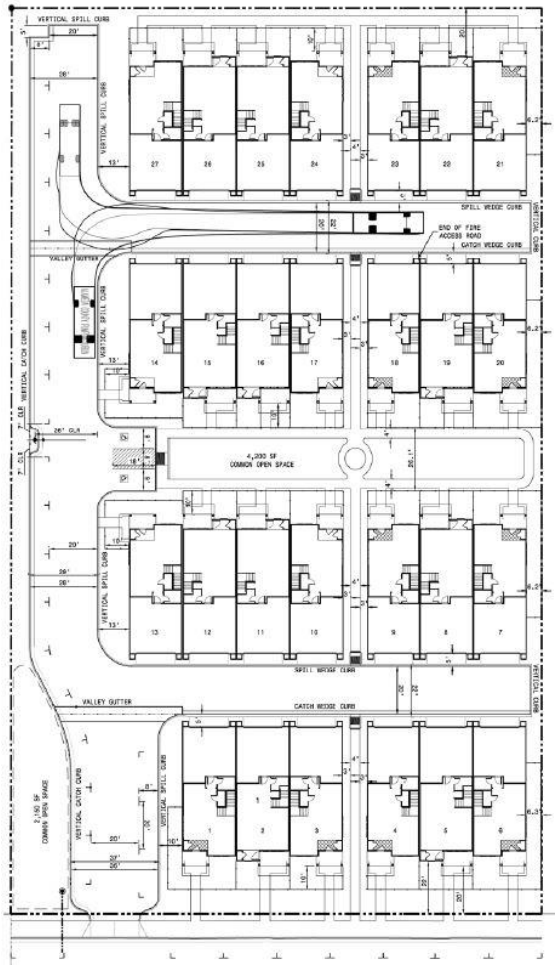
Appendix F

Traffic Impact Study

3544 Jamison Way Development
Castro Valley, CA
Transportation Impact Study



Draft Report

Prepared For:

Alameda County

March 2017

Prepared By:

WOOD RODGERS

3544 Jamison Way Development
Castro Valley, CA

TRANSPORTATION IMPACT Study

DRAFT REPORT

Prepared For:

Alameda County

Prepared By

WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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March 2017

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EXECUTIVE SUMMARY

This report has been prepared to present the results of a Transportation Impact Study (TIS) performed by Wood Rodgers, Inc. for the proposed 3544 Jamison Way development project (Project) in Alameda County (County), California. This study has been performed to determine impacts the proposed Project may have on surrounding transportation facilities and potential mitigation measures that could be implemented to address significant impacts.

The proposed Project envisions redevelopment of an approximately 1.86-acre site located at 3544 Jamison Way in the unincorporated community of Castro Valley in Alameda County, California. The Project proposes to demolish the seven existing single-family dwelling unit homes and one duplex which currently occupy the site and construct 27 new townhomes in their place. The Project site is designated Residential Mixed Density (RMX) (29 dwelling units per acre) under the 2012 Castro Valley General Plan and is zoned Suburban Residence Density 15 (RS-D-15), or 1 unit per 1,500 gross square feet.

PROJECT GENERATED TRIPS

New trips generated by the proposed Project were estimated using rates from the *Institute of Transportation Engineers Trip Generation Manual, 9th Edition*. This TIS assumed trip reductions to the proposed Project generated trips due to displaced existing land uses (and their associated trips) as well as a 10 percent transit/bicycle/pedestrian reduction due to the Project's close proximity to the Castro Valley BART station and shopping centers. The proposed Project is anticipated to generate a total of 112 daily trips, 11 AM peak hour trips (2 inbound and 9 outbound), and 11 PM peak hour trips (8 inbound and 3 outbound) under typical "annual average" traffic demand conditions.

INTERSECTION OPERATIONS, IMPACTS, AND MITIGATION MEASURES

This TIS report analyzed five (5) "study" intersections under "Existing" and "Existing plus Project" AM, mid to late afternoon, and PM peak hour conditions. HCM 2000 based analysis was performed using Synchro 9 software. CA-MUTCD based peak hour signal warrant-3 (urban areas) was also checked at all unsignalized study intersections. Level of service standards and significance criteria used in this TIS were based on Castro Valley and Alameda County standards and criteria used by other nearby cities.

The all-way stop-controlled Somerset Avenue / Santa Maria Avenue intersection is currently operating and projected to operate at unacceptable "Existing" and "Existing plus Project" AM, mid to late afternoon, and PM peak hour LOS "F" conditions. The one-way stop-controlled Jamison Way / Redwood Road intersection is currently operating and projected to operate at unacceptable "Existing" and "Existing plus Project" mid to late afternoon and PM peak hour LOS "F" conditions. All of the remaining study intersections are currently operating and projected to operate at acceptable level of service during the AM, mid to late afternoon, and PM peak hours under "Existing" and "Existing plus Project" conditions.

Based on the significance criteria used in this TIS, the Project was found to have "less than significant" impacts on all five (5) study intersections under "Existing plus Project" AM, mid to late afternoon, and PM peak hour conditions.

ON-SITE PARKING

The proposed project would provide approximately 3.04 parking spaces per unit (two garages spaces and approximately 1.04 visitor spaces per unit) which meets the minimum of two (2) parking spaces (at least one covered) and one (1) visitor space per townhome unit required by the Alameda County

Townhome Design Guidelines. Two (2) of the visitor spaces provided would be disabled accessible parking stalls.

TRANSIT IMPACTS

Project site residents could walk or bike to bus stops for AC Transit Routes 32 and 48 and the Castro Valley BART station which are all located within 0.6 miles of the Project site. The increase in transit ridership caused by the proposed Project is not projected to be enough to significantly impact transit route delay or operations.

PEDESTRIAN IMPACTS

The Project would construct sidewalk along the north side of Jamison Way for the full length of the Project lot. Project site residents could access the CV Transit Bus Route 32 and 48 bus stops, Castro Valley BART station, nearby schools, and nearby shopping centers via the existing and proposed pedestrian facilities on Jamison Way, Santa Maria Avenue, Redwood Road, Somerset Avenue, Castro Valley Boulevard, etc. Outside of the Project site, there are no currently planned Pedestrian improvements for study area facilities.

BICYCLE IMPACTS

Project site residents could access the CV Transit Bus Route 32 and 48 bus stops and Castro Valley BART station via the existing class II bike lanes on Castro Valley Boulevard, Redwood Road, and Norbridge Avenue in the Project study area. According to the Castro Valley General Plan, class II bike lanes are proposed to be constructed on Somerset Avenue between Lake Chabot Road and Redwood Road, on Redwood Road between Castro Valley Boulevard and Seven Hills Road (filling in the current gap), and on Castro Valley Boulevard between Redwood Road and Crow Canyon Road (filling in the current gap). These class II bike lanes, once constructed, could be utilized by future Project residents for better bicycle access to nearby destinations and transit stops.

1. INTRODUCTION

This report has been prepared to present the results of a Transportation Impact Study (TIS) performed by Wood Rodgers, Inc. for the proposed 3544 Jamison Way Townhome development project (Project) in Alameda County (County), California. This study has been performed to determine impacts the proposed Project may have on surrounding transportation facilities and potential mitigation measures that could be implemented to address significant impacts. This introduction outlines project description, study area, analysis scenarios, analysis methods, significance criteria, and organization of the overall report.

1.1 PROJECT DESCRIPTION

The proposed Project envisions redevelopment of an approximately 1.86-acre site located at 3544 Jamison Way in the unincorporated community of Castro Valley in Alameda County, California. The Project site is generally located north of I-580, just west of Redwood Road and is generally bound by Jamison Way to the south, and other apartments, townhomes, and single family dwelling units to the north, east, and west. The Project site location is shown on the map in **Figure 1**.

The most recent preliminary Project site plan (by MacKay & Somps, February 26, 2016) is shown in **Figure 2**. The Project proposes to demolish the seven existing single-family dwelling unit homes and one duplex which currently occupy the site and construct 27 new townhomes in their place. The Project site is designated Residential Mixed Density (RMX) (29 dwelling units per acre) under the 2012 Castro Valley General Plan and is zoned Suburban Residence Density 15 (RS-D-15), or 1 unit per 1,500 gross square feet.

Based on the preliminary site plan, access to and from the Project site is planned to be provided via a new full access one-way stop-controlled driveway intersection that would extend north from Jamison way along the west edge of the Project site.

1.2 STUDY AREA

1.2.1 INTERSECTIONS

Study intersections were selected for analysis based on engineering judgement and coordination with County Public Works Agency staff. The following five (5) existing and proposed study intersections were analyzed in this TIS and are shown on **Figure 1**:

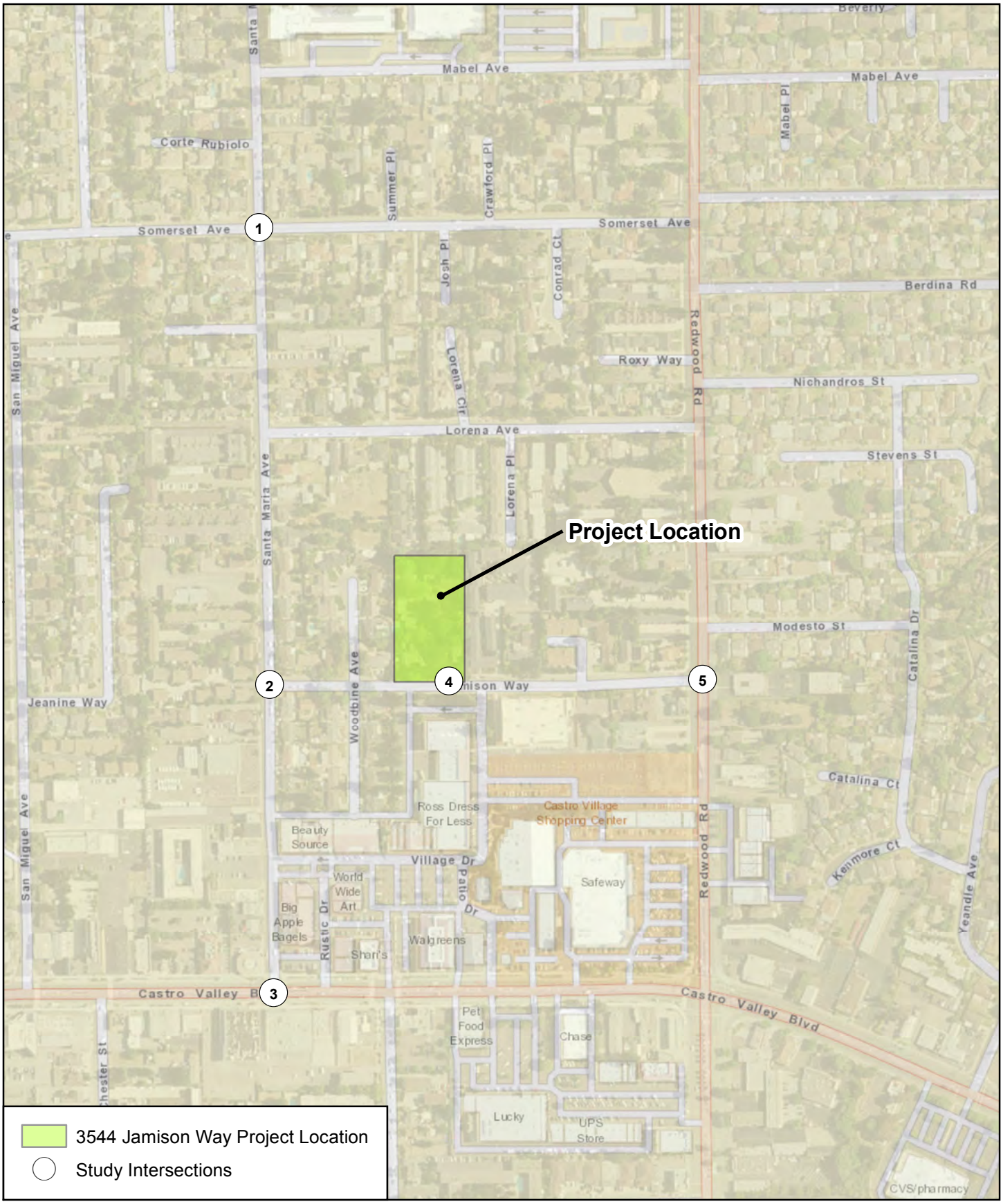
1. Somerset Avenue / Santa Maria Avenue
2. Jamison Way / Santa Maria Avenue
3. Castro Valley Boulevard / Santa Maria Avenue
4. Jamison Way / Project Access Driveway
5. Jamison Way / Redwood Road

1.2.2 PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

This TIS analyzes Project impacts on pedestrian, bicycle, and transit facilities located in the vicinity of the study area intersections listed above and which would be used to gain access to the Project site. This includes facilities on Jamison Way, Santa Maria Avenue, Somerset Avenue, Castro Valley Boulevard, and Redwood Road.

1.3 ANALYSIS SCENARIOS

The five (5) study intersections were evaluated under AM peak hour (highest hour of traffic between 7 and 9 AM), mid to late afternoon peak hour (highest hour of traffic between 2 and 4 PM), and PM peak hour (highest hour of traffic between 4 and 6 PM) conditions for the following scenarios:



Project Location and Vicinity Map
3544 Jamison Way Townhome Development TIS
Castro Valley, CA
March 2017

0 250 500
Feet

NORTH

Figure 1

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

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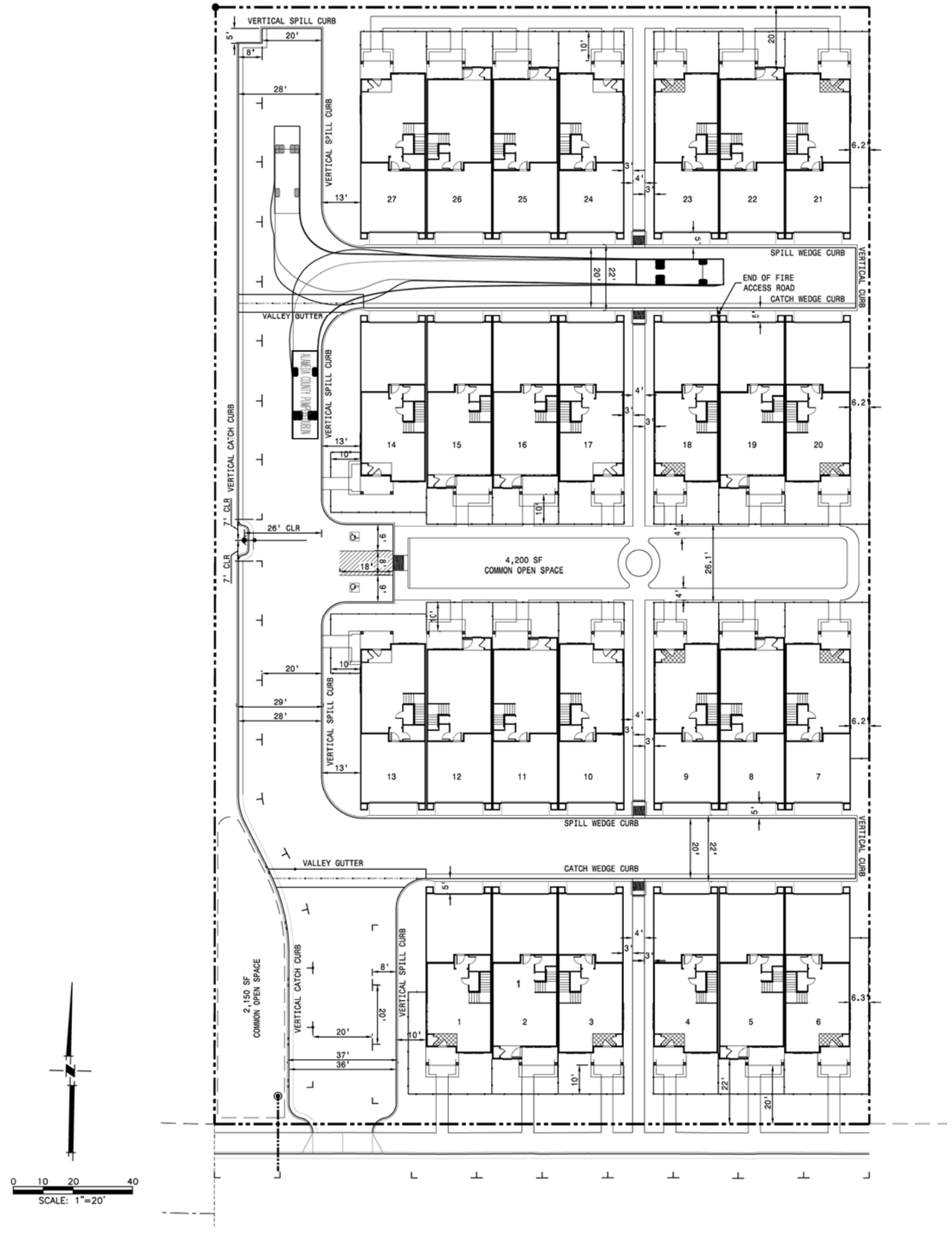


PRIVATE OPEN SPACE	
UNIT	YARD AREA (SF)
1	537
2	315
3	328
4	328
5	315
6	654
7	654
8	315
9	328
10	328
11	314
12	314
13	309
14	309
15	314
16	314
17	330
18	328
19	315
20	654
21	654
22	315
23	328
24	328
25	314
26	314
27	330
	10186

COMMON OPEN SPACE	
LOCATION	AREA (SF)
1	4200
2	2150
	6350

OPEN SPACE PER UNIT:

TOTAL OPEN SPACE = 16,536 SF
NUMBER OF UNITS = 27
OPEN SPACE PER UNIT = 612 SF

FIGURE 2

DATE: DECEMBER 20, 2016
SCALE: AS NOTED
DRAWN BY: TDM
DESIGNED BY: TDM
CHECKED BY: CWG

MACKAY & SOMPS
CIVIL ENGINEERS
5142B FRANKLIN DR. PLEASANTON, CA 94588 (925)227-0670

REVISION | DATE

DESIGNED UNDER THE SUPERVISION OF:
JAMES TEMPLETON JR. RCE #43061
EXPIRES: MARCH 31, 2018

REGISTERED PROFESSIONAL ENGINEER
JAMES TEMPLETON MACLELLAN
No. C60467
CIVIL
STATE OF CALIFORNIA

3544 JAMISON WAY
VESTING TENTATIVE TRACT MAP NO. 8380
SITE PLAN

CASTRO VALLEY CALIFORNIA

PROJECT NO. 19865.000

SHT 4 OF 7

12-20-2016 1:57pm Tyler Matson P:\19865\PLN\TM\TM-04-SITE PLAN.DWG

- **Existing Conditions:** Existing traffic volumes from counts.
- **Existing plus Project Conditions:** Existing traffic volumes plus traffic projected to be generated by the proposed Project.

Mid to late afternoon peak hour traffic conditions were analyzed to determine intersection operations during peak traffic generated by the Castro Valley High School located just a few blocks north of the Project site.

1.4 ANALYSIS METHODS

Traffic operations in this TIS have been quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment, representing progressively worsening traffic operations. LOS "A" represents free-flow conditions with little to no delays, while LOS "F" represents jammed or grid-lock conditions.

1.4.1 INTERSECTIONS

Intersection LOS has been calculated for all intersection control types using methods documented in the Transportation Research Board Publication *Highway Capacity Manual, Fourth Edition, 2000* (HCM-2000). For one-way-stop-controlled (OWSC) and two-way-stop-controlled (TWSC) intersections the "worst-case" movement delays and LOS are reported. For signalized and all-way-stop-controlled (AWSC) intersections the intersection delays and LOS reported are the "average" values for the whole intersection. The delay-based HCM-2000 LOS criteria for different types of intersection controls are outlined in **Table 1**.

Table 1. HCM-2000 Based Level-of-Service (LOS) Thresholds for Intersections

Level of Service	Flow Type	Operational Characteristics	Intersection Control Delay (seconds/vehicle)	
			Signal Control	Two-Way-Stop or All-Way Stop Control
"A"	Stable Flow	Free-flow conditions with negligible to minimal delays. Excellent progression with most vehicles arriving during the green phase and not having to stop at all. Nearly all drivers find freedom of operation.	≤ 10	0 – 10
"B"	Stable Flow	Good progression with slight delays. Short cycle-lengths typical. Relatively more vehicles stop than under LOS "A". Vehicle platoons are formed. Drivers begin to feel somewhat restricted within groups of vehicles.	> 10 – 20	> 10 – 15
"C"	Stable Flow	Relatively higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, although many still pass through without stopping. Most drivers feel somewhat restricted.	> 20 – 35	> 15 – 25
"D"	Approaching Unstable Flow	Somewhat congested conditions. Longer but tolerable delays may result from unfavorable progression, long cycle lengths, and/or high volume-to-capacity ratios. Many vehicles are stopped. Individual cycle failures may be noticeable. Drivers feel restricted during short periods due to temporary back-ups.	> 35 – 55	> 25 – 35
"E"	Unstable Flow	Congested conditions. Significant delays result from poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures occur frequently. There are typically long queues of vehicles waiting upstream of the intersection. Driver maneuverability is very restricted.	> 55 – 80	> 35 – 50
"F"	Forced Flow	Jammed or grid-lock type operating conditions. Generally considered to be unacceptable for most drivers. Zero or very poor progression, with over-saturation or high volume-to-capacity ratios. Several individual cycle failures occur. Queue spillovers from other locations restrict or prevent movement.	> 80	> 50

Source: HCM-2000, Exhibits 16-2, 17-2 and 17-22.

For this TIS, calculated "Peak Hour Factor" (PHF) and a 2% heavy vehicle composition have been specified for each intersection under "Existing" and "Existing plus Project" peak hour analysis. *Synchro 9* operations analysis software was used to complete the HCM-2000 LOS analysis procedures for study intersections.

1.5 Level of Service Standards and Impact Criteria

1.5.1 Intersection Level of Service Impact Criteria

1.5.1.1 Signalized Intersections

According to the Castro Valley General Plan, Circulation Chapter, Policy 6.2-1 (Alameda County Community Development Agency, March 2012), the community currently utilizes LOS "E" as the minimum acceptable LOS threshold for intersections that fall on a Congestion Management Program (CMP) Roadway. CMP roadways include: Castro Valley Boulevard, Center Street, Grove Way, Crow Canyon Road, and Redwood road. The community utilizes LOS "D" or better as the acceptable LOS threshold for all non-CMP roadway intersections during peak travel periods.

Based on LOS policy in the Castro Valley General Plan and criteria used by other cities within Alameda County, Project impacts at signalized intersections would be considered significant if one of the following criteria is met:

1. If the addition of project generated traffic to an intersection causes the AM, mid to late afternoon, or PM peak hour LOS of the intersection to degrade from an acceptable LOS ("E" or better for CMP intersections or "D" or better for non-CMP intersections) to an unacceptable LOS, then the impact is significant.
2. If an intersection operates at an unacceptable AM, mid to late afternoon, or PM peak hour LOS (LOS "F" for CMP intersections or LOS "E" or "F" for non-CMP intersections) without the addition of project generated traffic, and the addition of project generated traffic increases the average intersection control delay by four (4) seconds or more, then the impact is significant.

1.5.1.2 Unsignalized Intersections

There is no officially adopted significance criterion for unsignalized intersections within Castro Valley or Alameda County. Based on criteria used by TISs for similar nearby projects, significant impacts are defined to occur when the addition of Project generated traffic causes the average intersection delay for all-way stop controlled intersections, or worst movement delay for one or two-way stop controlled intersections, to degrade to unacceptable levels <u>and</u> the intersection satisfies the CA-MUTCD peak-hour volume signal warrant.

1.5.1.3 Signal Warrants

In order to determine whether traffic signals should be installed at currently unsignalized intersections, a supplemental *California Manual on Uniform Traffic Control Devices*, dated November 2014 (*CA-MUTCD*) based traffic signal warrant analysis was also completed. The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an unsignalized intersection location. The CA-MUTCD signal warrant criteria are based upon several factors including volume of vehicular and pedestrian traffic, location of school areas, frequency and type of collisions, etc. CA-MUTCD indicates that "the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal." This TIS evaluated CA-MUTCD based Peak-Hour-Volume-based Warrant 3 (Urban Areas) as a representative type of warrant analysis.

1.6 REPORT ORGANIZATION

The remainder of this report is divided into the following chapters:

- **Executive Summary**
- **Chapter 1:** Introduction
- **Chapter 2: Existing Conditions** – Describes existing conditions and operations of the study area intersections, roadways, transit system, pedestrian facilities, and bicycle facilities.
- **Chapter 3: Existing Plus Project Conditions** – Describes the methods used to estimate and distribute Project generated traffic and the resulting study facilities operations.
- **Chapter 4: Site Access and Circulation** – Describes site access and circulation for the Project site.
- **Chapter 5: Potential Effects on Transit, Bicycle, and Pedestrian Facilities and Services** – Describes potential effects the proposed Project may have on the transit system, pedestrian facilities, and bicycle facilities.
- **Chapter 6: Impacts and Mitigation Measures** – Describes the projected impacts the Project will have on study area facilities (if any) and presents potential mitigations.

2. EXISTING CONDITIONS

This chapter describes the existing roadway network, transit services, pedestrian facilities, and bicycle facilities within the study area. It also presents existing volumes at study intersections and roadways as well as calculated delays and LOS.

2.1 EXISTING ROADWAY NETWORK

This section provides descriptions of the study area roadways.

Castro Valley Boulevard is a two to four lane arterial that runs east-west through the unincorporated community of Castro Valley. It begins as a four-lane arterial at the Foothill Boulevard / Mattox Road / Castro Valley Boulevard / I-238-I-580 Ramps intersection and continues east until reducing to a two lane arterial at Five Canyons Parkway. The road then crosses under I-580 and eventually terminates at Palo Verde Road where it becomes Dublin Canyon Road. The posted speed limit on Castro Valley Boulevard near the Project study area is 30 miles per hour. Two hour parking is allowed on both sides of Castro Valley Boulevard near the Project study area. Castro Valley Boulevard is defined as a CMP roadway under the Castro Valley General Plan Circulation Chapter.

Redwood Road is a two to six lane arterial that runs north-south through the community of Castro Valley. It begins as a six-lane arterial at the A Street / Redwood Road / Grove Way intersection in Castro Valley and runs north, until becoming a four lane arterial at the intersection with Castro Valley Boulevard. The four-lane arterial continues north until Seven Hills Road, where it drops to a two-lane arterial. The two-lane arterial continues north and west, through the Anthony Chabot Regional Park and the Redwood Regional Park, until reaching the east side of Oakland where it crosses over State Route 13 and becomes 35th Avenue. The posted speed limit on Redwood Road near the Project study area is 35 miles per hour. On-Street parking is allowed on some segments of Redwood Road north of Jamison Way in the Project study area. South of Jamison Way, on-street parking is not allowed on either side of the street. Redwood Road is defined as a CMP roadway under the Castro Valley General Plan Circulation Chapter.

Somerset Avenue is a two-lane collector that runs east-west through the community of Castro Valley. It begins at President Drive in the west and ends at Salem Road in the east. The posted speed limit on Somerset Avenue near the Project study area is 25 miles per hour. On-street parking is allowed on both sides of Somerset Road near the Project study area.

Santa Maria Avenue is a two lane local road / residential street that runs north-south in Castro Valley between Castro Valley Boulevard and Seven Hills Road. The posted speed limit on Santa Maria Avenue near the Project study area is 25 miles per hour. On-street parking is allowed on both sides of the street north of Jamison Way. South of Jamison Way, on-street parking is only allowed on some segments of the street.

Jamison Way is a two lane local road / residential street that runs east-west in Castro Valley between Santa Maria Avenue and Redwood Road. The posted speed limit on Jamison Way is 25 miles per hour. On-street parking is allowed on both sides of the road.

2.2 Pedestrian Facilities

Castro Valley Boulevard and Redwood Road have pedestrian sidewalks on both sides of the road within the Project study area. Somerset Avenue, Santa Maria Avenue, and Jamison Way have pedestrian sidewalks for most of their length within the project study area, however, some sporadic segments have only asphalt sidewalks or no sidewalks. Currently, there is no existing sidewalk on the north side of Jamison Way fronting the proposed Project site/lot.

The signalized Castro Valley Boulevard / Santa Maria Avenue intersection has pedestrian crosswalks with push buttons on the north and east legs. The all-way-stop-controlled Somerset Avenue / Santa Maria Avenue intersection has pedestrian crosswalks on all four legs. The one-way-stop-controlled Jamison Way / Redwood Road intersection has a pedestrian crosswalk on the south leg. The remaining two study intersections do not have marked pedestrian crosswalks.

2.3 Bicycle Facilities

The Castro Valley General Plan classifies the City's existing and proposed bike and trail network into the following three categories (based on Chapter 1000 of the Caltrans Highway Design Manual):

Class I: Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.

Class II: Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.

Class III: Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

Class II bikeways currently exist on the following segments of the study facilities:

- Redwood Road between North 6th Street and Castro Valley Boulevard and between Seven Hills Road and Camino Alta Mira.
- Castro Valley Boulevard between San Miguel Avenue and Redwood Road and between Crow Canyon Road and Five Canyons Parkway.

For Somerset Avenue, Santa Maria Avenue, and Jamison Way it can be assumed that bicycles are allowed to share the roadway with vehicles.

2.4 Existing Transit Service

Transit services are provided by the Alameda-Contra Costa Transit District (AC District) and Bay Area Rapid Transit (BART) within Castro Valley and the Project study area. These agencies and the transit routes they provide within/nearby the project study area are described in this section.

Alameda-Contra Costa Transit District (AC District)

AC Transit operate eight (8) bus routes through Castro Valley, and four (4) additional routes that serve the surrounding area. AC Transit buses serve the Castro Valley BART station, downtown, nearby medical facilities, and recreation areas. Paratransit service is also provided for users with special needs. The following bus routes operate within the vicinity of the Project study area:

Bus Route 32 is a two-way loop that runs in Castro Valley, North Hayward, Cherryland, and Ashland. The route has major stops at the Hayward BART station, the Bay Fair BART station, and the Castro Valley BART station. It provides service every hour, in both directions, from 5:00 AM to 9:00 PM on weekdays and from 6:40 AM to 7:30 PM on weekends. Bus Route 32 has stops on either end of the block of Castro Valley Boulevard between Santa Maria Avenue and Redwood Road in the Project study area.

Bus Route 48 is a point-to-point route that runs between the Bay Fair BART station and the Hayward BART station with stops in Castro Valley along the way, including the Castro Valley BART station. It provides service every hour, in both directions, from approximately 6:45 AM to 9:45 PM on weekdays, and does not provide service on weekends. Bus Route 48 has stops on Redwood Road just south of Castro Valley Boulevard and on either end of the block of Somerset Avenue between Santa Maria Avenue and Redwood Road in Project study area.

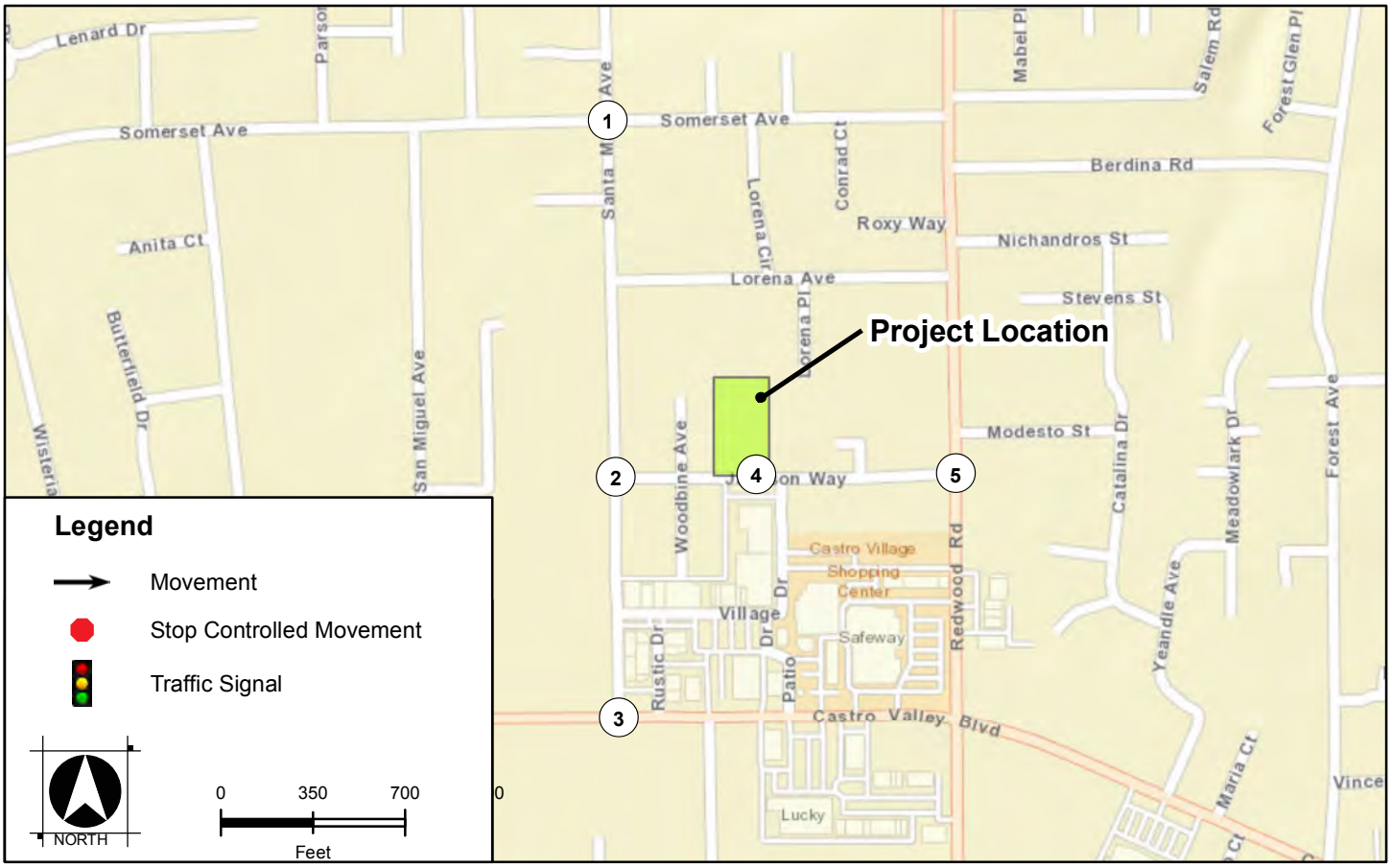
Bay Area Rapid Transit (BART)

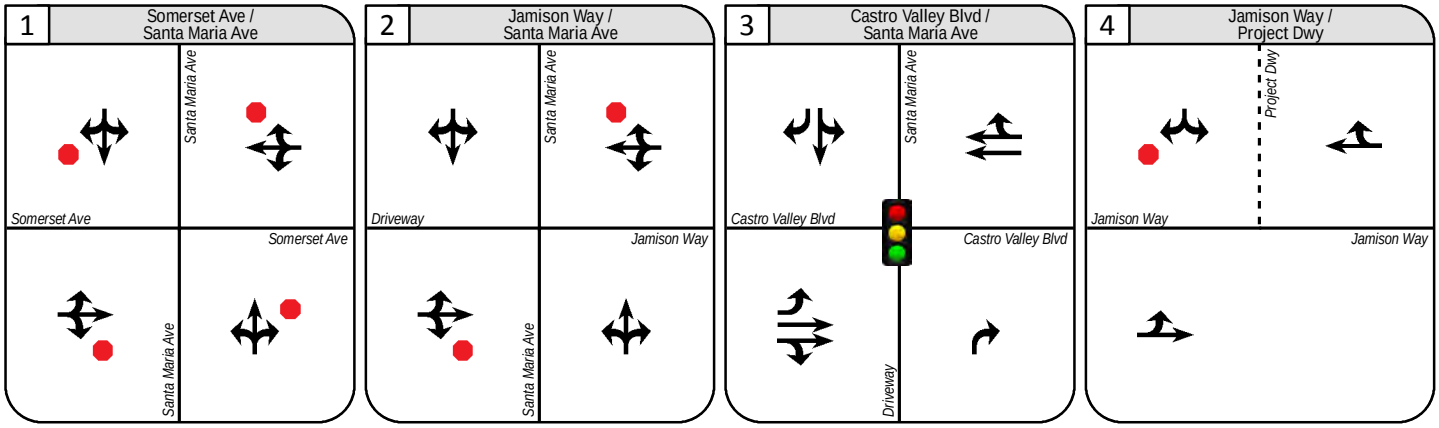
BART provides a system of grade-separated, electric heavy rail trains that transport passengers throughout the Bay Area. The Castro Valley BART station, which is a stop of the Dublin-Pleasanton line, is located on the southwest corner of the Redwood Road / Norbridge Avenue intersection, about a 0.6 mile walk or bike ride from the Project site. The Dublin-Pleasanton line provides direct service to Oakland, San Francisco, and the San Francisco International Airport. Additionally, the Bay Fair station (located in San Leandro) can be used to transfer between the Dublin-Pleasanton and Fremont-Richmond lines and the Hayward station (located in Hayward) can be used to transfer between the Fremont-Richmond and Fremont-Daly City lines.

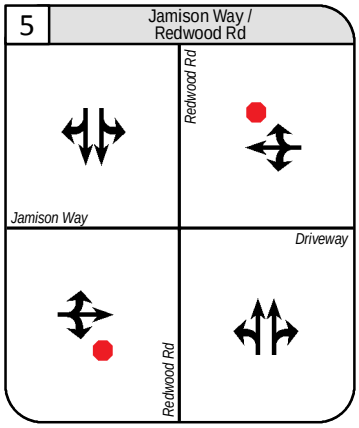
2.5 Existing Traffic Volumes and Intersection Lane Geometrics

Project study intersection traffic operations were evaluated for the AM, mid to late afternoon, and PM peak hours. The AM peak hour is defined as the highest one hour of traffic flow counted between 7:00 AM and 9:00 AM on a typical weekday, the mid to late afternoon peak hour is defined as highest one hour of traffic flow counted between 2:00 PM and 4:00 PM on a typical weekday, and the PM peak hour is defined as the highest one hour of traffic flow counted between 4:00 PM and 6:00 PM on a typical weekday.

Wood Rodgers conducted new AM, mid to late afternoon, and PM peak hour vehicular, pedestrian, and bicycle traffic counts at all study intersections on Tuesday, December 6, 2016. **Figure 3** illustrates existing intersection lane geometrics and control and **Figure 4** illustrates “Existing” conditions traffic volumes.







Existing Lane Geometric and Control
3544 Jamison Way Townhome Development TIS
Castro Valley, CA
March 2017

Figure 3

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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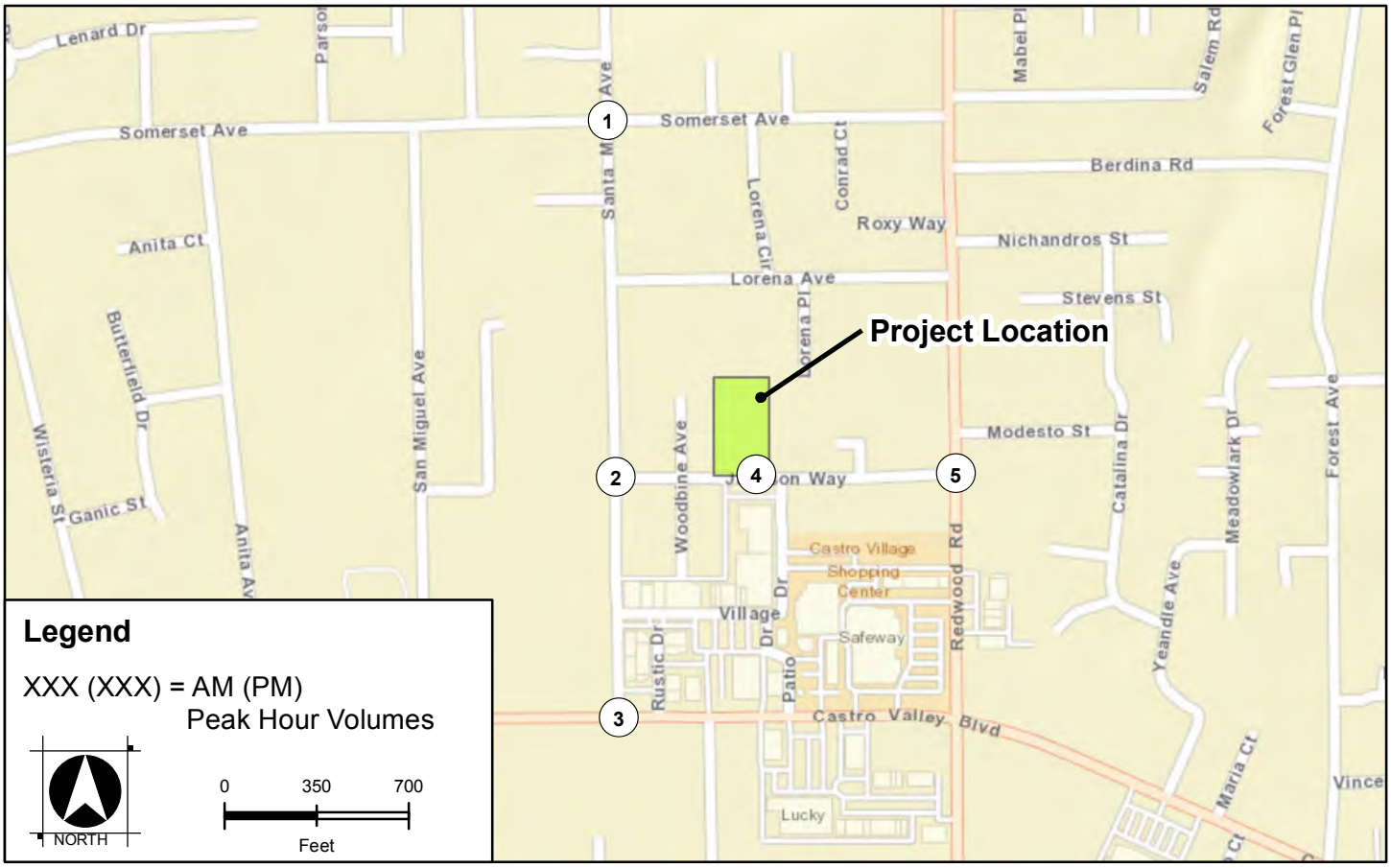

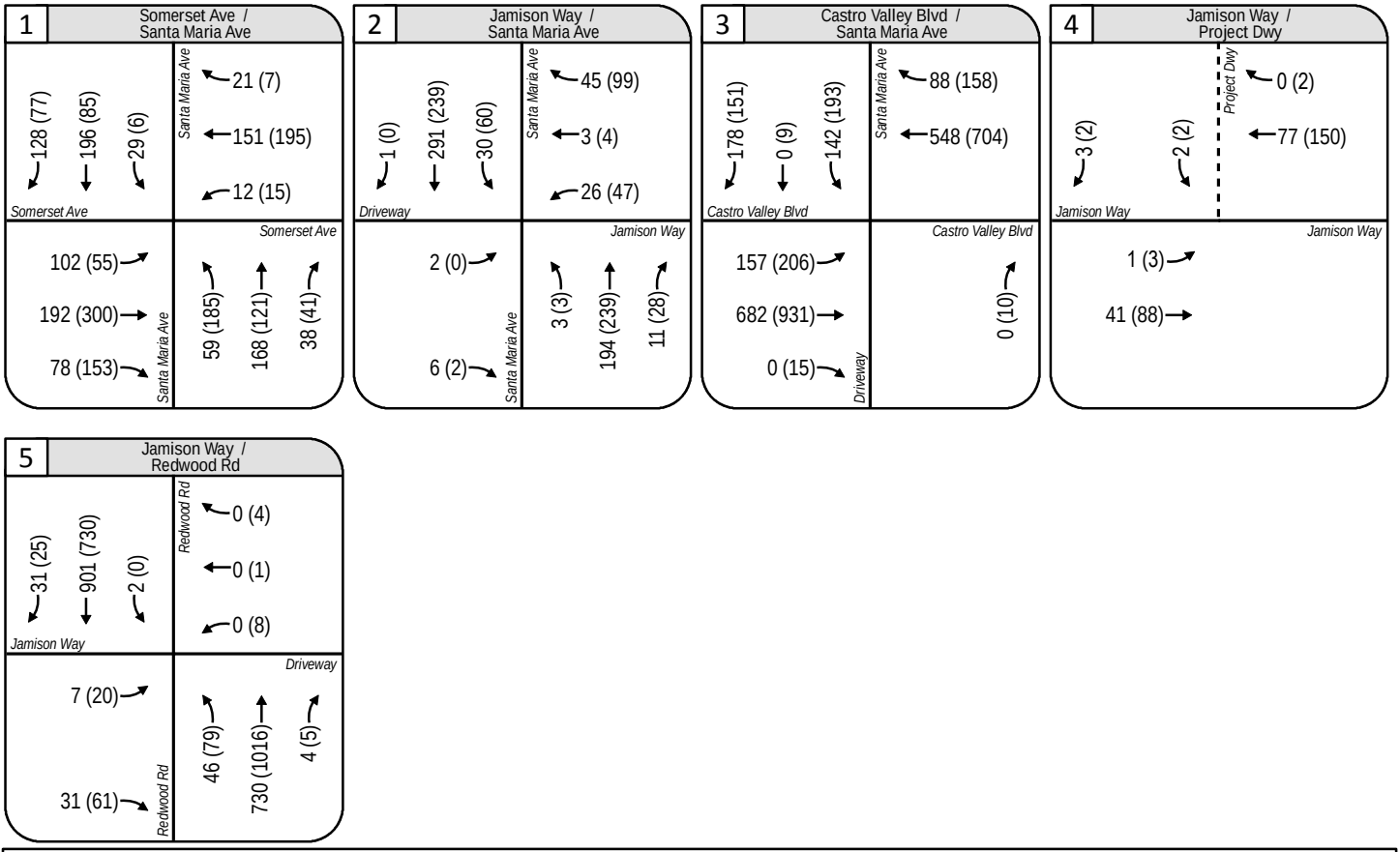

"Existing" Traffic Volumes

3544 Jamison Way Townhome Development TIS

Castro Valley, CA

March 2017

Figure 4A

WOOD RODGERS

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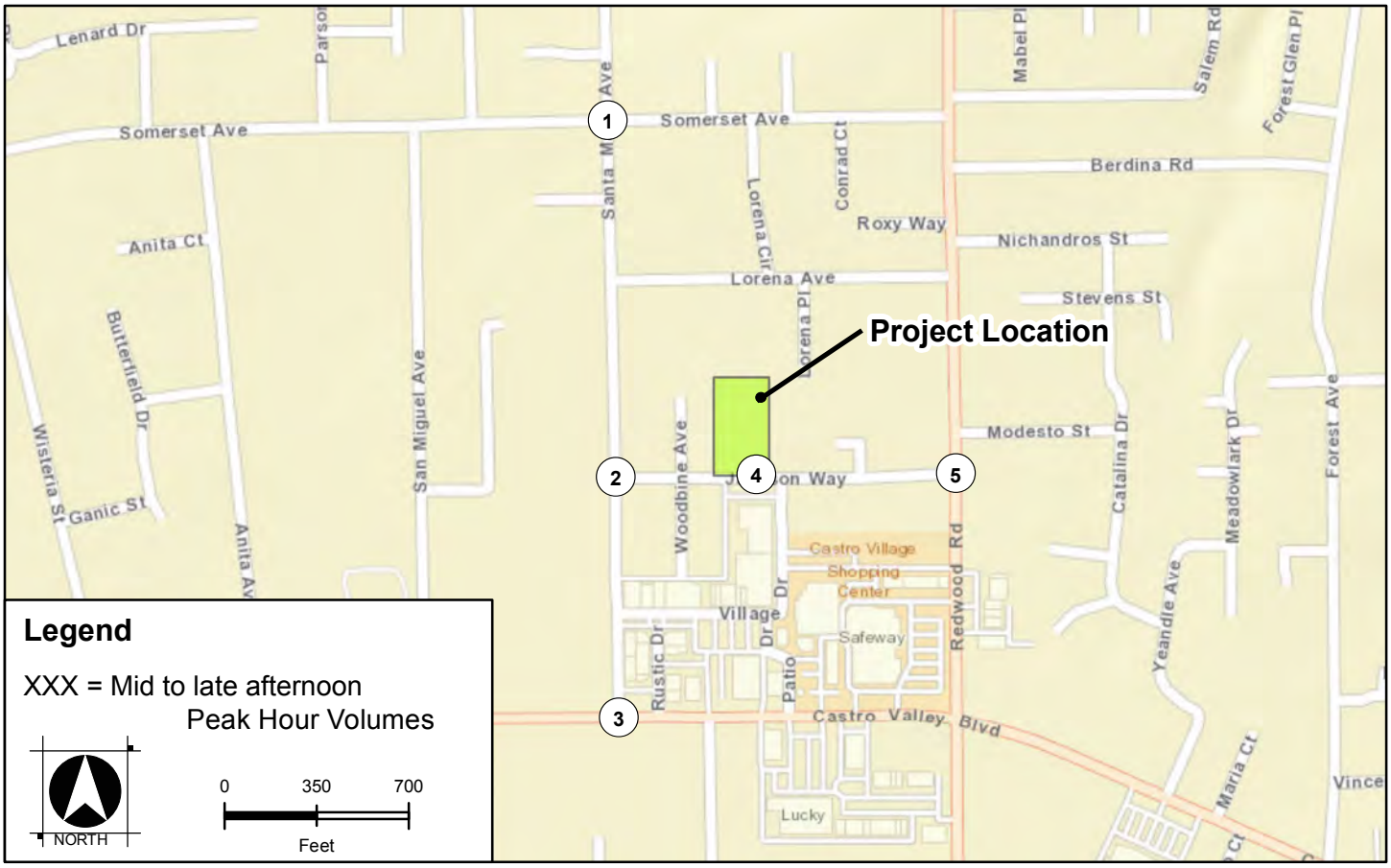

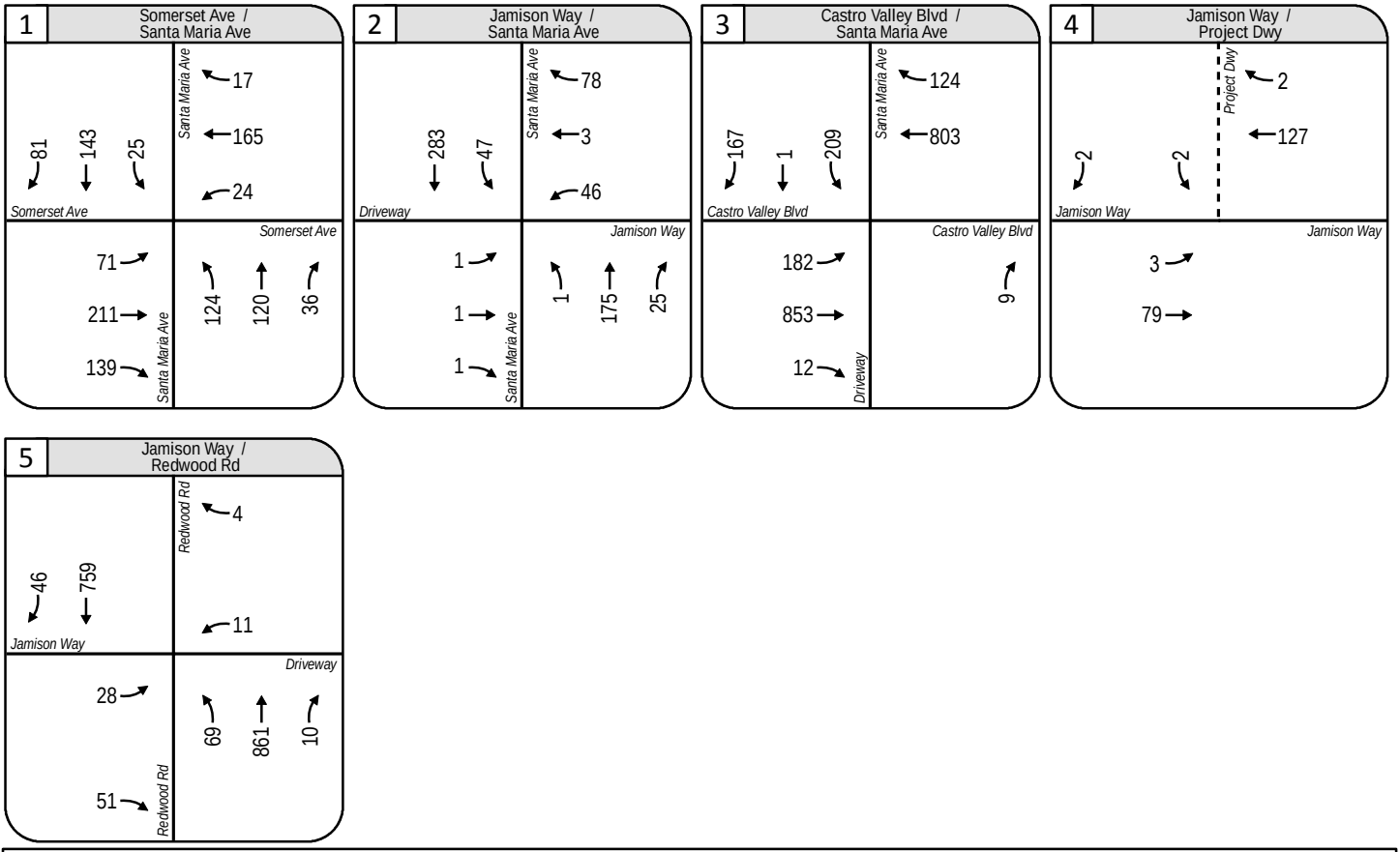

"Existing" Traffic Volumes

3544 Jamison Way Townhome Development TIS

Castro Valley, CA

March 2017

Figure 4B

WOOD RODGERS

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2.6 "EXISTING" INTERSECTION OPERATIONS

Table 2 presents existing study intersection traffic operations analysis under existing intersection geometrics and control (illustrated in **Figure 3**) and "Existing" intersection traffic volumes (illustrated in **Figure 4**).

Table 2. "Existing" Conditions Intersection Traffic Operation

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing Conditions		
					Delay (S/V)[1]	LOS	Wrnt Met?[2]
1	Somerset Avenue / Santa Maria Avenue	AWSC	D	AM	**84.3**	**F**	**Yes**
				MD	**108.5**	**F**	No
				PM	**77.4**	**F**	**Yes**
2	Jamison Way / Santa Maria Avenue	OWSC	D	AM	16.9	C	No
				MD	20.8	C	No
				PM	14.7	B	No
3	Castro Valley Boulevard / Santa Maria Avenue	Signal	E	AM	18.2	B	No
				MD	20.4	C	No
				PM	20.8	C	No
4	Jamison Way / Project Access Driveway[4]	OWSC	D	AM	9.0	A	No
				MD	9.5	A	No
				PM	9.5	A	No
5	Jamison Way / Redwood Road	OWSC	E	AM	28.5	D	No
				MD	**133.5**	**F**	No
				PM	**99.6**	**F**	No

Notes: 1. For OWSC (One-Way-Stop-Control) and TWSC (Two-Way-Stop-Control) intersections, "worst-case" movement delay is indicated. "Average" control delays (in seconds/vehicle) are indicated for AWSC (All-Way-Stop-Control) and Signal-Control intersections.
2. Wrnt Met? = CA-MUTCD based Peak-hour-Volume Warrant #3 (Urban Areas)
3. MD = Mid to late afternoon peak hour conditions.
4. Project Access Driveway is considered the existing Project site driveway that serves the existing seven houses and one duplex under "Existing" conditions and the proposed Project site driveway that will serve the proposed 27 townhomes under "plus Project" conditions.
***BOLD** indicates unacceptable level of service.*

As shown in **Table 2**, the all-way stop-controlled Somerset Avenue / Santa Maria Avenue intersection is currently operating at unacceptable LOS "F" conditions during the AM, mid to late afternoon, and PM peak hours. The one-way stop-controlled Jamison Way / Redwood Road intersection is currently operating at unacceptable LOS "F" conditions during the mid to late afternoon and PM peak hours. All of the remaining study intersections are currently operating at acceptable level of service conditions during the AM, mid to late afternoon, and PM peak hours. CA-MUTCD based peak hour signal warrant-3 (urban areas) is projected to be met at the all-way stop-controlled Somerset Avenue / Santa Maria Avenue intersection under "Existing" AM and PM peak hour conditions. Synchro software intersection LOS outputs are included in **Appendix Exhibit A**, and CA-MUTCD signal warrant-3 worksheets are included in **Appendix Exhibit B.**

The Somerset Avenue / Santa Maria Avenue and Jamison Way / Redwood Road intersections experience high queueing and delays during peak hours due to traffic from the nearby Castro Valley High School, Our Lady of Grace Catholic School, and other surrounding developments.

All recommended improvements and mitigation measures are discussed in a subsequent section of this TIS report.

3. EXISTING PLUS PROJECT CONDITIONS

This chapter provides a description of the proposed Project, a discussion of the Project trip generation and distribution/assignment methods used to forecast Project-only volumes at study intersections, and analysis of traffic operations and impacts due to the proposed Project.

3.1 PROJECT SITE

3.1.1 PROJECT SITE DESCRIPTION

The proposed Project would demolish the seven (7) single family residential units and one (1) duplex that currently occupy the approximately 1.86 acre Project site and construct 27 townhome units in their place. The proposed site would consist of eight (8) new buildings, arranged in four (4) rows of two. Each building would contain three (3) to four (4) townhomes. The Project would provide 54 garage spaces (2 per unit) as well as 26 on-street spaces (assuming two of the 28 on street parking spaces shown on the current Project site plan are removed to accommodate 20 feet of red curb on both sides of the Project driveway) and two (2) disabled accessible parking stalls for guests (approximately 1.04 per unit). 20 of the on-street parking spaces would be provided along the west side of the proposed Project access driveway and the remaining six (6) on-street parking spaces would be provided along the north side of Jamison Way along the proposed Project site. Two disabled accessible parking stalls would be provided off of the east side of the proposed Project access driveway, near the middle of the development. Overall the proposed Project site would have 84 total spaces and an average of 3.04 spaces per unit.

The Project would gain access to the local road network via a single new Project access driveway / proposed internal road that would extend north from Jamison way along the entire length of the west side of the Project site. Two additional internal roads would be constructed perpendicular to the proposed project access driveway to give residents access to their garages. The Project would construct sidewalk along the north side of Jamison Way fronting the Project site.

3.2 PROJECT GENERATED TRIPS

3.2.1 TRIP GENERATION

This TIS used *Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition* rates to estimate Project trip generation. The entire proposed development Project can essentially be characterized as the Residential Condominium/Townhouse land use. The following trip generation rates from the ITE were used to estimate Project generated trips:

Residential Condominium/Townhouse – For the proposed Project's 27 townhome units, the "Residential Condominium/Townhouse" (Use Code 230) trip generation rate was used. ITE Trip Generation describes Residential Condominium/Townhouse as: *"…ownership units that have at least one other owned unit within the same building structure."*

The Project's generated trips were reduced based on the estimated number of trips that will be eliminated from the network once the existing Project site land uses (seven single family residential units and one duplex) are displaced. Existing land use trip generation was estimated using the following trip generation rates from the ITE Trip Generation Manual, 9th Edition:

Single Family Detached Housing – For the existing Project site's seven single family residential units, the "Single Family Detached Housing" (Use Code 210) trip generation rate was used. ITE Trip Generation describes Single Family Detached Housing as: "…all single-family detached homes on individual lots."

Residential Condominium/Townhouse – For the existing Project site's one duplex (containing two units), the "Residential Condominium/Townhouse" (Use Code 230) trip generation rate was used (described above).

Due to the Project's close proximity to the Castro Valley BART station (located within a 0.6 mile walk of the Project site) and nearby shopping center (located on the southern side of Jamison Way), and input from County staff, a 10 percent transit/bicycle/pedestrian reduction of new Project generated vehicle trips was also assumed, based on coordination with County Staff. The Project does not propose any mixed-use or commercial land uses, therefore no internal matching of Project trips was assumed.

Table 3 summarizes the trip generation rates used for the proposed Project and existing land uses. **Table 4** summarizes the trip generation volumes for the proposed project.

Table 3. Project Trip Generation Rates

Land Use Category	Source	ITE Code	Rate Unit	Daily Trip Rate/Unit[1]	Weekday AM Peak Hour Rate/Unit			Weekday PM Peak Hour Rate/Unit		
					Total	In%	Out%	Total	In%	Out%
Residential Condominium/Townhouse	ITE	230	DU[2]	7.63	0.67	17%	83%	0.78	67%	33%
Single Family Detached Housing	ITE	210	DU	9.52	0.75	25%	75%	1.00	63%	37%

Notes: [1]Calculated and average trip rates were used in this analysis using the fitted curve equation, consistent with information contained in the ITE Publication Trip Generation (Ninth Edition)
[2]DU = Dwelling Unit

Table 4. Project Trip Generation Volumes

Land Use	Units	Quantity	Daily Trips	Weekday AM Peak Hour Trips[1]			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Residential Condominium/Townhouse	DU[2]	27	206	18	3	15	21	14	7
Existing Single Family Detached Housing Reduction	*DU*	*-7*	*-67*	*-5*	*-1*	*-4*	*-7*	*-4*	*-3*
Existing Residential Condominium/ Townhouse (Duplex) Reduction	*DU*	*-2*	*-15*	*-1*	*0*	*-1*	*-2*	*-1*	*-1*
New Trips		**18**	**124**	**12**	**2**	**10**	**12**	**9**	**3**
10% Transit/Bike/Walk Reduction		*-2*	*-12*	*-1*	*0*	*-1*	*-1*	*-1*	*0*
Net New Trips		**16**	**112**	**11**	**2**	**9**	**11**	**8**	**3**

Notes: [1]The trips illustrated in this table are based on ITE Trip Generation (9th Edition) calculated and average trip rates, using the fitted curve equations.
[2]DU = Dwelling Unit

As illustrated in **Table 4**, the proposed Project is anticipated to generate a total of 112 daily trips, 11 AM peak hour trips (2 inbound and 9 outbound), and 11 PM peak hour trips (8 inbound and 3 outbound) under typical "annual average" traffic demand conditions. These trips would be considered "new" (or incremental) trips on the City's immediate local circulation system.

3.2.2 Project Trip Distribution and Assignment

Project trips were assigned to the study area network based on existing traffic volumes, observed travel patterns, daily travel pattern information contained in the Castro Valley General Plan, and routes to major freeways within the study area. **Figure 5** illustrates the estimated Project directional trip distribution and assignment patterns projected to be generally applicable for the Project under existing conditions, on an annualized average usage basis. **Figure 5** also illustrates the estimated AM, mid to late afternoon, and PM peak hour new "Project Only" traffic volumes projected to be applicable under existing conditions. Note that since the ITE Trip Generation Manual does not contain trip generation rates for the mid to late afternoon peak hour, the PM peak hour rates were conservatively used to estimate mid to late afternoon peak hour "Project Only" volumes as well. "Project Only" traffic volumes were also added on top of "Existing" conditions traffic volumes at study intersections, to estimate "Existing plus Project" conditions traffic volumes. **Figure 6** illustrates the estimated AM, mid to late afternoon, and PM peak hour "Existing plus Project" conditions traffic volumes at study intersections

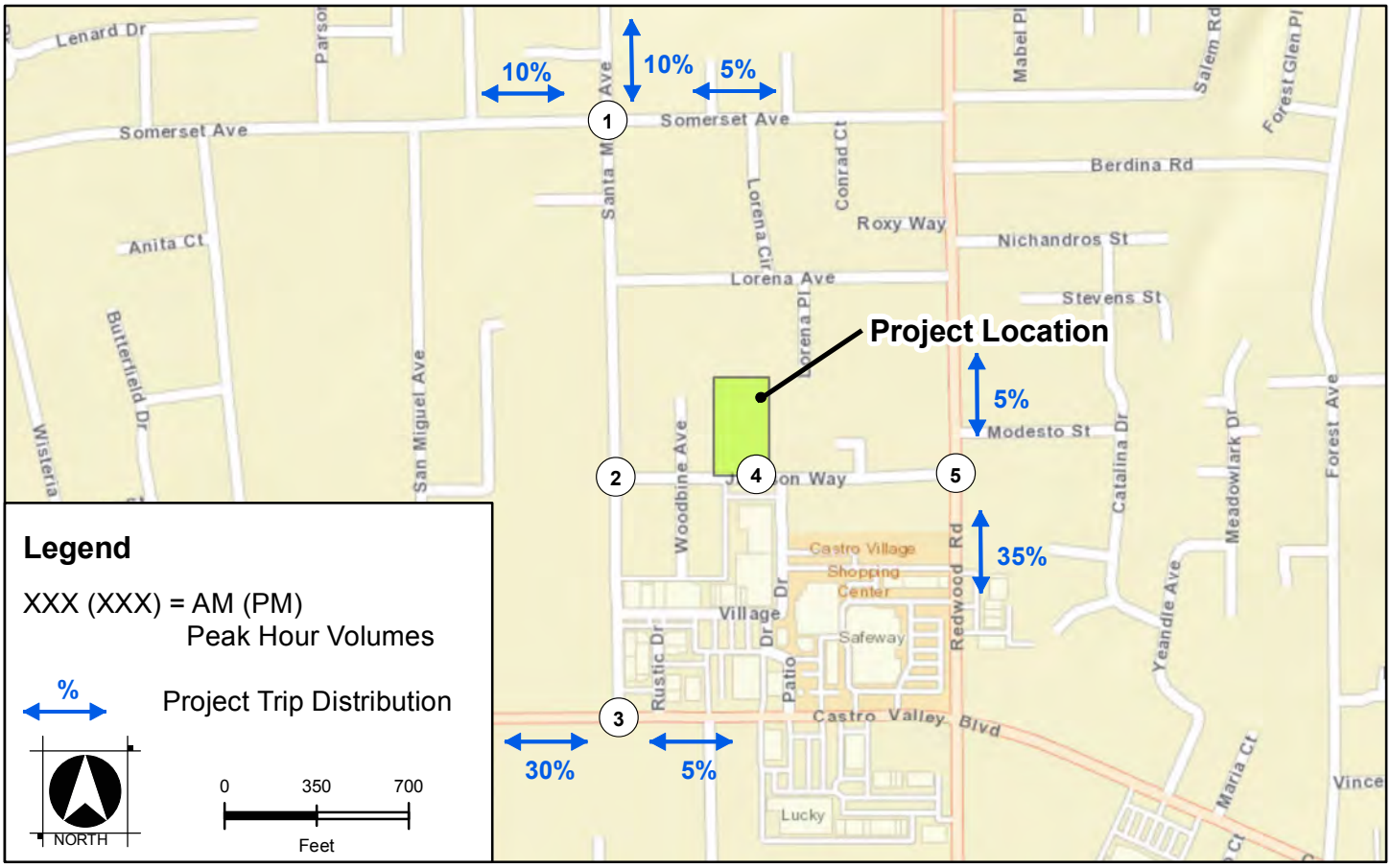
3.3 "Existing Plus Project" Intersection Operations

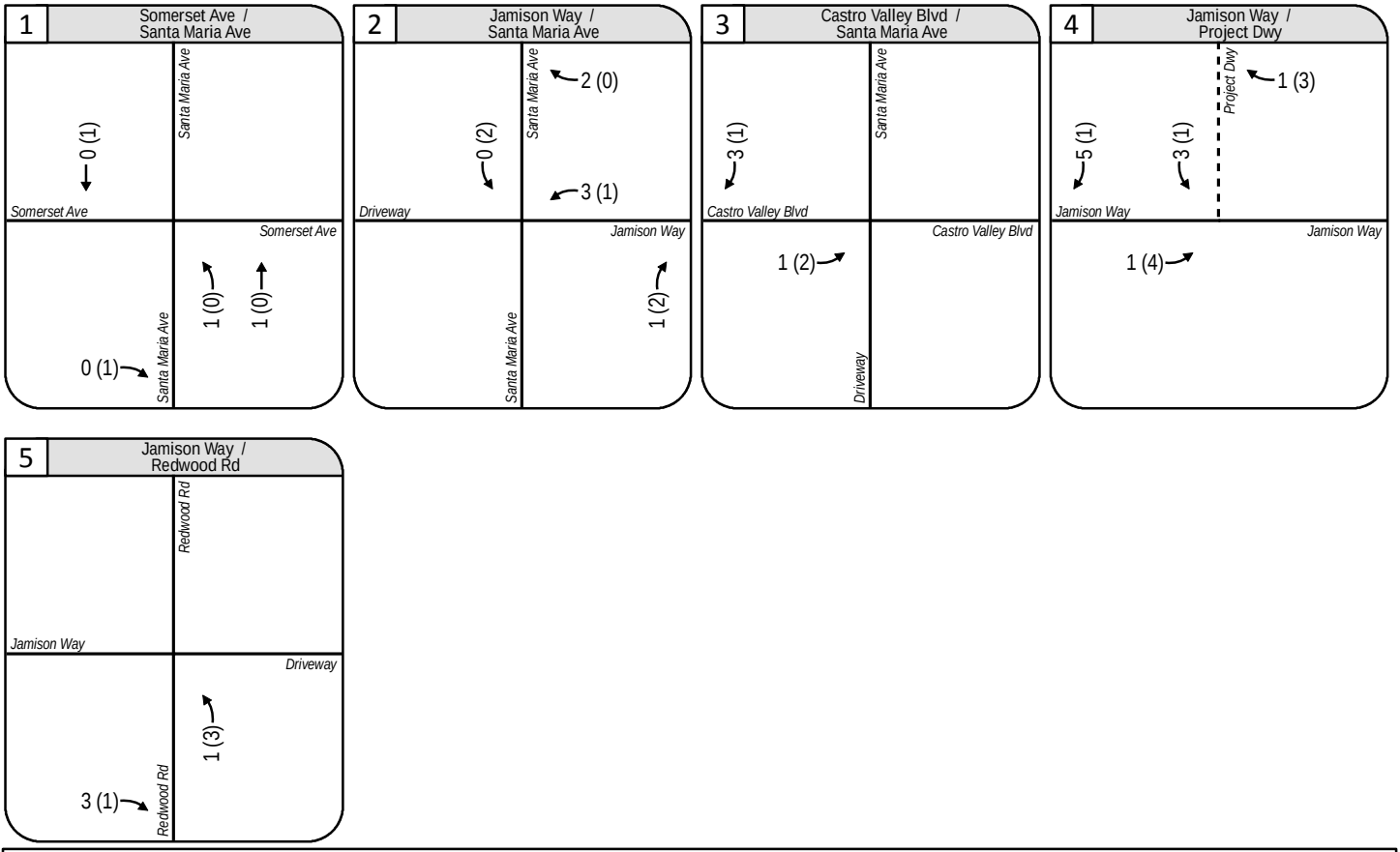
"Existing plus Project" intersection operations were analyzed under the "Existing plus Project" traffic volumes (shown in **Figure 6**) and existing intersection lane geometrics and control (shown in **Figure 3**). illustrates the resulting "Existing plus Project" intersection LOS operations. also contains "Existing" conditions intersection delays and LOS for comparison purposes, as well as the projected change in intersection delay caused by the addition of Project generated trips. The projected change in intersection delay was reported for use in identifying significant impacts at signalized intersections.

Table 5. "Existing plus Project" Conditions Intersection Traffic Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing Conditions			Existing plus Project Conditions			
					Delay (S/V)[1]	LOS	Wrnt Met?[2]	Delay (S/V)[1]	LOS	Wrnt Met?[2]	Change in Delay
1	Somerset Avenue / Santa Maria Avenue	AWSC	D	AM	**84.3**	**F**	**Yes**	**85.4**	**F**	**Yes**	1.1
				MD[3]	**108.5**	**F**	No	**111.2**	**F**	No	2.7
				PM	**77.4**	**F**	**Yes**	**78.3**	**F**	**Yes**	0.9
2	Jamison Way / Santa Maria Avenue	OWSC	D	AM	16.9	C	No	17.5	C	No	0.6
				MD	20.8	C	No	21.2	C	No	0.4
				PM	14.7	B	No	14.9	C	No	0.2
3	Castro Valley Boulevard / Santa Maria Avenue	Signal	E	AM	18.2	B	No	18.2	B	No	0.0
				MD	20.4	C	No	20.5	C	No	0.1
				PM	20.8	C	No	20.8	C	No	0.0
4	Jamison Way / Project Access Driveway[4]	OWSC	D	AM	9.0	A	No	9.1	A	No	0.1
				MD	9.5	A	No	9.6	A	No	0.1
				PM	9.5	A	No	9.6	A	No	0.1
5	Jamison Way / Redwood Road	OWSC	E	AM	28.5	D	No	27.8	D	No	-0.7
				MD	**133.5**	**F**	No	**137.3**	**F**	No	3.8
				PM	**99.6**	**F**	No	**102.0**	**F**	No	2.4

Notes: 1. For OWSC (One-Way-Stop-Control) and TWSC (Two-Way-Stop-Control) intersections, "worst-case" movement delay is indicated. "Average" control delays (in seconds/vehicle) are indicated for AWSC (All-Way-Stop-Control) and Signal-Control intersections.
2. Wrnt Met? = CA-MUTCD based Peak-hour-Volume Warrant #3 (Urban Areas)
3. MD = Mid to late afternoon peak hour conditions.
4. Project Access Driveway is considered the existing Project site driveway that serves the existing seven houses and one duplex under "Existing" conditions and the proposed Project site driveway that will serve the proposed 27 townhomes under "plus Project" conditions.
***BOLD** indicates unacceptable level of service.*





Project Trip Distribution and "Project Only" Traffic Volumes

3544 Jamison Way Townhome Development TIS

Castro Valley, CA

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Figure 5A

WOOD RODGERS

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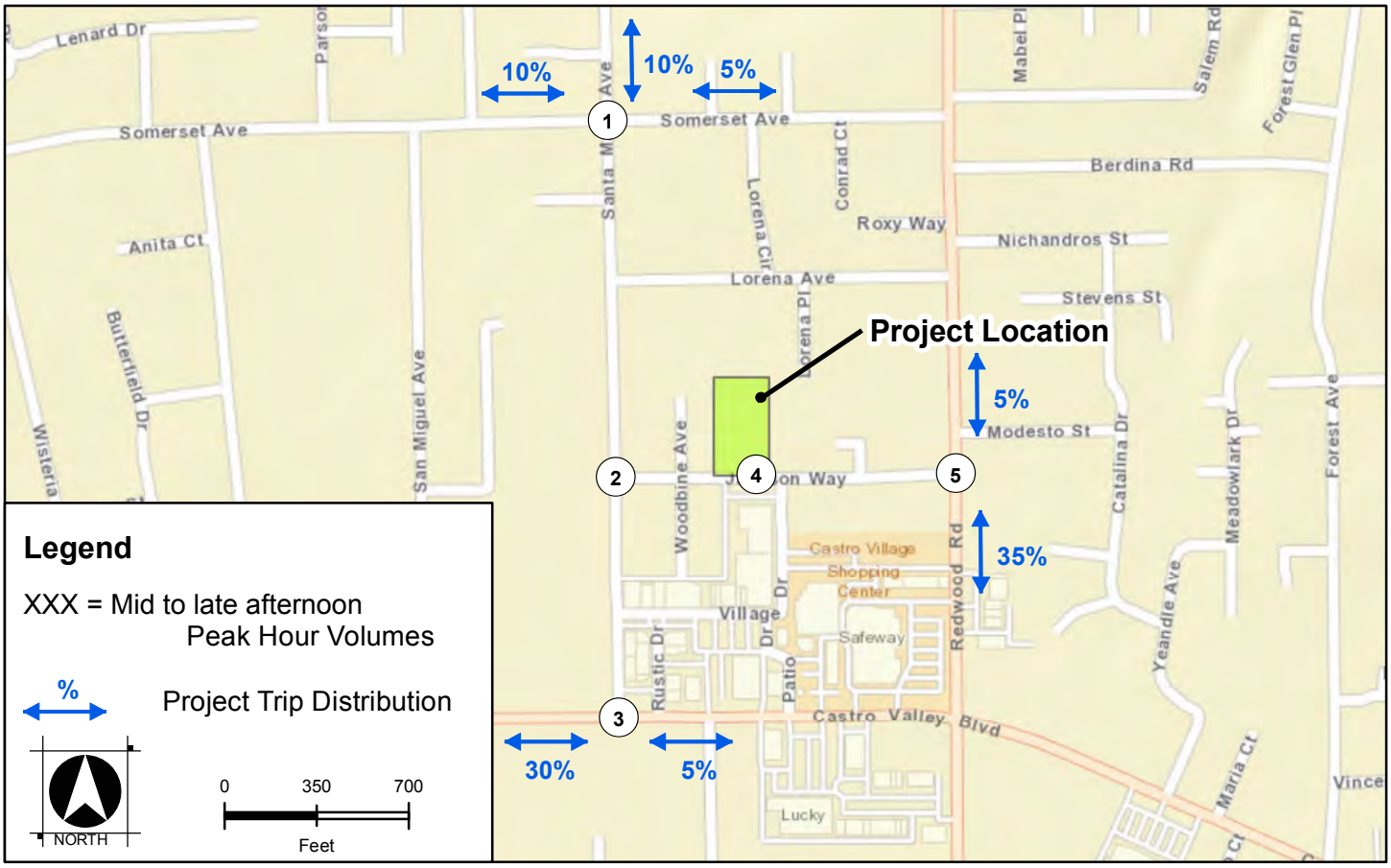

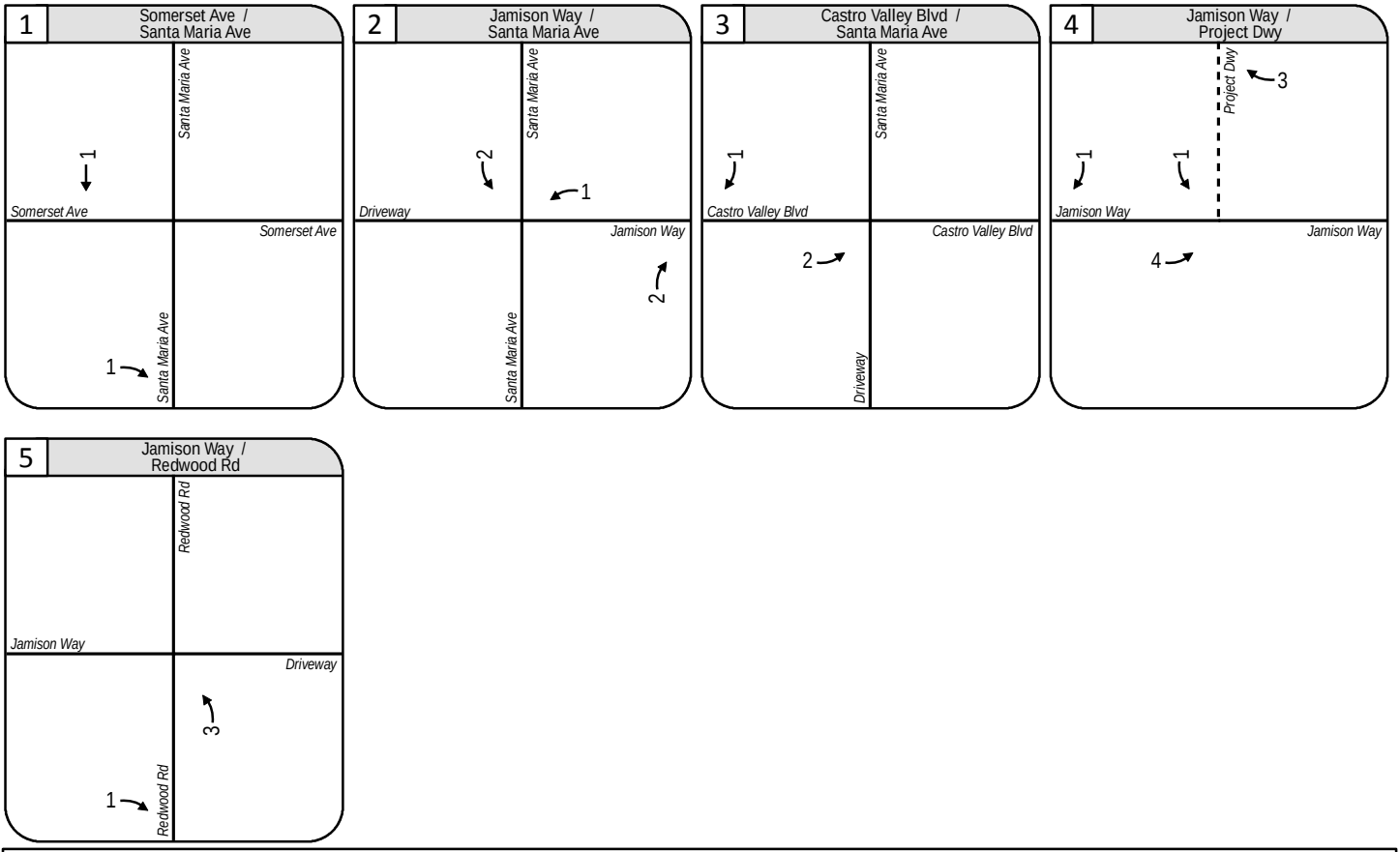

Project Trip Distribution and "Project Only" Traffic Volumes

3544 Jamison Way Townhome Development TIS

Castro Valley, CA

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Figure 5B

WOOD RODGERS

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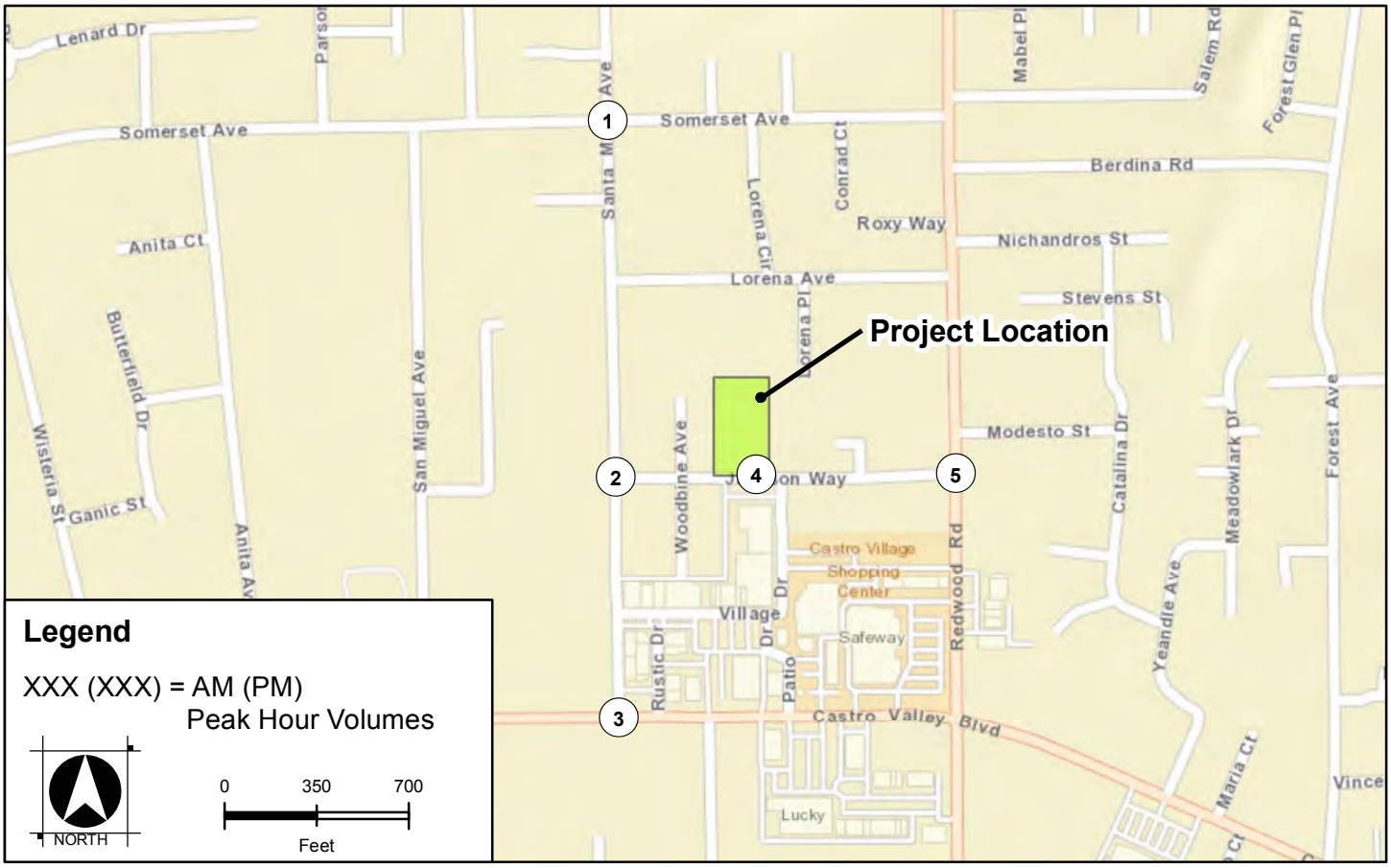

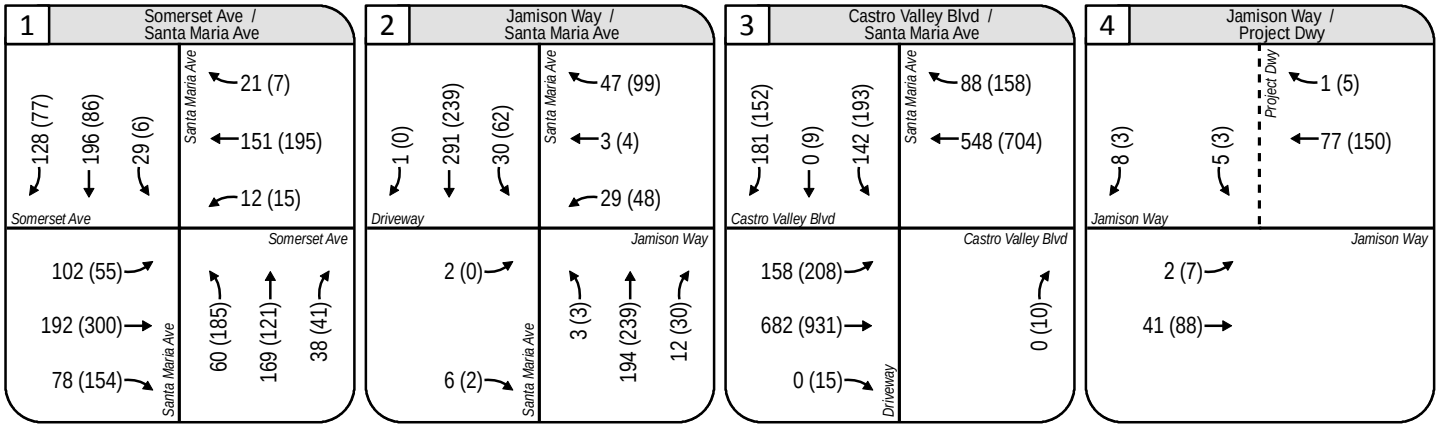

"Existing plus Project" Traffic Volumes

3544 Jamison Way Townhome Development TIS
Castro Valley, CA
March 2017

Figure 6A

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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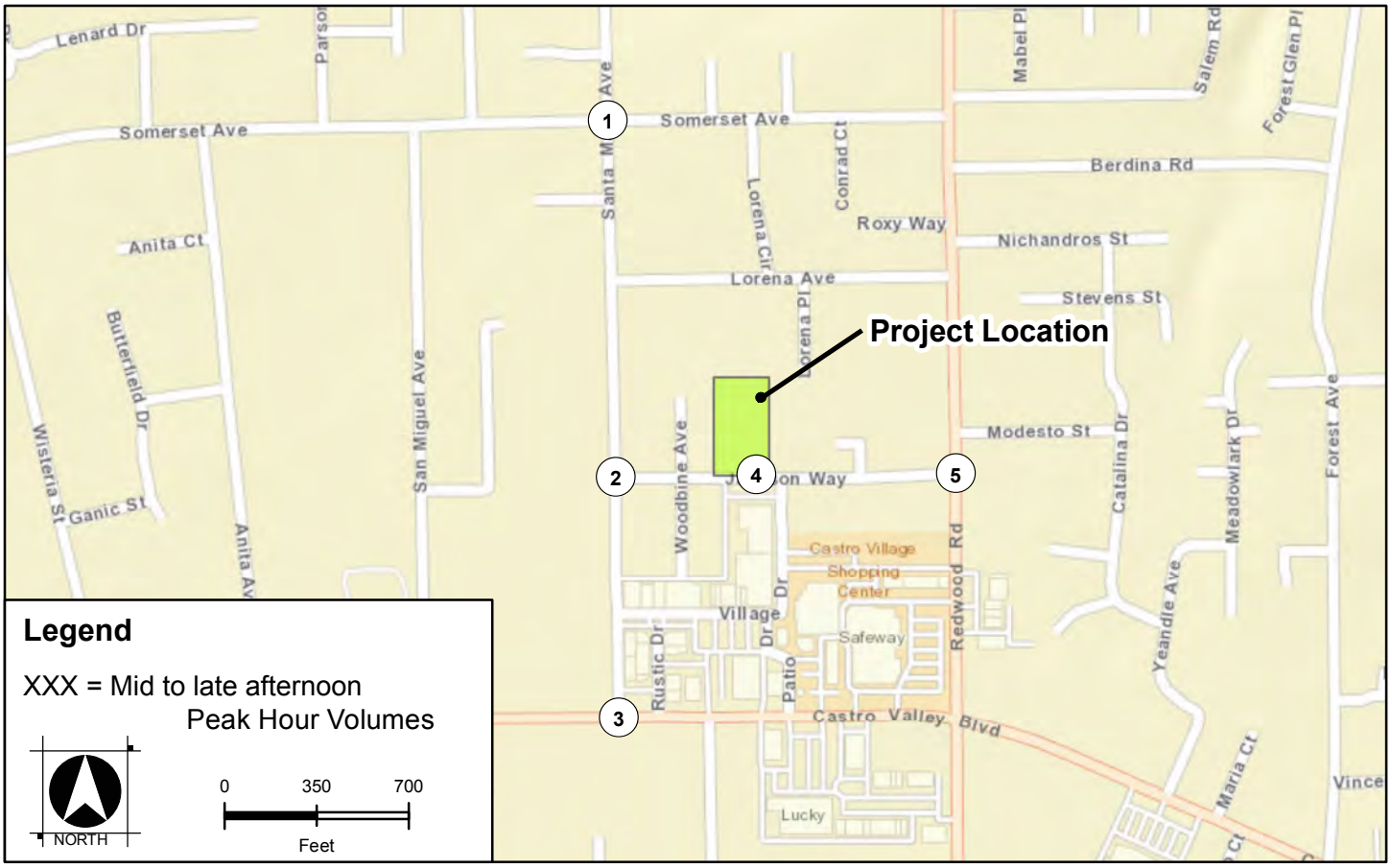

1 — Somerset Ave / Santa Maria Ave

Somerset Ave: 81, 144, 25
Santa Maria Ave: 17, 165, 24
Santa Maria Ave: 71, 211, 140
Somerset Ave: 124, 120, 36

2 — Jamison Way / Santa Maria Ave

Driveway: 283, 49
Santa Maria Ave: 78, 3, 47
Santa Maria Ave: 1, 1, 1
Jamison Way: 1, 175, 27

3 — Castro Valley Blvd / Santa Maria Ave

Castro Valley Blvd: 168, 1, 209
Santa Maria Ave: 124, 803
Driveway: 184, 853, 12
Castro Valley Blvd: 9

4 — Jamison Way / Project Dwy

Jamison Way: 3, 3
Project Dwy: 5, 127
Jamison Way: 7, 79

5 — Jamison Way / Redwood Rd

Jamison Way: 46, 759
Redwood Rd: 4, 11
Redwood Rd: 28, 52
Driveway: 72, 861, 10

"Existing plus Project" Traffic Volumes
3544 Jamison Way Townhome Development TIS
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Figure 6B

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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As shown in , the all-way stop-controlled Somerset Avenue / Santa Maria Avenue intersection is projected to continue to operate at unacceptable LOS "F" conditions during the AM, mid to late afternoon, and PM peak hours. The one-way stop-controlled Jamison Way / Redwood Road intersection is projected to operate at unacceptable LOS "F" conditions during the mid to late afternoon and PM peak hours. All of the remaining study intersections are projected to operate at acceptable level of service during the AM, mid to late afternoon, and PM peak hours under "Existing plus Project" conditions. CA-MUTCD based peak hour signal warrant-3 (urban areas) is projected to continue to be met at the all-way stop-controlled Somerset Avenue / Santa Maria Avenue intersection under "Existing plus Project" AM and PM peak hour conditions. Synchro software intersection LOS outputs are included in **Appendix Exhibit A**, and CA-MUTCD signal warrant-3 worksheets are included in **Appendix Exhibit B.**

All recommended improvements and mitigation measures are discussed in a subsequent section of this TIS report.

4. SITE ACCESS AND CIRCULATION

This chapter reviews the proposed Project site plan, including discussion of site access roadways, internal queuing, internal circulation, pedestrian and bicycle facilities, and on-site parking.

4.1 PROJECT ACCESS DRIVEWAY

The proposed Project would gain access to the nearby roadway network via one (1) new Project access driveway/roadway. The new Project driveway is proposed to be a full-access intersection that would extend north from Jamison Way and run along the entire west side of the Project site. The Project roadway intersection would be single lane in, single lane out, and egress stop-controlled, with Jamison Way traffic having the right-of-way.

Since the proposed project driveway would intersect Jamison Way at a 90-degree angle, based on common practice, consistency with other driveways within project area, *and California Manual on Uniform Traffic Control Devices Figure 3B-21 (CA) Example of Parking Space Markings*, 20-foot red curb No Parking Zones along the north side of Jamison Way may be required on both sides of the project driveway.

4.1.1 INTERNAL QUEUEING AT PROJECT ACCESS DRIVEWAY

The proposed Project driveway at Jamison Way has a throat depth of approximately 100 feet, which means it can accommodate up to approximately four (4) queued egress (southbound) vehicles without impacting traffic on the proposed southern internal street. Based on HCM-2000 Synchro analysis performed for the Project access driveway intersection, it is projected that the Project access driveway would have a worst-case "Existing plus Project" peak hour egress (southbound) queue of approximately 25 feet (or one vehicle), which is 75 feet less than the available storage. The Project access driveway throat depth is projected to be adequate.

4.2 INTERNAL CIRCULATION

All roadways within the Project site plan will allow two-way traffic and all internal intersection will be uncontrolled (yield-controlled). Traffic volumes on proposed internal Project site roadways are not projected to be large enough to require other traffic control improvements. Therefore, no other internal street intersection improvements are recommended.

4.3 Pedestrian and Bicycle Access and Circulation

Due to the small nature of the proposed site, no dedicated bicycle facilities are proposed. Bicyclists can share the proposed on-site roadways with vehicles to navigate the Project site and access Jamison Way and the nearby existing bicycle facilities. The Project site proposes pedestrian walkways running north/south between the proposed town home buildings. Pedestrians on site would be able to use these proposed walkways to access Jamison Way, nearby existing and proposed pedestrian facilities, and any of the town home buildings.

4.4 On-Site Parking

The proposed Project site will provide approximately 54 garage spaces (2 per unit) as well as 26 on-street parking spaces (assuming two of the 28 on street parking spaces shown on the current Project site plan may be removed to accommodate 20 feet of red curb on both sides of the Project driveway) and 2 disabled accessible parking stalls for visitors (approximately 1.04 per unit). The on-street parking spaces will consist of 20 parallel parking spaces striped on the west side of the proposed Project access driveway and six (6) parallel parking spaces striped on the north side of Jamison Way fronting the Project site. The proposed site will provide a total of 82 parking spaces for an average of 3.04 parking spaces per unit. No on-street parking will be allowed on the two other internal streets which will run perpendicular to the Project access driveway.

According to the Alameda County Design Guidelines for Townhomes and Small-Lot Single Family Homes on Narrow Lots (prepared for Alameda County Community Development Agency by Dyett & Bhatia Urban and Regional Planners and Kahn Mortimer Associates, March 23, 2009) newly constructed townhomes are required to provide a minimum of two parking spaces per unit (one of which must be covered) and a minimum of one guest parking space per unit for units that are greater than 1,000 square feet. Therefore, the proposed Project site is projected to meet the City's parking requirements by providing two (2) covered parking spaces and 1.04 guest spaces per unit.

5. Potential Effects on Transit, Bicycle, and Pedestrian Facilities and Services

This section discusses projected Project impacts on study area transit, bicycle, and pedestrian facilities.

5.1 Transit Impacts

Project site residents could walk or bike to bus stops for AC Transit Routes 32 and 48 which are located along Somerset Avenue, Castro Valley Boulevard, and Redwood Road within a half mile walk of the Project site. The Castro Valley BART station is also located approximately 0.6 miles south of the Project site, within reasonable walking or bicycling distance.

The increase in transit ridership caused by the proposed Project is not projected to be enough to significantly impact transit route delay or operations.

5.2 Pedestrian Impacts

There is currently no sidewalk along the north side of Jamison Way fronting the Project site. The Project site plan proposes to construct sidewalk along the north side of Jamison Way for the full length of the lot. This new sidewalk would connect to the existing adjacent sidewalk to the east. Project site residents could access the CV Transit Bus Route 32 and 48 bus stops located on Somerset Avenue, Castro Valley Boulevard, and Redwood Road on foot via the mostly continuous existing

and proposed sidewalks provided on Jamison Way, Santa Maria Avenue, Redwood Road, Somerset Avenue, and Castro Valley Boulevard, as well as the pedestrian crosswalks with push buttons located at the Castro Valley Boulevard intersections with Santa Maria Avenue, Wilbeam Avenue, and Redwood Road. Project site residents could use those same pedestrian facilities as well as the continuous sidewalks provided on Wilbeam Avenue and Norbridge Avenue to reach the Castro Valley BART station as well. Existing sidewalks on Santa Maria Avenue and Redwood Road could also be used by residents to access the nearby Castro Valley High School to the north, while existing sidewalks on Santa Maria Avenue, Somerset Avenue, Castro Valley Boulevard, and San Miguel Avenue could also be used by residents to access the nearby Castro Valley Elementary School to the west. A large shopping center just south of the Project site which includes a Safeway could be easily accessed by residents on foot as well.

Outside of the Project site, there are no currently planned Pedestrian improvements for study area facilities.

5.3 Bicycle Impacts

Project site residents could access the CV Transit Bus Route 32 and 48 bus stops located on Somerset Avenue, Castro Valley Boulevard, and Redwood Road and/or the Castro Valley BART station via bicycle using the existing class II bike lanes on Castro Valley Boulevard, Redwood Road, and Norbridge Avenue in the Project study area.

According to the Castro Valley General Plan, class II bike lanes are proposed to be constructed on Somerset Avenue between Lake Chabot Road and Redwood Road, on Redwood Road between Castro Valley Boulevard and Seven Hills Road (filling in the current gap), and on Castro Valley Boulevard between Redwood Road and Crow Canyon Road (filling in the current gap). These class II bike lanes, once constructed, could be utilized by future Project residents for better bicycle access to nearby destinations and transit stops.

6. Impacts and Mitigation Measures

This chapter of the TIS evaluates the study intersection operations results presented in ("Existing plus Project" conditions) against the LOS impact criteria summarized in Section 1.5 of this report.

6.1 "Existing Plus Project" Impacts and Mitigation Measures

The following intersections were projected to operate at unacceptable LOS conditions under "Existing plus Project" AM, mid to late afternoon, and/or PM peak hour conditions as illustrated in .

<u>Intersection #1 – Somerset Avenue / Santa Maria Avenue</u>

The all-way stop-controlled Somerset Avenue / Santa Maria Avenue intersection is projected to operate at unacceptable "Existing" and "Existing plus Project" AM, mid to late afternoon, and PM peak hour LOS "F" conditions. The CA-MUTCD based peak hour signal warrant-3 (urban areas) is currently and projected to be met at this intersection under "Existing" and "Existing plus Project" AM and PM peak hour conditions. Since the intersection was already operating at unacceptable conditions before the addition of Project generated trips, based on the intersection traffic impact criteria defined in Section 1.5 of this report, Project impact at the Somerset Avenue / Santa Maria Avenue intersection is projected to be "**less than significant**".

Intersection #5 – Jamison Way / Redwood Road

The one-way stop-controlled Jamison Way / Redwood Road intersection is projected to operate at unacceptable "Existing" and "Existing plus Project" mid to late afternoon and PM peak hour LOS "F" conditions. The CA-MUTCD based peak hour signal warrant-3 (urban areas) is not currently and not projected to be met at this intersection under "Existing" or "Existing plus Project" peak hour conditions. Since the intersection was already operating at unacceptable conditions before the addition of Project generated trips and the CA-MUTCD based peak hour signal warrant-3 is not met, based on the intersection traffic impact criteria defined in Section 1.5 of this report, Project impact at the Jamison Way / Redwood Road intersection is projected to be "**less than significant**".

All of the remaining study intersections are currently operating and projected to operate at acceptable level of service during the AM, mid to late afternoon, and PM peak hours under "Existing" and "Existing plus Project" conditions. Therefore, Project impacts at the remaining study intersections are projected to be "**less than significant**".

Appendix Exhibit A
Intersection Level of Service Outputs

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	102	192	78	12	151	21	59	168	38	29	196	128
Future Volume (vph)	102	192	78	12	151	21	59	168	38	29	196	128
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.78	0.78	0.78	0.72	0.72	0.72
Hourly flow rate (vph)	120	226	92	14	172	24	76	215	49	40	272	178

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	438	210	340	490
Volume Left (vph)	120	14	76	40
Volume Right (vph)	92	24	49	178
Hadj (s)	-0.04	-0.02	-0.01	-0.17
Departure Headway (s)	7.8	8.8	8.2	7.7
Degree Utilization, x	0.95	0.52	0.77	1.05
Capacity (veh/h)	438	381	425	451
Control Delay (s)	59.1	20.9	34.1	84.3
Approach Delay (s)	59.1	20.9	34.1	84.3
Approach LOS	F	C	D	F

Intersection Summary			
Delay	56.3		
Level of Service	F		
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	6	26	3	45	3	194	11	30	291	1
Future Volume (Veh/h)	2	0	6	26	3	45	3	194	11	30	291	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.40	0.40	0.40	0.77	0.77	0.77	0.66	0.66	0.66	0.73	0.73	0.73
Hourly flow rate (vph)	5	0	15	34	4	58	5	294	17	41	399	1
Pedestrians		18			40			6			1	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			4			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								917				
pX, platoon unblocked												
vC, conflicting volume	873	860	424	855	852	344	418			351		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	873	860	424	855	852	344	418			351		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	86	99	91	100			96		
cM capacity (veh/h)	223	266	616	241	269	672	1121			1162		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	20	96	316	441
Volume Left	5	34	5	41
Volume Right	15	58	17	1
cSH	428	397	1121	1162
Volume to Capacity	0.05	0.24	0.00	0.04
Queue Length 95th (ft)	4	23	0	3
Control Delay (s)	13.8	16.9	0.2	1.1
Lane LOS	B	C	A	A
Approach Delay (s)	13.8	16.9	0.2	1.1
Approach LOS	B	C		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	682	0	0	548	88	0	0	0	142	0	178
Future Volume (vph)	157	682	0	0	548	88	0	0	0	142	0	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0			4.0						4.0	4.5
Lane Util. Factor	1.00	0.95			0.95						1.00	1.00
Frpb, ped/bikes	1.00	1.00			0.99						1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Frt	1.00	1.00			0.98						1.00	0.85
Flt Protected	0.95	1.00			1.00						0.95	1.00
Satd. Flow (prot)	1770	3539			3437						1770	1583
Flt Permitted	0.95	1.00			1.00						0.95	1.00
Satd. Flow (perm)	1770	3539			3437						1770	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.87	0.87	0.87	0.92	0.92	0.92	0.83	0.83	0.83
Adj. Flow (vph)	209	909	0	0	630	101	0	0	0	171	0	214
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	0	0	0	173
Lane Group Flow (vph)	209	909	0	0	716	0	0	0	0	0	171	41
Confl. Peds. (#/hr)	20		44	44		20			17	17		
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA			NA				Perm	Split	NA	custom
Protected Phases	7	4			8					6	6	
Permitted Phases									6			7
Actuated Green, G (s)	13.9	40.4			22.0						23.5	13.9
Effective Green, g (s)	13.9	40.4			22.0						23.5	13.9
Actuated g/C Ratio	0.19	0.56			0.31						0.33	0.19
Clearance Time (s)	4.5	4.0			4.0						4.0	4.5
Vehicle Extension (s)	3.0	3.0			3.0						3.0	3.0
Lane Grp Cap (vph)	342	1988			1051						578	306
v/s Ratio Prot	c0.12	0.26			c0.21						c0.10	
v/s Ratio Perm												0.03
v/c Ratio	0.61	0.46			0.68						0.30	0.14
Uniform Delay, d1	26.5	9.3			21.9						18.0	24.0
Progression Factor	1.00	1.00			1.00						1.00	1.00
Incremental Delay, d2	3.2	0.2			1.8						1.3	0.2
Delay (s)	29.7	9.5			23.7						19.3	24.2
Level of Service	C	A			C						B	C
Approach Delay (s)		13.2			23.7			0.0			22.1	
Approach LOS		B			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	71.9	Sum of lost time (s)	12.5
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	41	77	0	2	3
Future Volume (Veh/h)	1	41	77	0	2	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	1	53	100	0	3	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100				155	100
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100				155	100
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1493				836	956

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	54	100	7
Volume Left	1	0	3
Volume Right	0	0	4
cSH	1493	1700	900
Volume to Capacity	0.00	0.06	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	14.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	31	0	0	0	46	730	4	2	901	31
Future Volume (Veh/h)	7	0	31	0	0	0	46	730	4	2	901	31
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.92	0.92	0.92	0.79	0.79	0.79	0.87	0.87	0.87
Hourly flow rate (vph)	9	0	39	0	0	0	58	924	5	2	1036	36
Pedestrians		19						2				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		2						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1655	2122	557	1606	2138	464	1091			929		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1655	2122	557	1606	2138	464	1091			929		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	92	100	100	100	91			100		
cM capacity (veh/h)	58	44	464	59	43	544	624			732		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	48	0	520	467	520	554
Volume Left	9	0	58	0	2	0
Volume Right	39	0	0	5	0	36
cSH	200	1700	624	1700	732	1700
Volume to Capacity	0.24	0.00	0.09	0.27	0.00	0.33
Queue Length 95th (ft)	23	0	8	0	0	0
Control Delay (s)	28.5	0.0	2.6	0.0	0.1	0.0
Lane LOS	D	A	A		A	
Approach Delay (s)	28.5	0.0	1.3		0.0	
Approach LOS	D	A				

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	61.6%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	71	211	139	24	165	17	124	120	36	25	143	81
Future Volume (vph)	71	211	139	24	165	17	124	120	36	25	143	81
Peak Hour Factor	0.84	0.84	0.84	0.74	0.74	0.74	0.79	0.79	0.79	0.67	0.67	0.67
Hourly flow rate (vph)	85	251	165	32	223	23	157	152	46	37	213	121

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	501	278	355	371
Volume Left (vph)	85	32	157	37
Volume Right (vph)	165	23	46	121
Hadj (s)	-0.13	0.01	0.04	-0.14
Departure Headway (s)	8.1	8.8	8.4	8.2
Degree Utilization, x	1.12	0.68	0.83	0.85
Capacity (veh/h)	440	386	408	425
Control Delay (s)	108.5	28.3	41.6	42.7
Approach Delay (s)	108.5	28.3	41.6	42.7
Approach LOS	F	D	E	E

Intersection Summary			
Delay	61.7		
Level of Service	F		
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	1	46	3	78	1	175	25	47	283	0
Future Volume (Veh/h)	1	1	1	46	3	78	1	175	25	47	283	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.76	0.76	0.76	0.82	0.82	0.82
Hourly flow rate (vph)	1	1	1	55	4	93	1	230	33	57	345	0
Pedestrians		31			100						11	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		3.5			3.5						3.5	
Percent Blockage		3			10						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								917				
pX, platoon unblocked												
vC, conflicting volume	844	855	376	809	838	358	376			363		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	844	855	376	809	838	358	376			363		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	77	98	85	100			95		
cM capacity (veh/h)	198	246	651	234	251	615	1148			1082		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	152	264	402
Volume Left	1	55	1	57
Volume Right	1	93	33	0
cSH	282	378	1148	1082
Volume to Capacity	0.01	0.40	0.00	0.05
Queue Length 95th (ft)	1	47	0	4
Control Delay (s)	17.9	20.8	0.0	1.7
Lane LOS	C	C	A	A
Approach Delay (s)	17.9	20.8	0.0	1.7
Approach LOS	C	C		

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	853	12	0	803	124	0	0	9	209	1	167
Future Volume (vph)	182	853	12	0	803	124	0	0	9	209	1	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.95			0.95				1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00			0.98				0.95		1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00				1.00		1.00	1.00
Frt	1.00	1.00			0.98				0.86		1.00	0.85
Flt Protected	0.95	1.00			1.00				1.00		0.95	1.00
Satd. Flow (prot)	1770	3528			3399				1536		1774	1583
Flt Permitted	0.95	1.00			1.00				1.00		0.95	1.00
Satd. Flow (perm)	1770	3528			3399				1536		1774	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	198	927	13	0	923	143	0	0	12	240	1	192
RTOR Reduction (vph)	0	1	0	0	14	0	0	0	9	0	0	159
Lane Group Flow (vph)	198	939	0	0	1052	0	0	0	3	0	241	33
Confl. Peds. (#/hr)	58		74	74		58			31	31		
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA			NA				Perm	Split	NA	custom
Protected Phases	7	4			8					6	6	
Permitted Phases									6			7
Actuated Green, G (s)	14.0	49.2			31.2				23.3		23.3	14.0
Effective Green, g (s)	14.0	49.2			31.2				23.3		23.3	14.0
Actuated g/C Ratio	0.17	0.61			0.39				0.29		0.29	0.17
Clearance Time (s)	4.0	4.0			4.0				4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0	3.0
Lane Grp Cap (vph)	307	2156			1317				444		513	275
v/s Ratio Prot	c0.11	0.27			c0.31						c0.14	
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.64	0.44			0.80				0.01		0.47	0.12
Uniform Delay, d1	30.9	8.3			21.9				20.4		23.5	28.1
Progression Factor	1.00	1.00			1.00				1.00		1.00	1.00
Incremental Delay, d2	4.6	0.1			3.5				0.0		3.1	0.2
Delay (s)	35.5	8.4			25.3				20.4		26.6	28.3
Level of Service	D	A			C				C		C	C
Approach Delay (s)		13.1			25.3			20.4			27.3	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	79	127	2	2	2
Future Volume (Veh/h)	3	79	127	2	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	4	94	151	2	2	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	153				254	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	153				254	152
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1428				733	894

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	98	153	4
Volume Left	4	0	2
Volume Right	0	2	2
cSH	1428	1700	805
Volume to Capacity	0.00	0.09	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.3	0.0	9.5
Lane LOS	A		A
Approach Delay (s)	0.3	0.0	9.5
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	0	51	11	0	4	69	861	10	0	759	46
Future Volume (Veh/h)	28	0	51	11	0	4	69	861	10	0	759	46
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.63	0.63	0.63	0.93	0.93	0.93	0.86	0.86	0.86
Hourly flow rate (vph)	37	0	67	17	0	6	74	926	11	0	883	53
Pedestrians		109						5				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		10						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1636	2104	582	1593	2124	468	1045			937		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1636	2104	582	1593	2124	468	1045			937		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	25	100	84	66	100	99	88			100		
cM capacity (veh/h)	49	40	407	50	39	541	593			727		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	104	23	537	474	442	494
Volume Left	37	17	74	0	0	0
Volume Right	67	6	0	11	0	53
cSH	114	65	593	1700	727	1700
Volume to Capacity	0.92	0.35	0.12	0.28	0.00	0.29
Queue Length 95th (ft)	142	33	11	0	0	0
Control Delay (s)	133.5	87.7	3.4	0.0	0.0	0.0
Lane LOS	F	F	A			
Approach Delay (s)	133.5	87.7	1.8		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	55	300	153	15	195	7	185	121	41	6	85	77
Future Volume (vph)	55	300	153	15	195	7	185	121	41	6	85	77
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.85	0.85	0.85	0.84	0.84	0.84
Hourly flow rate (vph)	60	326	166	16	207	7	218	142	48	7	101	92

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	552	230	408	200
Volume Left (vph)	60	16	218	7
Volume Right (vph)	166	7	48	92
Hadj (s)	-0.12	0.03	0.07	-0.23
Departure Headway (s)	6.8	7.7	7.2	7.7
Degree Utilization, x	1.04	0.49	0.82	0.43
Capacity (veh/h)	520	433	488	429
Control Delay (s)	77.4	18.0	35.6	16.3
Approach Delay (s)	77.4	18.0	35.6	16.3
Approach LOS	F	C	E	C

Intersection Summary			
Delay	46.5		
Level of Service	E		
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	47	4	99	3	239	28	60	239	0
Future Volume (Veh/h)	0	0	2	47	4	99	3	239	28	60	239	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.94	0.94	0.94	0.95	0.95	0.95	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	4	50	4	105	3	252	29	65	257	0
Pedestrians		9			12			1			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			1			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								917				
pX, platoon unblocked												
vC, conflicting volume	786	695	267	676	680	288	266			293		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	786	695	267	676	680	288	266			293		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	85	99	86	100			95		
cM capacity (veh/h)	244	339	764	340	346	735	1287			1254		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	159	284	322
Volume Left	0	50	3	65
Volume Right	4	105	29	0
cSH	764	528	1287	1254
Volume to Capacity	0.01	0.30	0.00	0.05
Queue Length 95th (ft)	0	31	0	4
Control Delay (s)	9.7	14.7	0.1	2.0
Lane LOS	A	B	A	A
Approach Delay (s)	9.7	14.7	0.1	2.0
Approach LOS	A	B		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	931	15	0	704	158	0	0	10	193	9	151
Future Volume (vph)	206	931	15	0	704	158	0	0	10	193	9	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.95			0.95				1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00			0.98				0.97		1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00				1.00		1.00	1.00
Frt	1.00	1.00			0.97				0.86		1.00	0.85
Flt Protected	0.95	1.00			1.00				1.00		0.95	1.00
Satd. Flow (prot)	1770	3526			3364				1557		1778	1583
Flt Permitted	0.95	1.00			1.00				1.00		0.95	1.00
Satd. Flow (perm)	1770	3526			3364				1557		1778	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.91	0.91	0.91	0.50	0.50	0.50	0.94	0.94	0.94
Adj. Flow (vph)	234	1058	17	0	774	174	0	0	20	205	10	161
RTOR Reduction (vph)	0	1	0	0	22	0	0	0	14	0	0	130
Lane Group Flow (vph)	234	1074	0	0	926	0	0	0	6	0	215	31
Confl. Peds. (#/hr)	46		70	70		46			19	19		
Confl. Bikes (#/hr)						2						
Turn Type	Prot	NA			NA				Perm	Split	NA	custom
Protected Phases	7	4			8					6	6	
Permitted Phases									6			7
Actuated Green, G (s)	15.4	47.7			28.3				25.3		25.3	15.4
Effective Green, g (s)	15.4	47.7			28.3				25.3		25.3	15.4
Actuated g/C Ratio	0.19	0.59			0.35				0.31		0.31	0.19
Clearance Time (s)	4.0	4.0			4.0				4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0	3.0
Lane Grp Cap (vph)	336	2076			1175				486		555	300
v/s Ratio Prot	c0.13	0.30			c0.28						c0.12	
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.70	0.52			0.79				0.01		0.39	0.10
Uniform Delay, d1	30.6	9.8			23.7				19.2		21.8	27.1
Progression Factor	1.00	1.00			1.00				1.00		1.00	1.00
Incremental Delay, d2	6.2	0.2			3.6				0.0		2.0	0.1
Delay (s)	36.8	10.1			27.2				19.3		23.8	27.2
Level of Service	D	B			C				B		C	C
Approach Delay (s)		14.8			27.2			19.3			25.3	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	88	150	2	2	2
Future Volume (Veh/h)	3	88	150	2	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	3	94	160	2	2	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	162				261	161
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162				261	161
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1417				726	884

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	97	162	4
Volume Left	3	0	2
Volume Right	0	2	2
cSH	1417	1700	797
Volume to Capacity	0.00	0.10	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.2	0.0	9.5
Lane LOS	A		A
Approach Delay (s)	0.2	0.0	9.5
Approach LOS			A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	61	8	1	4	79	1016	5	0	730	25
Future Volume (Veh/h)	20	0	61	8	1	4	79	1016	5	0	730	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.54	0.54	0.54	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	0	73	15	2	7	85	1092	5	0	785	27
Pedestrians		24										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		2										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1546	2090	430	1730	2100	548	836			1097		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1546	2090	430	1730	2100	548	836			1097		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	63	100	87	66	96	99	89			100		
cM capacity (veh/h)	65	45	560	44	45	480	775			632		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	97	24	631	551	392	420
Volume Left	24	15	85	0	0	0
Volume Right	73	7	0	5	0	27
cSH	195	60	775	1700	632	1700
Volume to Capacity	0.50	0.40	0.11	0.32	0.00	0.25
Queue Length 95th (ft)	62	37	9	0	0	0
Control Delay (s)	40.6	99.6	2.8	0.0	0.0	0.0
Lane LOS	E	F	A			
Approach Delay (s)	40.6	99.6	1.5		0.0	
Approach LOS	E	F				

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	66.5%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	102	192	78	12	151	21	59	168	38	29	196	128
Future Volume (vph)	102	192	78	12	151	21	60	169	38	29	196	128
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.78	0.78	0.78	0.72	0.72	0.72
Hourly flow rate (vph)	120	226	92	14	172	24	77	217	49	40	272	178

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	438	210	343	490
Volume Left (vph)	120	14	77	40
Volume Right (vph)	92	24	49	178
Hadj (s)	-0.04	-0.02	-0.01	-0.17
Departure Headway (s)	7.8	8.9	8.2	7.8
Degree Utilization, x	0.95	0.52	0.78	1.06
Capacity (veh/h)	438	380	425	451
Control Delay (s)	59.7	21.0	34.9	85.4
Approach Delay (s)	59.7	21.0	34.9	85.4
Approach LOS	F	C	D	F

Intersection Summary			
Delay	57.0		
Level of Service	F		
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	6	26	3	45	3	194	11	30	291	1
Future Volume (Veh/h)	2	0	6	29	3	47	3	194	12	30	291	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.40	0.40	0.40	0.77	0.77	0.77	0.66	0.66	0.66	0.73	0.73	0.73
Hourly flow rate (vph)	5	0	15	38	4	61	5	294	18	41	399	1
Pedestrians		18			40			6			1	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			4			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								917				
pX, platoon unblocked												
vC, conflicting volume	876	862	424	856	853	344	418			352		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	876	862	424	856	853	344	418			352		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	84	99	91	100			96		
cM capacity (veh/h)	221	266	616	241	269	672	1121			1161		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	20	103	317	441
Volume Left	5	38	5	41
Volume Right	15	61	18	1
cSH	426	391	1121	1161
Volume to Capacity	0.05	0.26	0.00	0.04
Queue Length 95th (ft)	4	26	0	3
Control Delay (s)	13.9	17.5	0.2	1.1
Lane LOS	B	C	A	A
Approach Delay (s)	13.9	17.5	0.2	1.1
Approach LOS	B	C		

Intersection Summary				
Average Delay		3.0		
Intersection Capacity Utilization		46.8%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	682	0	0	548	88	0	0	0	142	0	178
Future Volume (vph)	158	682	0	0	548	88	0	0	0	142	0	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0			4.0						4.0	4.5
Lane Util. Factor	1.00	0.95			0.95						1.00	1.00
Frpb, ped/bikes	1.00	1.00			0.99						1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Frt	1.00	1.00			0.98						1.00	0.85
Flt Protected	0.95	1.00			1.00						0.95	1.00
Satd. Flow (prot)	1770	3539			3437						1770	1583
Flt Permitted	0.95	1.00			1.00						0.95	1.00
Satd. Flow (perm)	1770	3539			3437						1770	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.87	0.87	0.87	0.92	0.92	0.92	0.83	0.83	0.83
Adj. Flow (vph)	211	909	0	0	630	101	0	0	0	171	0	218
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	0	0	0	176
Lane Group Flow (vph)	211	909	0	0	716	0	0	0	0	0	171	42
Confl. Peds. (#/hr)	20		44	44		20			17	17		
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA			NA				Perm	Split	NA	custom
Protected Phases	7	4			8					6	6	
Permitted Phases									6			7
Actuated Green, G (s)	14.0	40.5			22.0						23.5	14.0
Effective Green, g (s)	14.0	40.5			22.0						23.5	14.0
Actuated g/C Ratio	0.19	0.56			0.31						0.33	0.19
Clearance Time (s)	4.5	4.0			4.0						4.0	4.5
Vehicle Extension (s)	3.0	3.0			3.0						3.0	3.0
Lane Grp Cap (vph)	344	1990			1050						577	307
v/s Ratio Prot	c0.12	0.26			c0.21						c0.10	
v/s Ratio Perm												0.03
v/c Ratio	0.61	0.46			0.68						0.30	0.14
Uniform Delay, d1	26.5	9.3			21.9						18.1	24.0
Progression Factor	1.00	1.00			1.00						1.00	1.00
Incremental Delay, d2	3.2	0.2			1.8						1.3	0.2
Delay (s)	29.8	9.4			23.8						19.4	24.2
Level of Service	C	A			C						B	C
Approach Delay (s)		13.3			23.8			0.0			22.1	
Approach LOS		B			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	41	77	0	2	3
Future Volume (Veh/h)	2	41	77	1	5	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	3	53	100	1	6	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	101				160	100
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	101				160	100
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1491				830	955

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	56	101	16
Volume Left	3	0	6
Volume Right	0	1	10
cSH	1491	1700	904
Volume to Capacity	0.00	0.06	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.4	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	0.4	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	14.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	31	0	0	0	46	730	4	2	901	31
Future Volume (Veh/h)	7	0	34	0	0	0	47	730	4	2	901	31
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.92	0.92	0.92	0.79	0.79	0.79	0.87	0.87	0.87
Hourly flow rate (vph)	9	0	43	0	0	0	59	924	5	2	1036	36
Pedestrians		19						2				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		2						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1657	2124	557	1612	2140	464	1091			929		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1657	2124	557	1612	2140	464	1091			929		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	91	100	100	100	91			100		
cM capacity (veh/h)	58	44	464	57	43	544	624			732		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	52	0	521	467	520	554
Volume Left	9	0	59	0	2	0
Volume Right	43	0	0	5	0	36
cSH	209	1700	624	1700	732	1700
Volume to Capacity	0.25	0.00	0.09	0.27	0.00	0.33
Queue Length 95th (ft)	24	0	8	0	0	0
Control Delay (s)	27.8	0.0	2.6	0.0	0.1	0.0
Lane LOS	D	A	A		A	
Approach Delay (s)	27.8	0.0	1.4		0.0	
Approach LOS	D	A				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	71	211	139	24	165	17	124	120	36	25	143	81
Future Volume (vph)	71	211	140	24	165	17	124	120	36	25	144	81
Peak Hour Factor	0.84	0.84	0.84	0.74	0.74	0.74	0.79	0.79	0.79	0.67	0.67	0.67
Hourly flow rate (vph)	85	251	167	32	223	23	157	152	46	37	215	121

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	503	278	355	373
Volume Left (vph)	85	32	157	37
Volume Right (vph)	167	23	46	121
Hadj (s)	-0.13	0.01	0.04	-0.14
Departure Headway (s)	8.1	8.8	8.5	8.2
Degree Utilization, x	1.13	0.68	0.83	0.85
Capacity (veh/h)	441	385	408	425
Control Delay (s)	111.2	28.5	41.9	43.5
Approach Delay (s)	111.2	28.5	41.9	43.5
Approach LOS	F	D	E	E

Intersection Summary			
Delay	62.9		
Level of Service	F		
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	1	46	3	78	1	175	25	47	283	0
Future Volume (Veh/h)	1	1	1	47	3	78	1	175	27	49	283	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.76	0.76	0.76	0.82	0.82	0.82
Hourly flow rate (vph)	1	1	1	56	4	93	1	230	36	60	345	0
Pedestrians		31			100						11	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		3.5			3.5						3.5	
Percent Blockage		3			10						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								917				
pX, platoon unblocked												
vC, conflicting volume	852	864	376	816	846	359	376			366		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	852	864	376	816	846	359	376			366		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	76	98	85	100			94		
cM capacity (veh/h)	195	242	651	231	248	614	1148			1079		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	153	267	405
Volume Left	1	56	1	60
Volume Right	1	93	36	0
cSH	278	373	1148	1079
Volume to Capacity	0.01	0.41	0.00	0.06
Queue Length 95th (ft)	1	49	0	4
Control Delay (s)	18.1	21.2	0.0	1.8
Lane LOS	C	C	A	A
Approach Delay (s)	18.1	21.2	0.0	1.8
Approach LOS	C	C		

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	853	12	0	803	124	0	0	9	209	1	167
Future Volume (vph)	184	853	12	0	803	124	0	0	9	209	1	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.95			0.95				1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00			0.98				0.95		1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00				1.00		1.00	1.00
Frt	1.00	1.00			0.98				0.86		1.00	0.85
Flt Protected	0.95	1.00			1.00				1.00		0.95	1.00
Satd. Flow (prot)	1770	3528			3399				1536		1774	1583
Flt Permitted	0.95	1.00			1.00				1.00		0.95	1.00
Satd. Flow (perm)	1770	3528			3399				1536		1774	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	200	927	13	0	923	143	0	0	12	240	1	193
RTOR Reduction (vph)	0	1	0	0	14	0	0	0	9	0	0	159
Lane Group Flow (vph)	200	939	0	0	1052	0	0	0	3	0	241	34
Confl. Peds. (#/hr)	58		74	74		58			31	31		
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA			NA				Perm	Split	NA	custom
Protected Phases	7	4			8					6	6	
Permitted Phases									6			7
Actuated Green, G (s)	14.1	49.3			31.2				23.3		23.3	14.1
Effective Green, g (s)	14.1	49.3			31.2				23.3		23.3	14.1
Actuated g/C Ratio	0.17	0.61			0.39				0.29		0.29	0.17
Clearance Time (s)	4.0	4.0			4.0				4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0	3.0
Lane Grp Cap (vph)	309	2157			1315				444		512	276
v/s Ratio Prot	c0.11	0.27			c0.31						c0.14	
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.65	0.44			0.80				0.01		0.47	0.12
Uniform Delay, d1	30.9	8.3			21.9				20.4		23.6	28.0
Progression Factor	1.00	1.00			1.00				1.00		1.00	1.00
Incremental Delay, d2	4.6	0.1			3.5				0.0		3.1	0.2
Delay (s)	35.5	8.4			25.4				20.4		26.7	28.2
Level of Service	D	A			C				C		C	C
Approach Delay (s)		13.2			25.4			20.4			27.4	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	80.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	79	127	2	2	2
Future Volume (Veh/h)	7	79	127	5	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	8	94	151	6	4	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	157				264	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	157				264	154
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	100
cM capacity (veh/h)	1423				721	892

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	102	157	8
Volume Left	8	0	4
Volume Right	0	6	4
cSH	1423	1700	797
Volume to Capacity	0.01	0.09	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.6	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	0.6	0.0	9.6
Approach LOS			A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	16.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	0	51	11	0	4	69	861	10	0	759	46
Future Volume (Veh/h)	28	0	52	11	0	4	72	861	10	0	759	46
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.63	0.63	0.63	0.93	0.93	0.93	0.86	0.86	0.86
Hourly flow rate (vph)	37	0	68	17	0	6	77	926	11	0	883	53
Pedestrians		109						5				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		10						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1642	2110	582	1600	2130	468	1045			937		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1642	2110	582	1600	2130	468	1045			937		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	24	100	83	65	100	99	87			100		
cM capacity (veh/h)	49	39	407	49	38	541	593			727		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	105	23	540	474	442	494
Volume Left	37	17	77	0	0	0
Volume Right	68	6	0	11	0	53
cSH	113	64	593	1700	727	1700
Volume to Capacity	0.93	0.36	0.13	0.28	0.00	0.29
Queue Length 95th (ft)	145	33	11	0	0	0
Control Delay (s)	137.3	90.0	3.5	0.0	0.0	0.0
Lane LOS	F	F	A			
Approach Delay (s)	137.3	90.0	1.9		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	8.9		
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	55	300	153	15	195	7	185	121	41	6	85	77
Future Volume (vph)	55	300	154	15	195	7	185	121	41	6	86	77
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.85	0.85	0.85	0.84	0.84	0.84
Hourly flow rate (vph)	60	326	167	16	207	7	218	142	48	7	102	92

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	553	230	408	201
Volume Left (vph)	60	16	218	7
Volume Right (vph)	167	7	48	92
Hadj (s)	-0.13	0.03	0.07	-0.23
Departure Headway (s)	6.8	7.7	7.3	7.7
Degree Utilization, x	1.05	0.49	0.82	0.43
Capacity (veh/h)	520	433	488	429
Control Delay (s)	78.3	18.0	35.7	16.4
Approach Delay (s)	78.3	18.0	35.7	16.4
Approach LOS	F	C	E	C

Intersection Summary			
Delay	46.9		
Level of Service	E		
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	47	4	99	3	239	28	60	239	0
Future Volume (Veh/h)	0	0	2	48	4	99	3	239	30	62	239	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.94	0.94	0.94	0.95	0.95	0.95	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	4	51	4	105	3	252	32	67	257	0
Pedestrians		9			12			1			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			1			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								917				
pX, platoon unblocked												
vC, conflicting volume	791	702	267	682	686	290	266			296		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	791	702	267	682	686	290	266			296		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	85	99	86	100			95		
cM capacity (veh/h)	242	335	764	337	343	734	1287			1251		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	160	287	324
Volume Left	0	51	3	67
Volume Right	4	105	32	0
cSH	764	523	1287	1251
Volume to Capacity	0.01	0.31	0.00	0.05
Queue Length 95th (ft)	0	32	0	4
Control Delay (s)	9.7	14.9	0.1	2.1
Lane LOS	A	B	A	A
Approach Delay (s)	9.7	14.9	0.1	2.1
Approach LOS	A	B		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	931	15	0	704	158	0	0	10	193	9	151
Future Volume (vph)	208	931	15	0	704	158	0	0	10	193	9	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.95			0.95				1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00			0.98				0.97		1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00				1.00		1.00	1.00
Frt	1.00	1.00			0.97				0.86		1.00	0.85
Flt Protected	0.95	1.00			1.00				1.00		0.95	1.00
Satd. Flow (prot)	1770	3526			3364				1557		1778	1583
Flt Permitted	0.95	1.00			1.00				1.00		0.95	1.00
Satd. Flow (perm)	1770	3526			3364				1557		1778	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.91	0.91	0.91	0.50	0.50	0.50	0.94	0.94	0.94
Adj. Flow (vph)	236	1058	17	0	774	174	0	0	20	205	10	162
RTOR Reduction (vph)	0	1	0	0	22	0	0	0	14	0	0	131
Lane Group Flow (vph)	236	1074	0	0	926	0	0	0	6	0	215	31
Confl. Peds. (#/hr)	46		70	70		46			19	19		
Confl. Bikes (#/hr)						2						
Turn Type	Prot	NA			NA				Perm	Split	NA	custom
Protected Phases	7	4			8					6	6	
Permitted Phases									6			7
Actuated Green, G (s)	15.5	47.8			28.3				25.3		25.3	15.5
Effective Green, g (s)	15.5	47.8			28.3				25.3		25.3	15.5
Actuated g/C Ratio	0.19	0.59			0.35				0.31		0.31	0.19
Clearance Time (s)	4.0	4.0			4.0				4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0	3.0
Lane Grp Cap (vph)	338	2078			1173				485		554	302
v/s Ratio Prot	c0.13	0.30			c0.28						c0.12	
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.70	0.52			0.79				0.01		0.39	0.10
Uniform Delay, d1	30.6	9.8			23.7				19.3		21.8	27.1
Progression Factor	1.00	1.00			1.00				1.00		1.00	1.00
Incremental Delay, d2	6.2	0.2			3.6				0.0		2.0	0.1
Delay (s)	36.8	10.0			27.3				19.3		23.9	27.2
Level of Service	D	B			C				B		C	C
Approach Delay (s)		14.9			27.3			19.3			25.3	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	81.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	88	150	2	2	2
Future Volume (Veh/h)	7	88	150	5	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	7	94	160	5	3	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	165				270	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	165				270	162
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1413				715	882

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	101	165	6
Volume Left	7	0	3
Volume Right	0	5	3
cSH	1413	1700	790
Volume to Capacity	0.00	0.10	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.6	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	0.6	0.0	9.6
Approach LOS			A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	61	8	1	4	79	1016	5	0	730	25
Future Volume (Veh/h)	20	0	62	8	1	4	82	1016	5	0	730	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.54	0.54	0.54	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	0	74	15	2	7	88	1092	5	0	785	27
Pedestrians		24										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		2										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1552	2096	430	1737	2106	548	836			1097		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1552	2096	430	1737	2106	548	836			1097		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	63	100	87	66	95	99	89			100		
cM capacity (veh/h)	64	45	560	44	44	480	775			632		

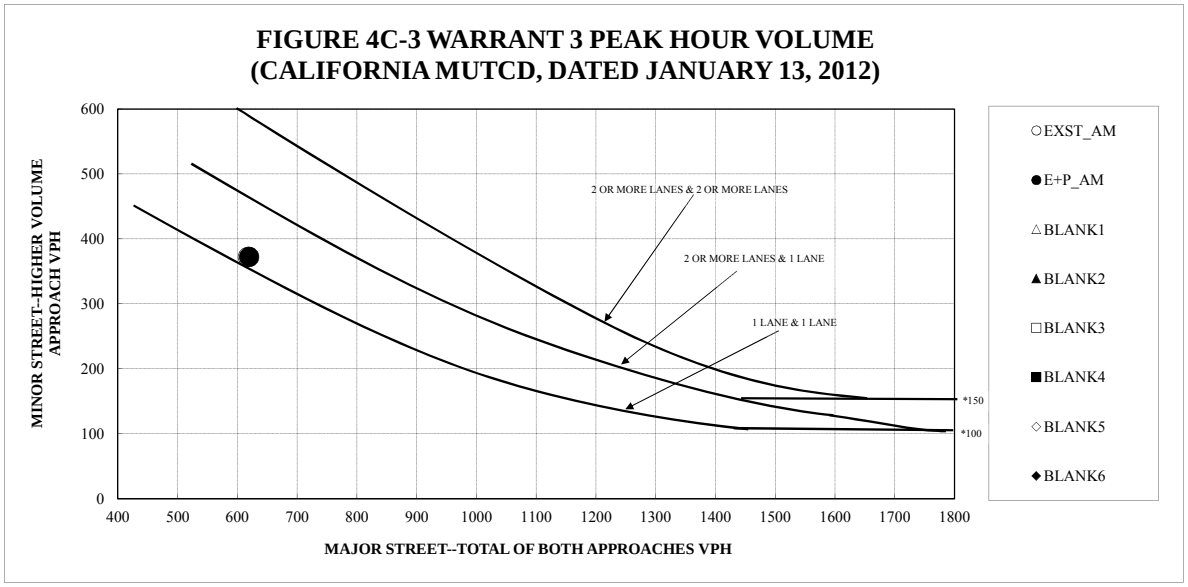
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	98	24	634	551	392	420
Volume Left	24	15	88	0	0	0
Volume Right	74	7	0	5	0	27
cSH	194	59	775	1700	632	1700
Volume to Capacity	0.51	0.40	0.11	0.32	0.00	0.25
Queue Length 95th (ft)	63	38	10	0	0	0
Control Delay (s)	41.2	102.0	2.9	0.0	0.0	0.0
Lane LOS	E	F	A			
Approach Delay (s)	41.2	102.0	1.5		0.0	
Approach LOS	E	F				

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	66.5%	ICU Level of Service	C	
Analysis Period (min)	15			

Appendix Exhibit B
California MUTCD Signal Warrant Analysis

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	618	372	YES
E+P_AM	620	372	YES
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **1**

Intersection: **Somerset Avenue / Santa Maria Avenue**

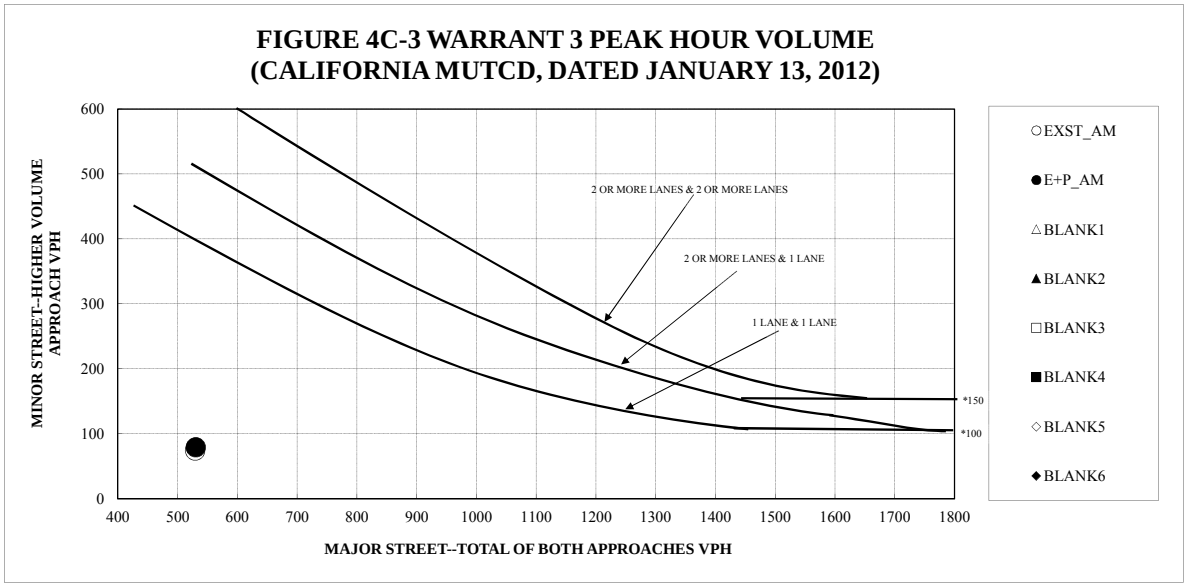
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	530	74	NO
E+P_AM	531	79	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **2**

Intersection: **Jamison Way / Santa Maria Avenue**

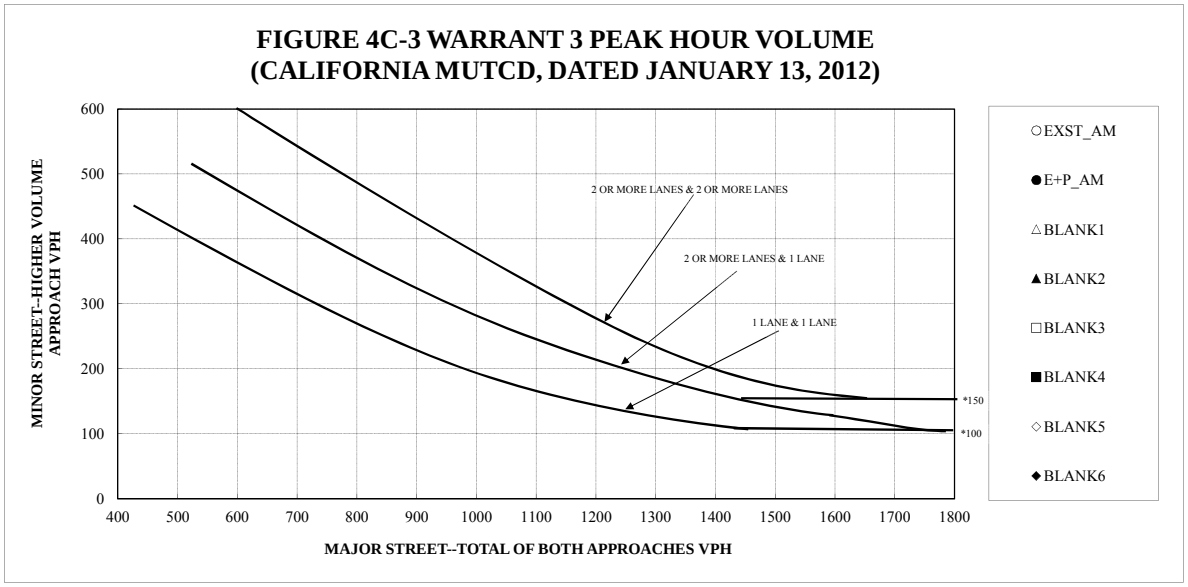
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	119	5	NO
E+P_AM	121	13	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **4**

Intersection: **Jamison Way / Project Access Driveway**

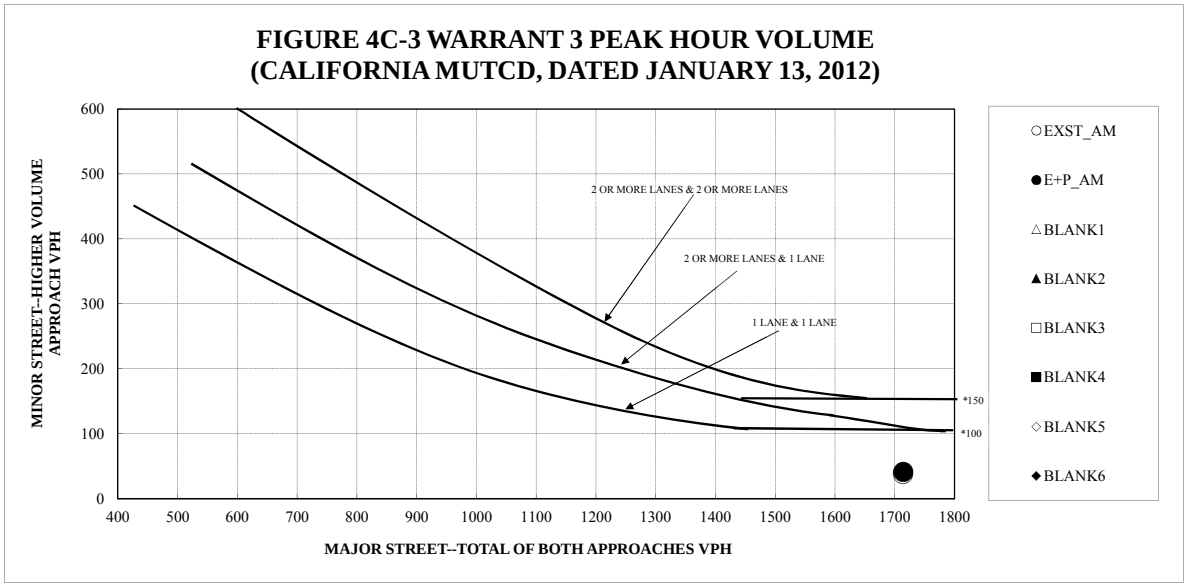
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	1714	38	NO
E+P_AM	1715	41	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **5**

Intersection: **Jamison Way / Redwood Road**

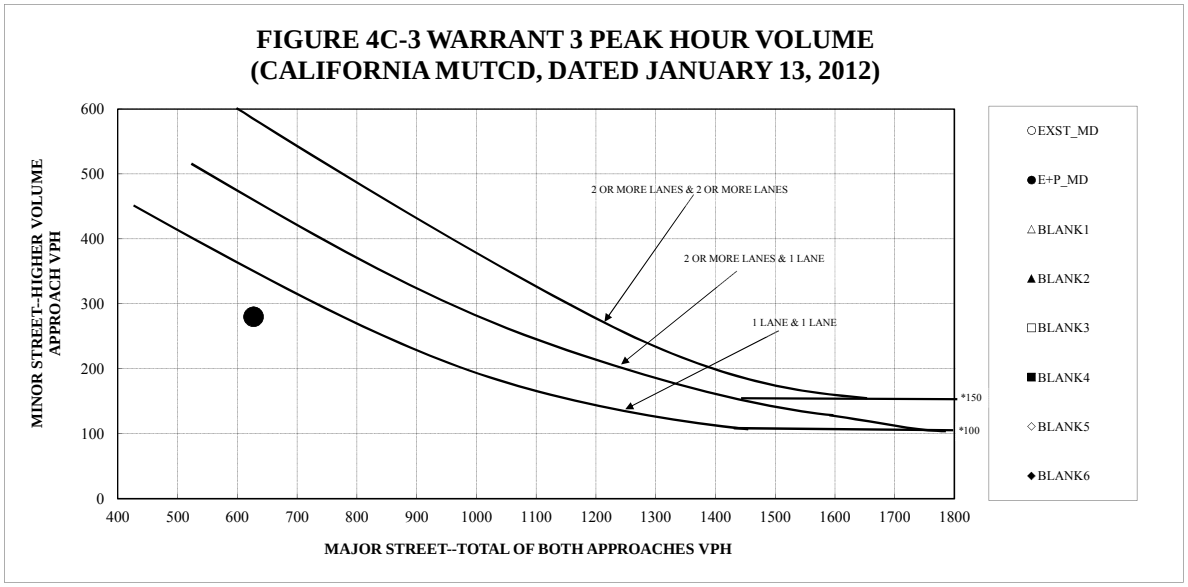
Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "MD PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_MD	627	280	NO
E+P_MD	628	280	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **1**

Intersection: **Somerset Avenue / Santa Maria Avenue**

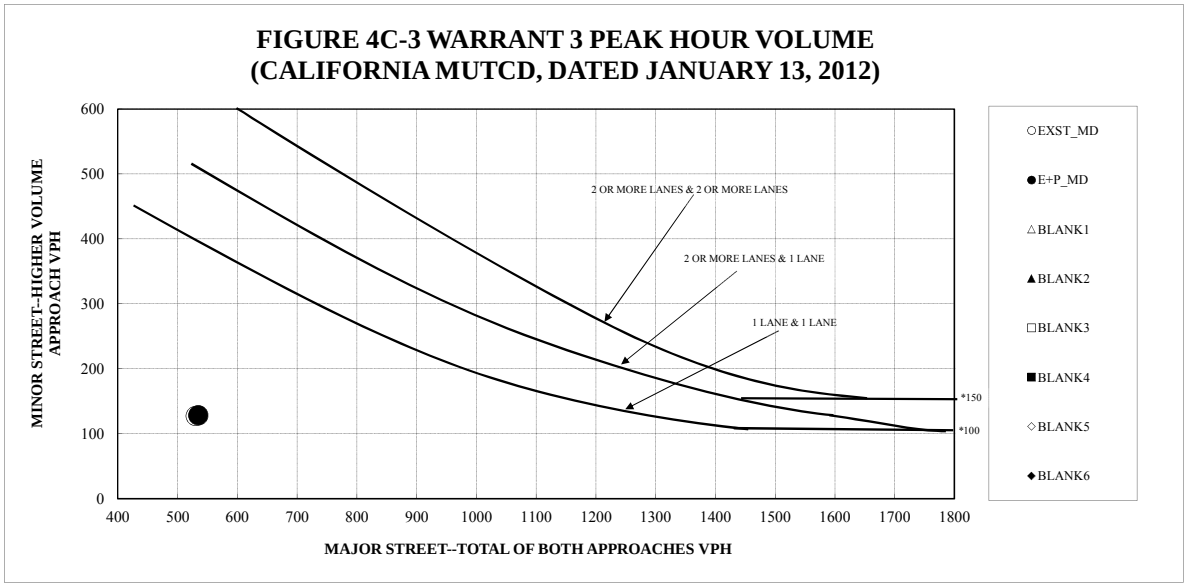
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "MD PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_MD	531	127	NO
E+P_MD	535	128	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **2**

Intersection: **Jamison Way / Santa Maria Avenue**

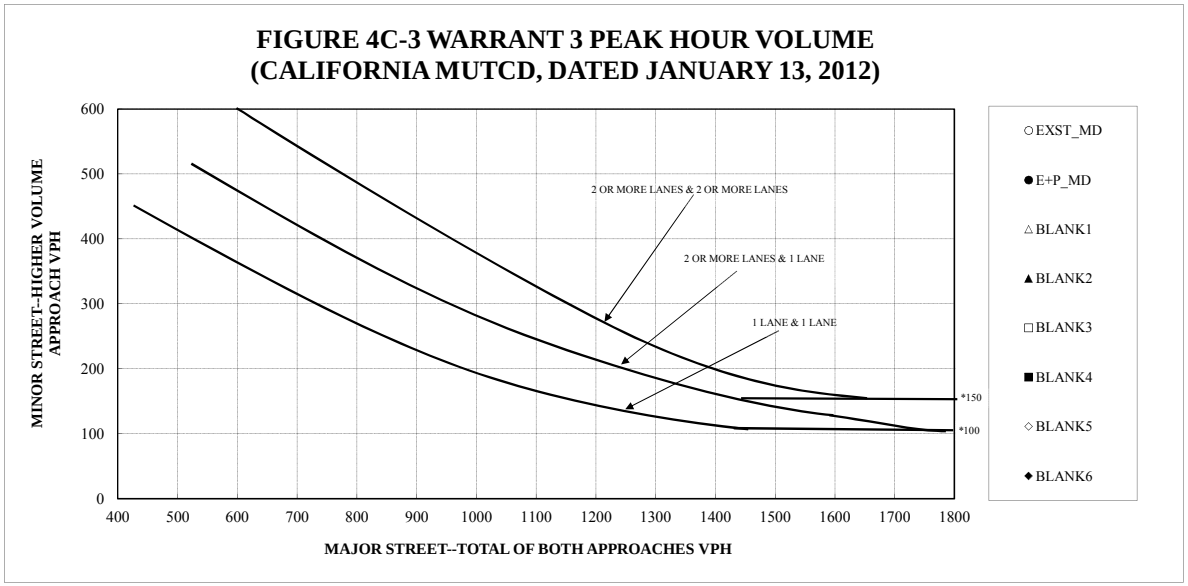
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "MD PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_MD	211	4	NO
E+P_MD	218	6	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **4**

Intersection: **Jamison Way / Project Access Driveway**

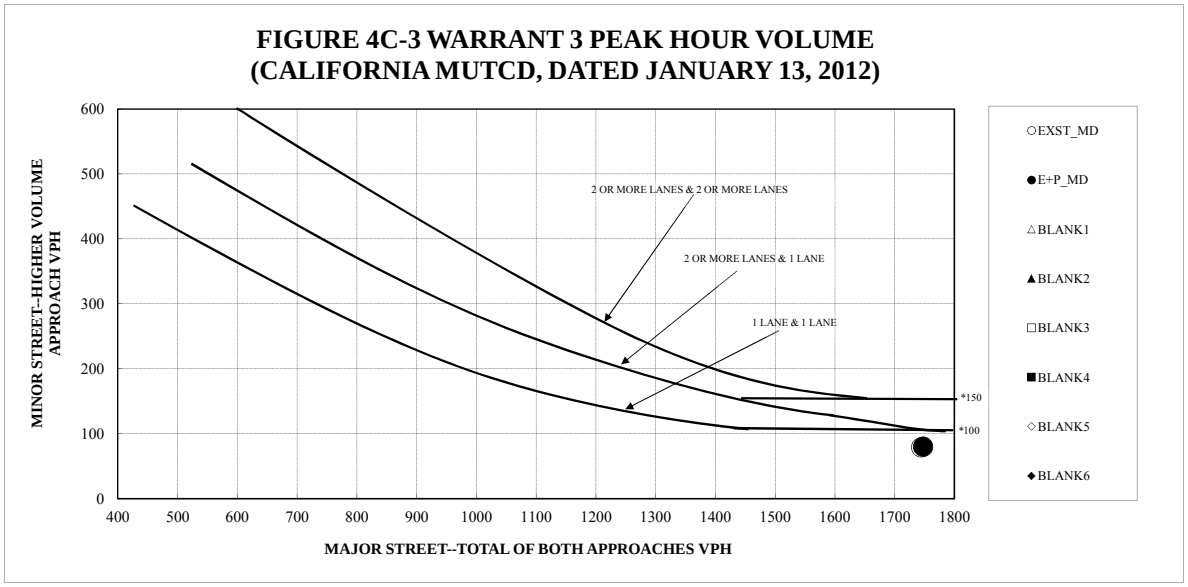
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "MD PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_MD	1745	79	NO
E+P_MD	1748	80	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **5**

Intersection: **Jamison Way / Redwood Road**

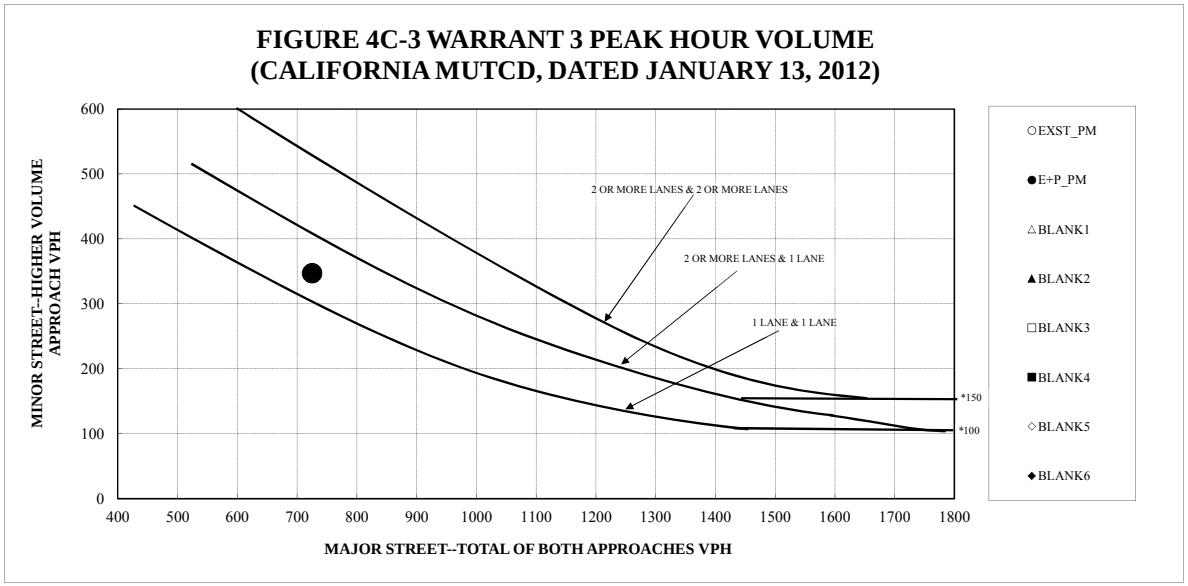
Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_PM	725	347	YES
E+P_PM	726	347	YES
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **1**

Intersection: **Somerset Avenue / Santa Maria Avenue**

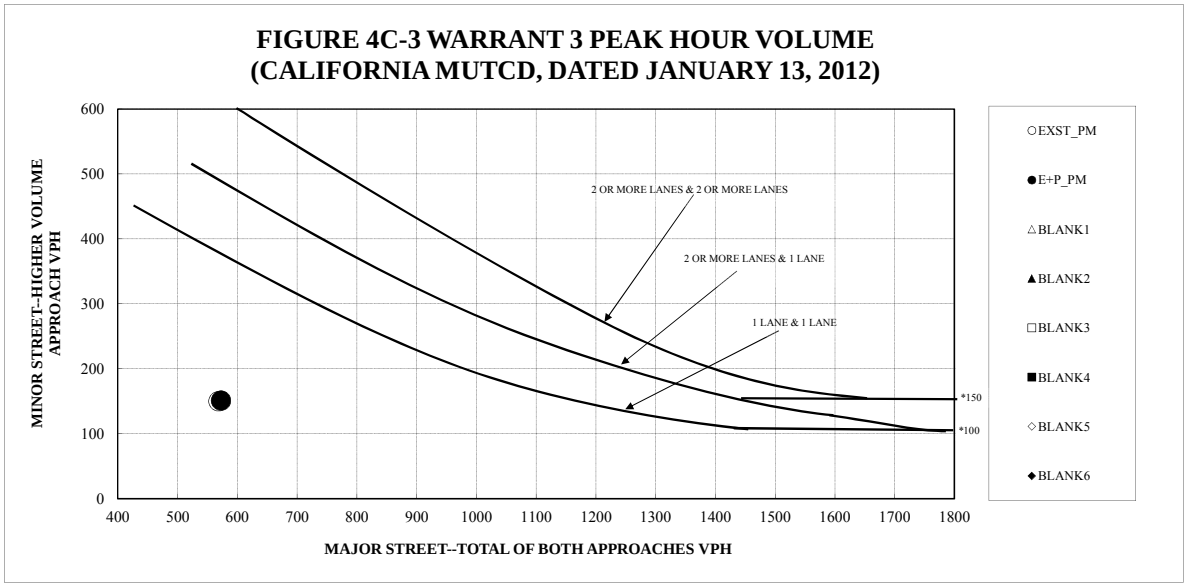
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_PM	569	150	NO
E+P_PM	573	151	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **2**

Intersection: **Jamison Way / Santa Maria Avenue**

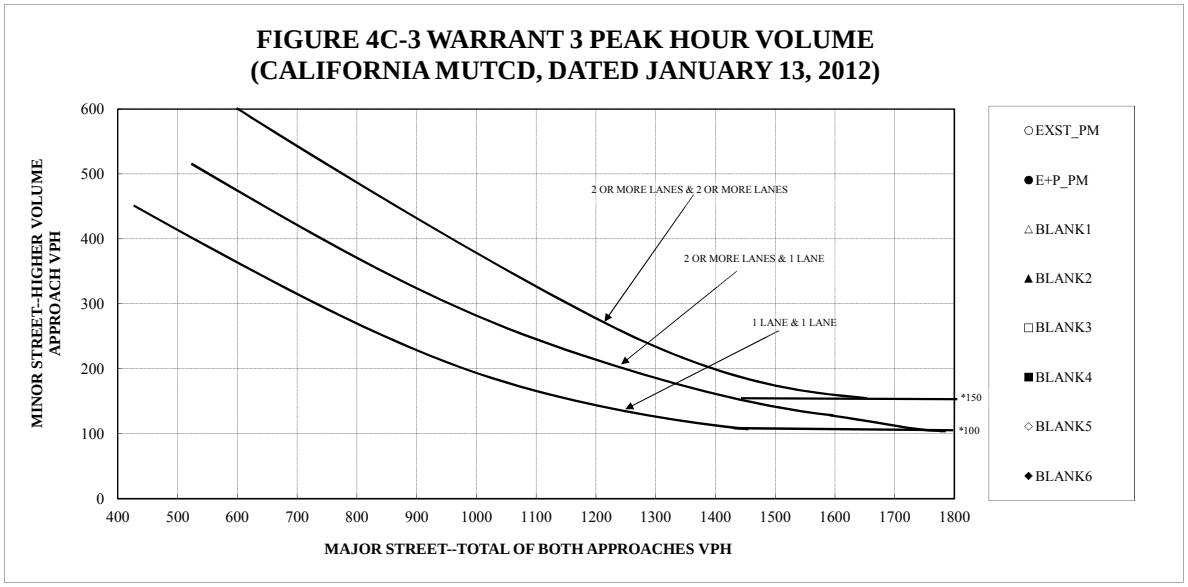
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_PM	243	4	NO
E+P_PM	250	6	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **4**

Intersection: **Jamison Way / Project Access Driveway**

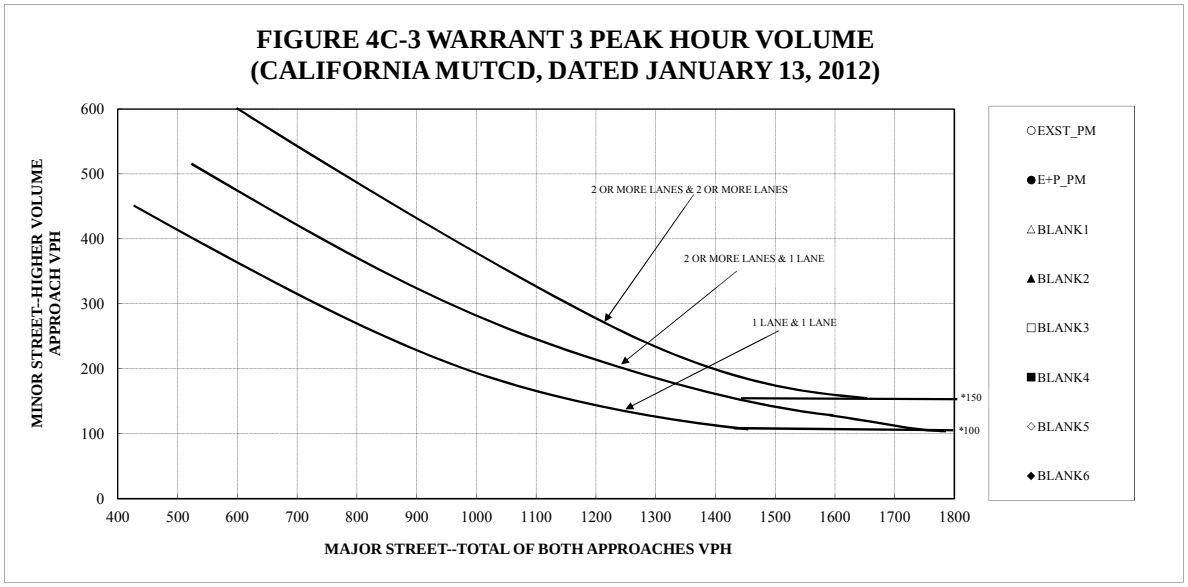
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS



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

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_PM	1855	81	NO
E+P_PM	1858	82	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 13, 2017** Intersection No.: **5**

Intersection: **Jamison Way / Redwood Road**

Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **1**

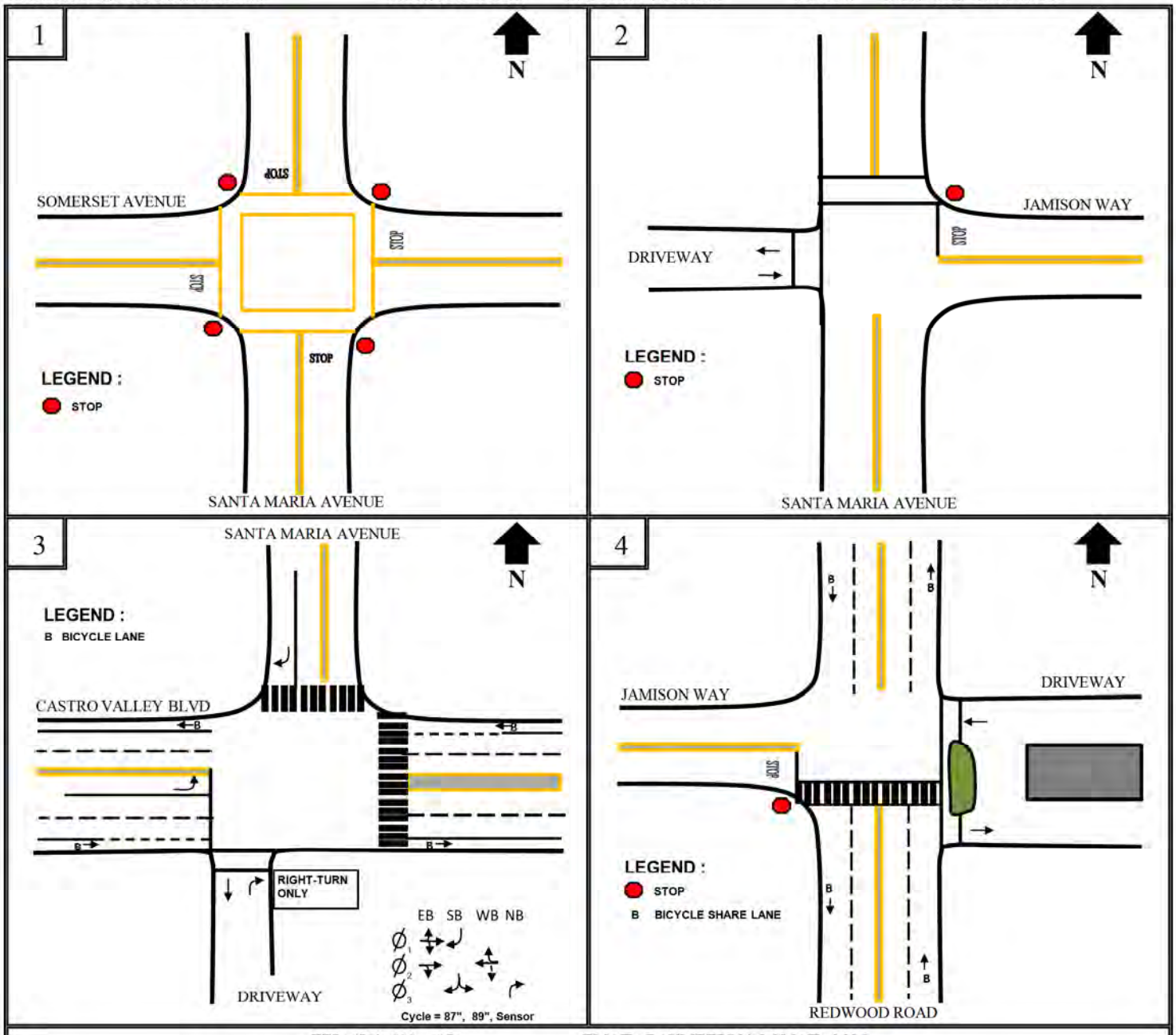
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

Appendix C
Existing Traffic Counts

BAYMETRICS

INTERSECTION GEOMETRY & TRAFFIC CONTROL PLAN

PROJECT NUMBER: 3612100 JURISDICTION: CASTRO VALLEY DATE: 12/6/2016 TUESDAY



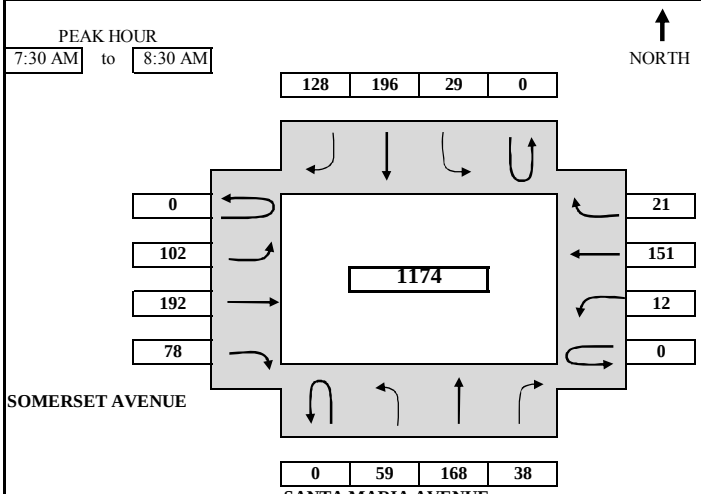
TEL.: (510) 232 - 1271 EMAIL: BAYMETRICS@GMAIL.COM

B.A.Y.M.E.T.R.I.C.S.

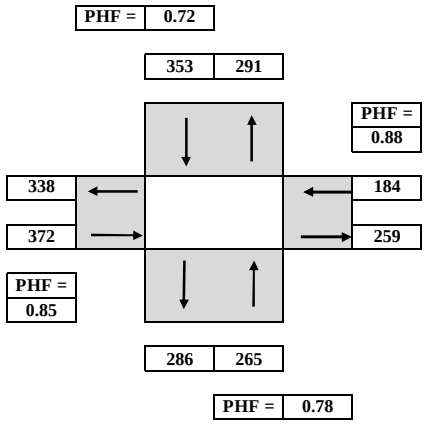
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**7:00 AM**	**TO**	**9:00 AM**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-1AM**

PEAK HOUR
7:30 AM to 8:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME From		PERIOD To	NORTHBOUND U-TURN	NORTHBOUND LEFT	NORTHBOUND THRU	NORTHBOUND RIGHT	SOUTHBOUND U-TURN	SOUTHBOUND LEFT	SOUTHBOUND THRU	SOUTHBOUND RIGHT	EASTBOUND U-TURN	EASTBOUND LEFT	EASTBOUND THRU	EASTBOUND RIGHT	WESTBOUND U-TURN	WESTBOUND LEFT	WESTBOUND THRU	WESTBOUND RIGHT	TOTAL
SURVEY DATA																			
7:00 AM	to	7:15 AM		12	25	1		7	48	46		34	37	16		5	19	6	**256**
7:15 AM	to	7:30 AM		31	37	6		8	74	62		58	89	40		8	38	9	**460**
7:30 AM	to	7:45 AM		39	98	19		16	128	89		94	128	49		10	80	11	**761**
7:45 AM	to	8:00 AM		52	157	32		26	182	129		133	161	56		15	110	21	**1074**
8:00 AM	to	8:15 AM		75	195	38		33	250	176		155	213	82		18	141	28	**1404**
8:15 AM	to	8:30 AM		90	205	44		37	270	190		160	281	118		20	189	30	**1634**
8:30 AM	to	8:45 AM		106	214	48		40	287	208		168	330	138		23	235	31	**1828**
8:45 AM	to	9:00 AM		121	223	53		41	306	220		171	367	165		29	282	32	**2010**
TOTAL BY PERIOD																			
7:00 AM	to	7:15 AM	0	12	25	1	0	7	48	46	0	34	37	16	0	5	19	6	**256**
7:15 AM	to	7:30 AM	0	19	12	5	0	1	26	16	0	24	52	24	0	3	19	3	**204**
7:30 AM	to	7:45 AM	0	8	61	13	0	8	54	27	0	36	39	9	0	2	42	2	**301**
7:45 AM	to	8:00 AM	0	13	59	13	0	10	54	40	0	39	33	7	0	5	30	10	**313**
8:00 AM	to	8:15 AM	0	23	38	6	0	7	68	47	0	22	52	26	0	3	31	7	**330**
8:15 AM	to	8:30 AM	0	15	10	6	0	4	20	14	0	5	68	36	0	2	48	2	**230**
8:30 AM	to	8:45 AM	0	16	9	4	0	3	17	18	0	8	49	20	0	3	46	1	**194**
8:45 AM	to	9:00 AM	0	15	9	5	0	1	19	12	0	3	37	27	0	6	47	1	**182**
HOURLY TOTALS																			
7:00 AM	to	8:00 AM	0	52	157	32	0	26	182	129	0	133	161	56	0	15	110	21	**1074**
7:15 AM	to	8:15 AM	0	63	170	37	0	26	202	130	0	121	176	66	0	13	122	22	**1148**
7:30 AM	to	8:30 AM	0	59	168	38	0	29	196	128	0	102	192	78	0	12	151	21	**1174**
7:45 AM	to	8:45 AM	0	67	116	29	0	24	159	119	0	74	202	89	0	13	155	20	**1067**
8:00 AM	to	9:00 AM	0	69	66	21	0	15	124	91	0	38	206	109	0	14	172	11	**936**

PEAK HOUR SUMMARY

7:30 AM to 8:30 AM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	0	59	168	38	0	29	196	128	0	102	192	78	0	12	151	21	**1174**
PHF BY MOVEMENT	0.00	0.64	0.69	0.73	0.00	0.73	0.72	0.68	0.00	0.65	0.71	0.54	0.00	0.60	0.79	0.53	OVERALL
PHF BY APPROACH	0.78				0.72				0.85				0.88				0.89
BICYCLE	3				1				3				0				**7**
PEDESTRIAN	149				14				18				10				**191**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	5				23				97				66				**191**

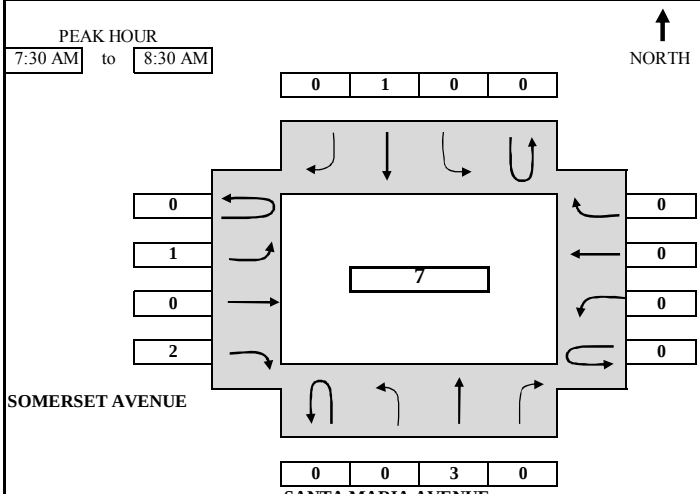
TEL: (510) 232 - 1271 EMAIL: BAYMETRICS@GMAIL.COM

B.A.Y.M.E.T.R.I.C.S.

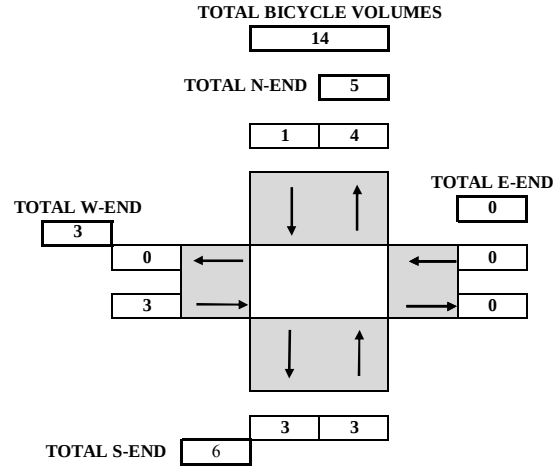
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**7:00 AM**	**TO**	**9:00 AM**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-1AM**

PEAK HOUR
7:30 AM to 8:30 AM



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME From		PERIOD To	NORTHBOUND U-TURN	NORTHBOUND LEFT	NORTHBOUND THRU	NORTHBOUND RIGHT	SOUTHBOUND U-TURN	SOUTHBOUND LEFT	SOUTHBOUND THRU	SOUTHBOUND RIGHT	EASTBOUND U-TURN	EASTBOUND LEFT	EASTBOUND THRU	EASTBOUND RIGHT	WESTBOUND U-TURN	WESTBOUND LEFT	WESTBOUND THRU	WESTBOUND RIGHT	TOTAL
SURVEY DATA																			
7:00 AM	to	7:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**
7:15 AM	to	7:30 AM	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	**4**
7:30 AM	to	7:45 AM	0	0	1	0	0	1	3	0	0	0	0	0	0	0	0	0	**5**
7:45 AM	to	8:00 AM	0	0	4	0	0	1	3	0	0	0	0	0	0	0	0	0	**8**
8:00 AM	to	8:15 AM	0	0	4	0	0	1	3	0	0	1	0	0	0	0	0	0	**9**
8:15 AM	to	8:30 AM	0	0	4	0	0	1	3	0	0	1	0	2	0	0	0	0	**11**
8:30 AM	to	8:45 AM	0	0	4	0	0	1	3	0	0	1	0	2	0	0	0	0	**11**
8:45 AM	to	9:00 AM	0	0	4	0	0	1	3	0	0	1	0	2	0	0	0	0	**11**
TOTAL BY PERIOD																			
7:00 AM	to	7:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**
7:15 AM	to	7:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	**2**
7:30 AM	to	7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
7:45 AM	to	8:00 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
8:00 AM	to	8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
8:15 AM	to	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	**2**
8:30 AM	to	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
8:45 AM	to	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
HOURLY TOTALS																			
7:00 AM	to	8:00 AM	0	0	4	0	0	1	3	0	0	0	0	0	0	0	0	0	**8**
7:15 AM	to	8:15 AM	0	0	3	0	0	1	2	0	0	1	0	0	0	0	0	0	**7**
7:30 AM	to	8:30 AM	0	0	3	0	0	0	1	0	0	1	0	2	0	0	0	0	**7**
7:45 AM	to	8:45 AM	0	0	3	0	0	0	0	0	0	1	0	2	0	0	0	0	**6**
8:00 AM	to	9:00 AM	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	**3**

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7:30 AM to 8:30 AM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	3	1	3	0	**7**

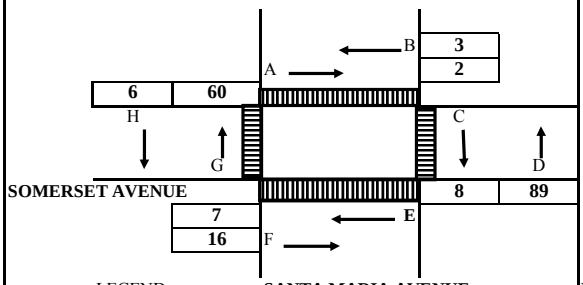
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**7:00 AM TO 9:00 AM**	**FILE:**	**3612100-1AM**

PEAK HOUR

07:30 AM TO 08:30 AM

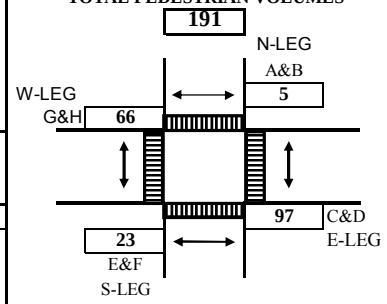


LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES



BY LEG:		**BY DIRECTION:**	
N-LEG	**5**	**NB**(D+G)	**149**
S-LEG	**23**	**SB**(C+H)	**14**
E-LEG	**97**	**EB**(A+F)	**18**
W-LEG	**66**	**WB**(B+E)	**10**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
07:00 AM	---	07:15 AM	1	0	0	1	0	0	1	0	***3***
07:15 AM	---	07:30 AM	2	0	0	3	0	0	3	0	***8***
07:30 AM	---	07:45 AM	4	0	4	19	2	0	12	0	***41***
07:45 AM	---	08:00 AM	4	2	8	65	7	7	40	2	***135***
08:00 AM	---	08:15 AM	4	2	8	89	7	15	61	5	***191***
08:15 AM	---	08:30 AM	4	3	8	92	7	16	63	6	***199***
08:30 AM	---	08:45 AM	5	5	8	93	7	21	63	8	***210***
08:45 AM	---	09:00 AM	5	6	8	93	7	22	63	9	***213***
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	1	0	0	1	0	0	1	0	***3***
07:15 AM	---	07:30 AM	1	0	0	2	0	0	2	0	***5***
07:30 AM	---	07:45 AM	2	0	4	16	2	0	9	0	***33***
07:45 AM	---	08:00 AM	0	2	4	46	5	7	28	2	***94***
08:00 AM	---	08:15 AM	0	0	0	24	0	8	21	3	***56***
08:15 AM	---	08:30 AM	0	1	0	3	0	1	2	1	***8***
08:30 AM	---	08:45 AM	1	2	0	1	0	5	0	2	***11***
08:45 AM	---	09:00 AM	0	1	0	0	0	1	0	1	***3***
HOURLY TOTALS											
07:00 AM	---	08:00 AM	4	2	8	65	7	7	40	2	***135***
07:15 AM	---	08:15 AM	3	2	8	88	7	15	60	5	***188***
07:30 AM	---	08:30 AM	2	3	8	89	7	16	60	6	***191***
07:45 AM	---	08:45 AM	1	5	4	74	5	21	51	8	***169***
08:00 AM	---	09:00 AM	1	4	0	28	0	15	23	7	***78***

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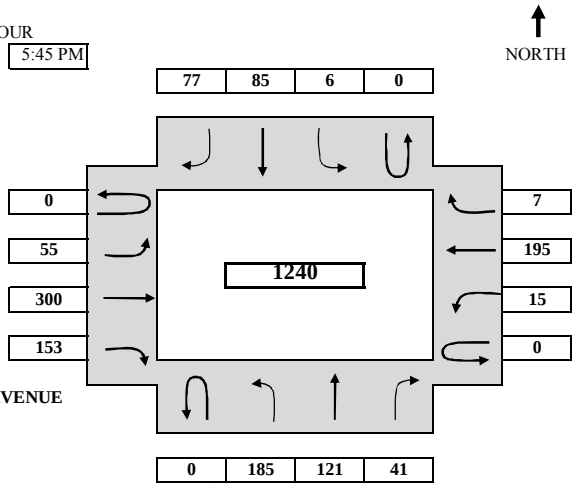
12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	149	14	18	10	**191**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	5	23	97	66	**191**

B.A.Y.M.E.T.R.I.C.S.

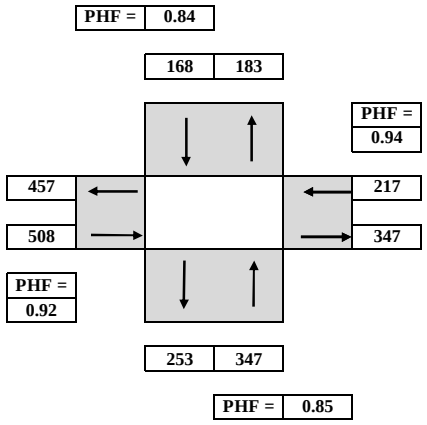
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-1PM**

PEAK HOUR
4:45 PM to 5:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
4:00 PM	to	4:15 PM		57	31	5		5	17	27		9	74	48		4	45	2	**324**
4:15 PM	to	4:30 PM		106	53	15		6	40	45		19	132	94		9	93	3	**615**
4:30 PM	to	4:45 PM		141	73	23		8	60	61		36	209	124		13	124	5	**877**
4:45 PM	to	5:00 PM		195	92	31		9	84	85		54	266	177		18	176	6	**1193**
5:00 PM	to	5:15 PM		243	133	44		10	113	105		63	357	215		22	226	8	**1539**
5:15 PM	to	5:30 PM		289	159	50		13	128	120		77	436	248		26	268	9	**1823**
5:30 PM	to	5:45 PM		326	194	64		14	145	138		91	509	277		28	319	12	**2117**
5:45 PM	to	6:00 PM		366	231	76		16	168	156		110	572	302		29	375	12	**2413**
TOTAL BY PERIOD																			
4:00 PM	to	4:15 PM	0	57	31	5	0	5	17	27	0	9	74	48	0	4	45	2	**324**
4:15 PM	to	4:30 PM	0	49	22	10	0	1	23	18	0	10	58	46	0	5	48	1	**291**
4:30 PM	to	4:45 PM	0	35	20	8	0	2	20	16	0	17	77	30	0	4	31	2	**262**
4:45 PM	to	5:00 PM	0	54	19	8	0	1	24	24	0	18	57	53	0	5	52	1	**316**
5:00 PM	to	5:15 PM	0	48	41	13	0	1	29	20	0	9	91	38	0	4	50	2	**346**
5:15 PM	to	5:30 PM	0	46	26	6	0	3	15	15	0	14	79	33	0	4	42	1	**284**
5:30 PM	to	5:45 PM	0	37	35	14	0	1	17	18	0	14	73	29	0	2	51	3	**294**
5:45 PM	to	6:00 PM	0	40	37	12	0	2	23	18	0	19	63	25	0	1	56	0	**296**
HOURLY TOTALS																			
4:00 PM	to	5:00 PM	0	195	92	31	0	9	84	85	0	54	266	177	0	18	176	6	**1193**
4:15 PM	to	5:15 PM	0	186	102	39	0	5	96	78	0	54	283	167	0	18	181	6	**1215**
4:30 PM	to	5:30 PM	0	183	106	35	0	7	88	75	0	58	304	154	0	17	175	6	**1208**
4:45 PM	to	5:45 PM	0	185	121	41	0	6	85	77	0	55	300	153	0	15	195	7	**1240**
5:00 PM	to	6:00 PM	0	171	139	45	0	7	84	71	0	56	306	125	0	11	199	6	**1220**

PEAK HOUR SUMMARY

4:45 PM to 5:45 PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	
VOLUME	0	185	121	41	0	6	85	77	0	55	300	153	0	15	195	7	**1240**
PHF BY MOVEMENT	0.00	0.86	0.74	0.73	0.00	0.50	0.73	0.80	0.00	0.76	0.82	0.72	0.00	0.75	0.94	0.58	OVERALL
PHF BY APPROACH	0.85				0.84				0.92				0.94				0.90
BICYCLE	0				0				1				1				**2**
PEDESTRIAN	5				6				1				2				**14**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	2				1				6				5				**14**

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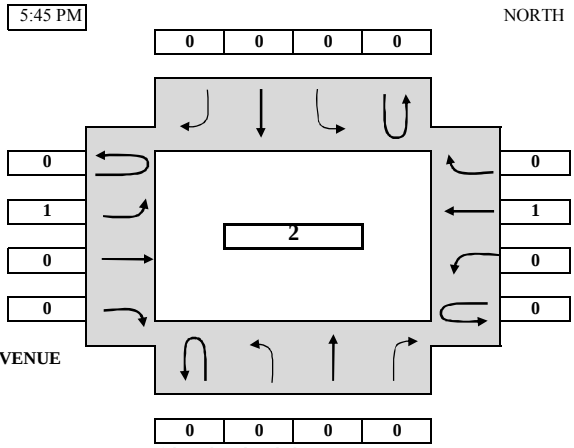
BICYCLE TURNING MOVEMENT SUMMARY

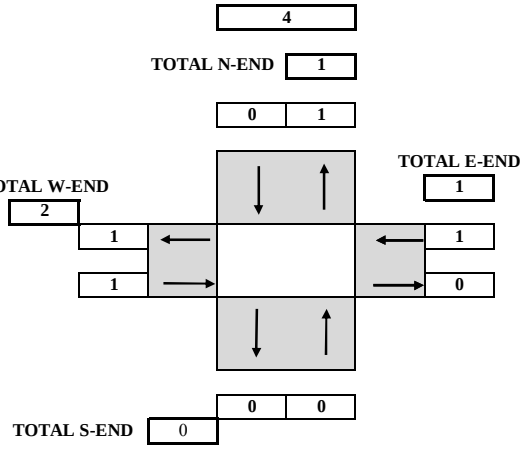
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-1PM**

PEAK HOUR
4:45 PM to 5:45 PM

NORTH



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
4:00 PM	to	4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	**3**
4:15 PM	to	4:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	**4**
4:30 PM	to	4:45 PM	0	0	3	0	0	0	0	0	0	1	0	0	0	0	2	0	**6**
4:45 PM	to	5:00 PM	0	0	3	0	0	0	0	0	0	2	0	0	0	0	2	0	**7**
5:00 PM	to	5:15 PM	0	0	3	0	0	0	0	0	0	2	0	0	0	0	2	0	**7**
5:15 PM	to	5:30 PM	0	0	3	0	0	0	0	0	0	2	0	0	0	0	3	0	**8**
5:30 PM	to	5:45 PM	0	0	3	0	0	0	0	0	0	2	0	0	0	0	3	0	**8**
5:45 PM	to	6:00 PM	0	1	3	0	0	0	0	0	0	2	0	0	0	0	3	0	**9**
TOTAL BY PERIOD																			
4:00 PM	to	4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	**3**
4:15 PM	to	4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
4:30 PM	to	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	**2**
4:45 PM	to	5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
5:00 PM	to	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:15 PM	to	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
5:30 PM	to	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:45 PM	to	6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
HOURLY TOTALS																			
4:00 PM	to	5:00 PM	0	0	3	0	0	0	0	0	0	2	0	0	0	0	2	0	**7**
4:15 PM	to	5:15 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	0	1	0	**4**
4:30 PM	to	5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	**4**
4:45 PM	to	5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	**2**
5:00 PM	to	6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**2**

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4:45 PM	to	5:45 PM				
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	0	0	1	1	**2**

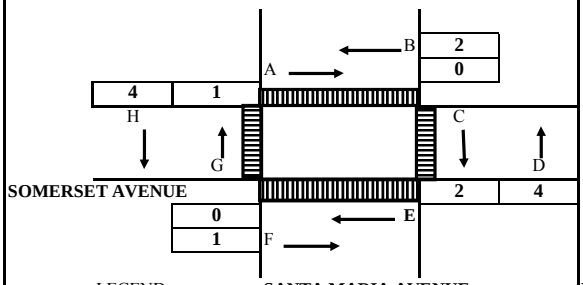
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**4:00 PM TO 6:00 PM**	**FILE:**	**3612100-1PM**

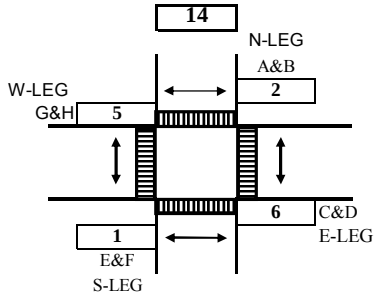
PEAK HOUR

04:45 PM TO 05:45 PM



PEAK HOUR

TOTAL PEDESTRIAN VOLUMES



LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

BY LEG:		**BY DIRECTION:**	
N-LEG	**2**	**NB**(D+G)	**5**
S-LEG	**1**	**SB**(C+H)	**6**
E-LEG	**6**	**EB**(A+F)	**1**
W-LEG	**5**	**WB**(B+E)	**2**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
04:00 PM	---	04:15 PM	1	0	4	4	1	1	1	2	***14***
04:15 PM	---	04:30 PM	1	0	8	4	2	2	2	5	***24***
04:30 PM	---	04:45 PM	2	0	13	4	4	2	2	5	***32***
04:45 PM	---	05:00 PM	2	2	14	5	4	3	2	7	***39***
05:00 PM	---	05:15 PM	2	2	15	7	4	3	2	7	***42***
05:15 PM	---	05:30 PM	2	2	15	7	4	3	2	8	***43***
05:30 PM	---	05:45 PM	2	2	15	8	4	3	3	9	***46***
05:45 PM	---	06:00 PM	2	5	17	11	4	3	3	9	***54***
TOTAL BY PERIOD											
04:00 PM	---	04:15 PM	1	0	4	4	1	1	1	2	***14***
04:15 PM	---	04:30 PM	0	0	4	0	1	1	1	3	***10***
04:30 PM	---	04:45 PM	1	0	5	0	2	0	0	0	***8***
04:45 PM	---	05:00 PM	0	2	1	1	0	1	0	2	***7***
05:00 PM	---	05:15 PM	0	0	1	2	0	0	0	0	***3***
05:15 PM	---	05:30 PM	0	0	0	0	0	0	0	1	***1***
05:30 PM	---	05:45 PM	0	0	0	1	0	0	1	1	***3***
05:45 PM	---	06:00 PM	0	3	2	3	0	0	0	0	***8***
HOURLY TOTALS											
04:00 PM	---	05:00 PM	2	2	14	5	4	3	2	7	***39***
04:15 PM	---	05:15 PM	1	2	11	3	3	2	1	5	***28***
04:30 PM	---	05:30 PM	1	2	7	3	2	1	0	3	***19***
04:45 PM	---	05:45 PM	0	2	2	4	0	1	1	4	***14***
05:00 PM	---	06:00 PM	0	3	3	6	0	0	1	2	***15***

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12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	5	6	1	2	**14**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	2	1	6	5	**14**

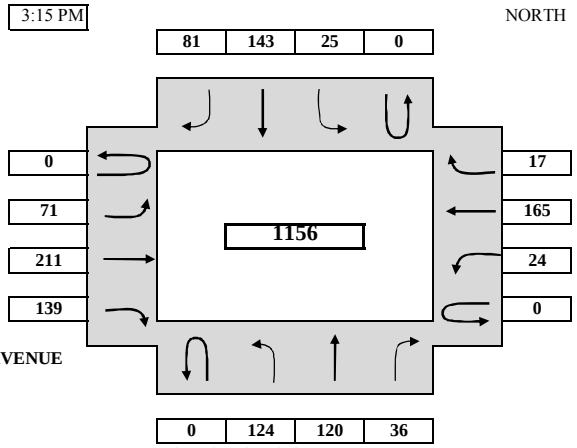
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

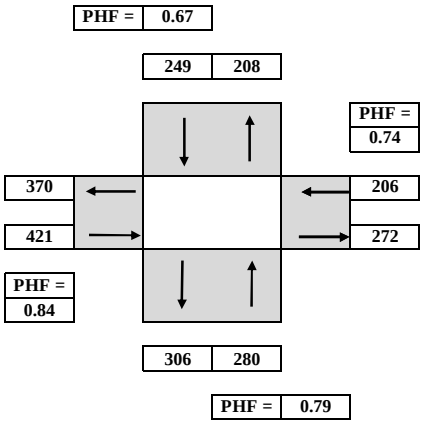
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**2:00 PM**	**TO**	**4:00 PM**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-1MD**

PEAK HOUR
2:15 PM to 3:15 PM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
2:00 PM	2:15 PM		36	28	6		2	7	9		16	54	36		9	36	4	**243**
2:15 PM	2:30 PM		70	68	21		8	23	19		39	100	71		17	74	6	**516**
2:30 PM	2:45 PM		98	102	31		16	80	47		64	136	98		22	104	10	**808**
2:45 PM	3:00 PM		128	127	35		22	124	68		75	196	131		28	142	15	**1091**
3:00 PM	3:15 PM		160	148	42		27	150	90		87	265	175		33	201	21	**1399**
3:15 PM	3:30 PM		201	164	51		28	168	118		94	313	211		41	259	23	**1671**
3:30 PM	3:45 PM		244	181	63		31	185	129		100	358	253		51	313	23	**1931**
3:45 PM	4:00 PM		282	199	68		35	201	148		108	425	297		56	364	23	**2206**
TOTAL BY PERIOD																		
2:00 PM	2:15 PM	0	36	28	6	0	2	7	9	0	16	54	36	0	9	36	4	**243**
2:15 PM	2:30 PM	0	34	40	15	0	6	16	10	0	23	46	35	0	8	38	2	**273**
2:30 PM	2:45 PM	0	28	34	10	0	8	57	28	0	25	36	27	0	5	30	4	**292**
2:45 PM	3:00 PM	0	30	25	4	0	6	44	21	0	11	60	33	0	6	38	5	**283**
3:00 PM	3:15 PM	0	32	21	7	0	5	26	22	0	12	69	44	0	5	59	6	**308**
3:15 PM	3:30 PM	0	41	16	9	0	1	18	28	0	7	48	36	0	8	58	2	**272**
3:30 PM	3:45 PM	0	43	17	12	0	3	17	11	0	6	45	42	0	10	54	0	**260**
3:45 PM	4:00 PM	0	38	18	5	0	4	16	19	0	8	67	44	0	5	51	0	**275**
HOURLY TOTALS																		
2:00 PM	3:00 PM	0	128	127	35	0	22	124	68	0	75	196	131	0	28	142	15	**1091**
2:15 PM	3:15 PM	0	124	120	36	0	25	143	81	0	71	211	139	0	24	165	17	**1156**
2:30 PM	3:30 PM	0	131	96	30	0	20	145	99	0	55	213	140	0	24	185	17	**1155**
2:45 PM	3:45 PM	0	146	79	32	0	15	105	82	0	36	222	155	0	29	209	13	**1123**
3:00 PM	4:00 PM	0	154	72	33	0	13	77	80	0	33	229	166	0	28	222	8	**1115**

PEAK HOUR SUMMARY

2:15 PM to 3:15 PM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	0	124	120	36	0	25	143	81	0	71	211	139	0	24	165	17	**1156**
PHF BY MOVEMENT	0.00	0.91	0.75	0.60	0.00	0.78	0.63	0.72	0.00	0.71	0.76	0.79	0.00	0.75	0.70	0.71	OVERALL
PHF BY APPROACH	0.79				0.67				0.84				0.74				0.94
BICYCLE	3				4				1				1				**9**
PEDESTRIAN	8				239				9				42				**298**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	29				22				158				89				**298**

TEL: (510) 232 - 1271 EMAIL: BAYMETRICS@GMAIL.COM

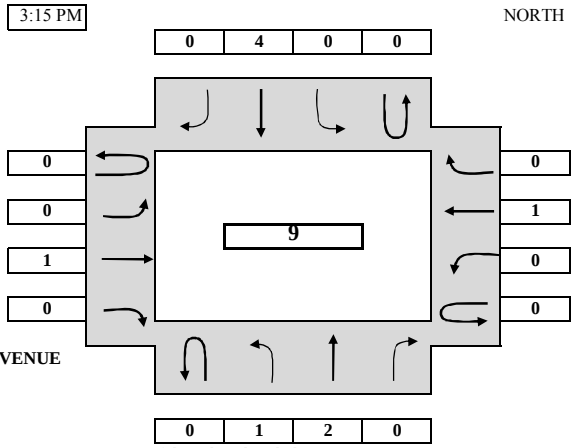
B.A.Y.M.E.T.R.I.C.S.

BICYCLE TURNING MOVEMENT SUMMARY

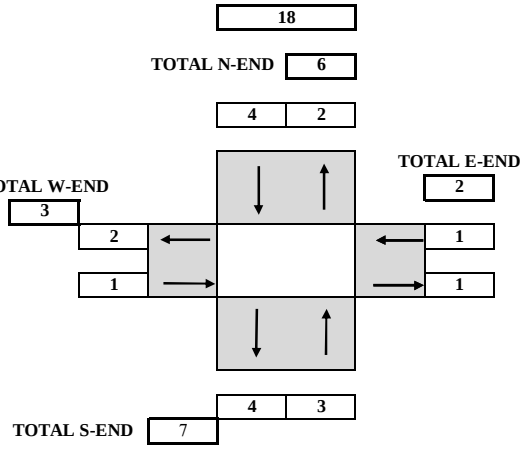
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**2:00 PM**	**TO**	**4:00 PM**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-1MD**

PEAK HOUR
2:15 PM to 3:15 PM

NORTH



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME From		PERIOD To	NORTHBOUND U-TURN	NORTHBOUND LEFT	NORTHBOUND THRU	NORTHBOUND RIGHT	SOUTHBOUND U-TURN	SOUTHBOUND LEFT	SOUTHBOUND THRU	SOUTHBOUND RIGHT	EASTBOUND U-TURN	EASTBOUND LEFT	EASTBOUND THRU	EASTBOUND RIGHT	WESTBOUND U-TURN	WESTBOUND LEFT	WESTBOUND THRU	WESTBOUND RIGHT	TOTAL
SURVEY DATA																			
2:00 PM	to	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:15 PM	to	2:30 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**2**
2:30 PM	to	2:45 PM	0	1	2	0	0	0	4	0	0	0	1	0	0	0	0	0	**8**
2:45 PM	to	3:00 PM	0	1	2	0	0	0	4	0	0	0	1	0	0	0	1	0	**9**
3:00 PM	to	3:15 PM	0	1	2	0	0	0	4	0	0	0	1	0	0	0	1	0	**9**
3:15 PM	to	3:30 PM	0	1	2	0	0	0	5	0	0	0	1	0	0	0	2	0	**11**
3:30 PM	to	3:45 PM	0	1	2	0	0	0	5	0	0	0	2	0	0	0	2	0	**12**
3:45 PM	to	4:00 PM	0	2	2	0	0	0	5	0	0	0	2	0	0	0	2	0	**13**
TOTAL BY PERIOD																			
2:00 PM	to	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:15 PM	to	2:30 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**2**
2:30 PM	to	2:45 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	**6**
2:45 PM	to	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
3:00 PM	to	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:15 PM	to	3:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	**2**
3:30 PM	to	3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**1**
3:45 PM	to	4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
HOURLY TOTALS																			
2:00 PM	to	3:00 PM	0	1	2	0	0	0	4	0	0	0	1	0	0	0	1	0	**9**
2:15 PM	to	3:15 PM	0	1	2	0	0	0	4	0	0	0	1	0	0	0	1	0	**9**
2:30 PM	to	3:30 PM	0	0	2	0	0	0	5	0	0	0	0	0	0	0	2	0	**9**
2:45 PM	to	3:45 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0	**4**
3:00 PM	to	4:00 PM	0	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	**4**

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2:15 PM to 3:15 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	3	4	1	1	**9**

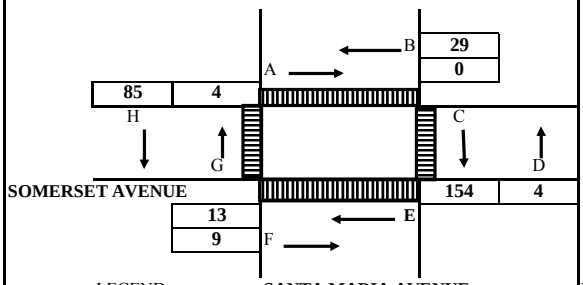
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**SOMERSET AVENUE**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**2:00 PM TO 4:00 PM**	**FILE:**	**3612100-1MD**

PEAK HOUR

02:15 PM TO 03:15 PM

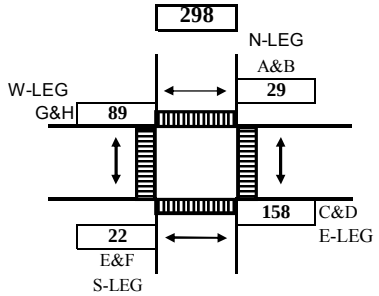


LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES



BY LEG:		**BY DIRECTION:**	
N-LEG	**29**	**NB**(D+G)	**8**
S-LEG	**22**	**SB**(C+H)	**239**
E-LEG	**158**	**EB**(A+F)	**9**
W-LEG	**89**	**WB**(B+E)	**42**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
02:00 PM	---	02:15 PM	0	0	0	0	1	0	2	0	***3***
02:15 PM	---	02:30 PM	0	15	104	1	9	3	4	77	***213***
02:30 PM	---	02:45 PM	0	20	115	1	9	3	4	81	***233***
02:45 PM	---	03:00 PM	0	21	145	1	11	3	5	85	***271***
03:00 PM	---	03:15 PM	0	29	154	4	14	9	6	85	***301***
03:15 PM	---	03:30 PM	0	34	159	5	16	9	7	85	***315***
03:30 PM	---	03:45 PM	0	35	163	7	19	12	7	86	***329***
03:45 PM	---	04:00 PM	0	35	165	13	19	12	8	87	***339***
TOTAL BY PERIOD											
02:00 PM	---	02:15 PM	0	0	0	0	1	0	2	0	***3***
02:15 PM	---	02:30 PM	0	15	104	1	8	3	2	77	***210***
02:30 PM	---	02:45 PM	0	5	11	0	0	0	0	4	***20***
02:45 PM	---	03:00 PM	0	1	30	0	2	0	1	4	***38***
03:00 PM	---	03:15 PM	0	8	9	3	3	6	1	0	***30***
03:15 PM	---	03:30 PM	0	5	5	1	2	0	1	0	***14***
03:30 PM	---	03:45 PM	0	1	4	2	3	3	0	1	***14***
03:45 PM	---	04:00 PM	0	0	2	6	0	0	1	1	***10***
HOURLY TOTALS											
02:00 PM	---	03:00 PM	0	21	145	1	11	3	5	85	***271***
02:15 PM	---	03:15 PM	0	29	154	4	13	9	4	85	***298***
02:30 PM	---	03:30 PM	0	19	55	4	7	6	3	8	***102***
02:45 PM	---	03:45 PM	0	15	48	6	10	9	3	5	***96***
03:00 PM	---	04:00 PM	0	14	20	12	8	9	3	2	***68***

Tel : (510) 232-1271 ***EMAIL: BAYMETRICS@GMAIL.COM***

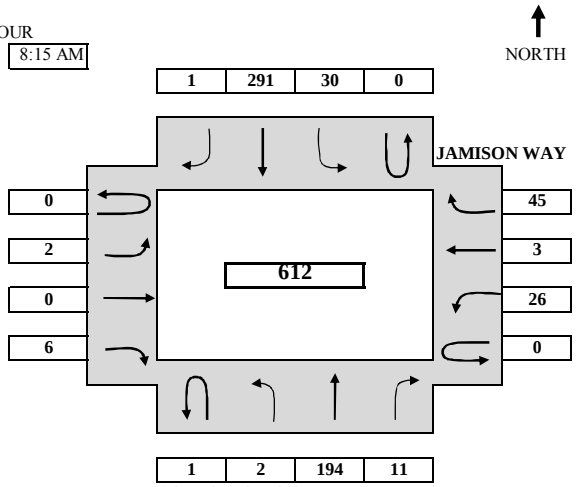
12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	8	239	9	42	**298**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	29	22	158	89	**298**

B.A.Y.M.E.T.R.I.C.S.

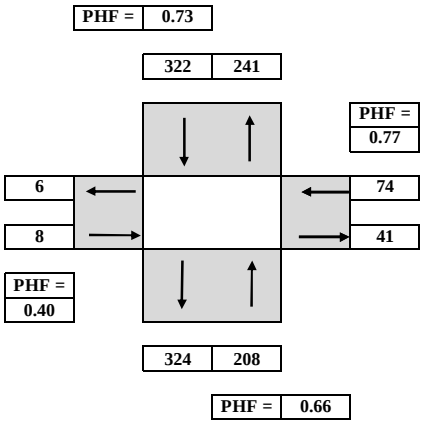
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**7:00 AM**	**TO**	**9:00 AM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-2AM**

PEAK HOUR
7:15 AM to 8:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
7:00 AM	7:15 AM	0	0	25	4		8	72	0		0	0	2		7	1	6	**125**
7:15 AM	7:30 AM	1	1	49	4		14	132	0		0	0	2		13	2	14	**232**
7:30 AM	7:45 AM	1	1	112	7		18	191	0		1	0	4		17	2	27	**381**
7:45 AM	8:00 AM	1	2	185	12		27	265	0		2	0	8		25	2	37	**566**
8:00 AM	8:15 AM	1	2	219	15		38	363	1		2	0	8		33	4	51	**737**
8:15 AM	8:30 AM	1	2	243	20		45	416	1		2	0	9		43	5	56	**843**
8:30 AM	8:45 AM	1	3	263	22		52	455	1		2	0	10		47	5	63	**924**
8:45 AM	9:00 AM	1	3	288	25		66	502	1		2	2	10		54	5	67	**1026**
TOTAL BY PERIOD																		
7:00 AM	7:15 AM	0	0	25	4	0	8	72	0	0	0	0	2	0	7	1	6	**125**
7:15 AM	7:30 AM	1	1	24	0	0	6	60	0	0	0	0	0	0	6	1	8	**107**
7:30 AM	7:45 AM	0	0	63	3	0	4	59	0	0	1	0	2	0	4	0	13	**149**
7:45 AM	8:00 AM	0	1	73	5	0	9	74	0	0	1	0	4	0	8	0	10	**185**
8:00 AM	8:15 AM	0	0	34	3	0	11	98	1	0	0	0	0	0	8	2	14	**171**
8:15 AM	8:30 AM	0	0	24	5	0	7	53	0	0	0	0	1	0	10	1	5	**106**
8:30 AM	8:45 AM	0	1	20	2	0	7	39	0	0	0	0	1	0	4	0	7	**81**
8:45 AM	9:00 AM	0	0	25	3	0	14	47	0	0	0	2	0	0	7	0	4	**102**
HOURLY TOTALS																		
7:00 AM	8:00 AM	1	2	185	12	0	27	265	0	0	2	0	8	0	25	2	37	**566**
7:15 AM	8:15 AM	1	2	194	11	0	30	291	1	0	2	0	6	0	26	3	45	**612**
7:30 AM	8:30 AM	0	1	194	16	0	31	284	1	0	2	0	7	0	30	3	42	**611**
7:45 AM	8:45 AM	0	2	151	15	0	34	264	1	0	1	0	6	0	30	3	36	**543**
8:00 AM	9:00 AM	0	1	103	13	0	39	237	1	0	0	2	2	0	29	3	30	**460**

PEAK HOUR SUMMARY

7:15 AM to 8:15 AM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	1	2	194	11	0	30	291	1	0	2	0	6	0	26	3	45	**612**
PHF BY MOVEMENT	0.25	0.50	0.66	0.55	0.00	0.68	0.74	0.25	0.00	0.50	0.00	0.38	0.00	0.81	0.38	0.80	OVERALL
PHF BY APPROACH	0.66				0.73				0.40				0.77				0.83
BICYCLE	2				3				0				0				**5**
PEDESTRIAN	48				10				2				5				**65**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	1				6				40				18				**65**

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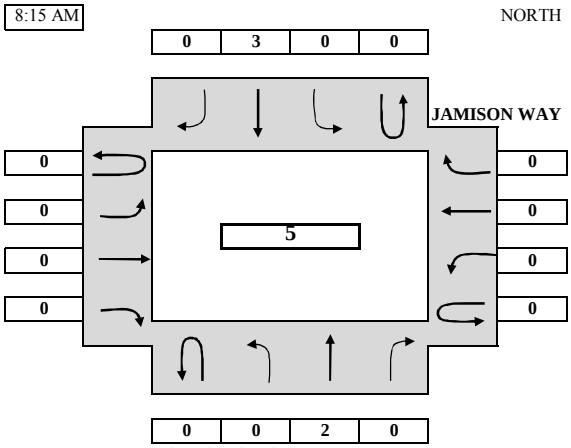
B.A.Y.M.E.T.R.I.C.S.

BICYCLE TURNING MOVEMENT SUMMARY

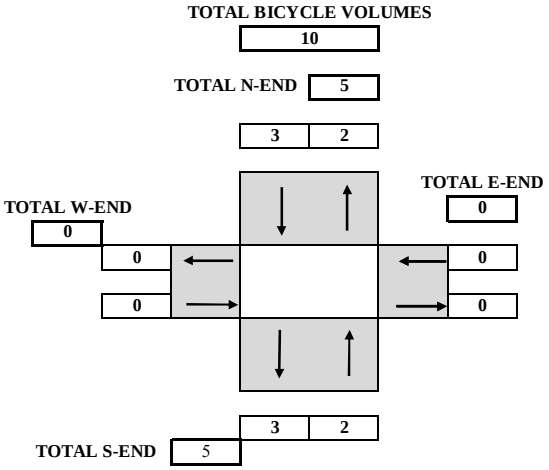
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**7:00 AM**	**TO**	**9:00 AM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-2AM**

PEAK HOUR
7:15 AM to 8:15 AM

NORTH



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME From		PERIOD To	NORTHBOUND U-TURN	NORTHBOUND LEFT	NORTHBOUND THRU	NORTHBOUND RIGHT	SOUTHBOUND U-TURN	SOUTHBOUND LEFT	SOUTHBOUND THRU	SOUTHBOUND RIGHT	EASTBOUND U-TURN	EASTBOUND LEFT	EASTBOUND THRU	EASTBOUND RIGHT	WESTBOUND U-TURN	WESTBOUND LEFT	WESTBOUND THRU	WESTBOUND RIGHT	TOTAL
SURVEY DATA																			
7:00 AM	to	7:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**
7:15 AM	to	7:30 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	**4**
7:30 AM	to	7:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	**4**
7:45 AM	to	8:00 AM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	**7**
8:00 AM	to	8:15 AM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	**7**
8:15 AM	to	8:30 AM	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	**8**
8:30 AM	to	8:45 AM	0	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	**9**
8:45 AM	to	9:00 AM	0	0	3	0	0	0	7	0	0	0	0	0	0	0	0	0	**10**
TOTAL BY PERIOD																			
7:00 AM	to	7:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**
7:15 AM	to	7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**
7:30 AM	to	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
7:45 AM	to	8:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	**3**
8:00 AM	to	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
8:15 AM	to	8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
8:30 AM	to	8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
8:45 AM	to	9:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
HOURLY TOTALS																			
7:00 AM	to	8:00 AM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	**7**
7:15 AM	to	8:15 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	**5**
7:30 AM	to	8:30 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	**4**
7:45 AM	to	8:45 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	**5**
8:00 AM	to	9:00 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	**3**

TEL: (510) 232 - 1271 EMAIL: BAYMETRICS@GMAIL.COM

7:15 AM to 8:15 AM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	2	3	0	0	**5**

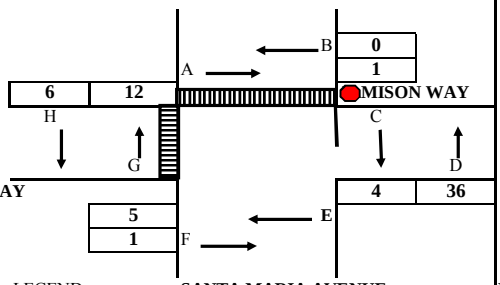
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**7:00 AM TO 9:00 AM**	**FILE:**	**3612100-2AM**

PEAK HOUR

07:15 AM TO 08:15 AM



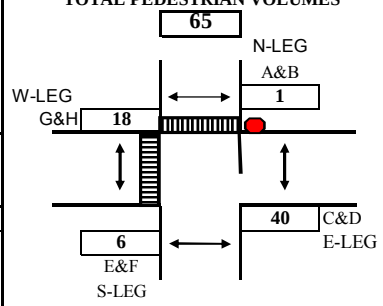
LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

SANTA MARIA AVENUE

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES



BY LEG:		**BY DIRECTION:**	
N-LEG	**1**	**NB**(D+G)	**48**
S-LEG	**6**	**SB**(C+H)	**10**
E-LEG	**40**	**EB**(A+F)	**2**
W-LEG	**18**	**WB**(B+E)	**5**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
07:00 AM	---	07:15 AM	0	0	2	1	2	0	0	1	***6***
07:15 AM	---	07:30 AM	0	0	3	6	7	1	0	2	***19***
07:30 AM	---	07:45 AM	0	0	3	17	7	1	3	4	***35***
07:45 AM	---	08:00 AM	1	0	5	35	7	1	11	4	***64***
08:00 AM	---	08:15 AM	1	0	6	37	7	1	12	7	***71***
08:15 AM	---	08:30 AM	1	2	7	39	7	1	13	10	***80***
08:30 AM	---	08:45 AM	3	2	14	41	7	1	13	11	***92***
08:45 AM	---	09:00 AM	5	2	15	43	7	1	15	15	***103***
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	0	0	2	1	2	0	0	1	***6***
07:15 AM	---	07:30 AM	0	0	1	5	5	1	0	1	***13***
07:30 AM	---	07:45 AM	0	0	0	11	0	0	3	2	***16***
07:45 AM	---	08:00 AM	1	0	2	18	0	0	8	0	***29***
08:00 AM	---	08:15 AM	0	0	1	2	0	0	1	3	***7***
08:15 AM	---	08:30 AM	0	2	1	2	0	0	1	3	***9***
08:30 AM	---	08:45 AM	2	0	7	2	0	0	0	1	***12***
08:45 AM	---	09:00 AM	2	0	1	2	0	0	2	4	***11***
HOURLY TOTALS											
07:00 AM	---	08:00 AM	1	0	5	35	7	1	11	4	***64***
07:15 AM	---	08:15 AM	1	0	4	36	5	1	12	6	***65***
07:30 AM	---	08:30 AM	1	2	4	33	0	0	13	8	***61***
07:45 AM	---	08:45 AM	3	2	11	24	0	0	10	7	***57***
08:00 AM	---	09:00 AM	4	2	10	8	0	0	4	11	***39***

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12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	48	10	2	5	**65**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	1	6	40	18	**65**

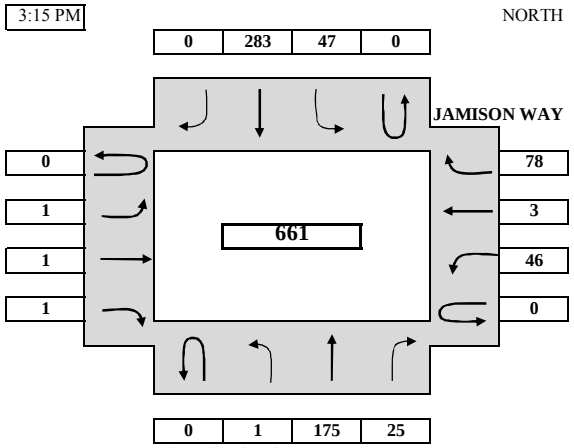
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

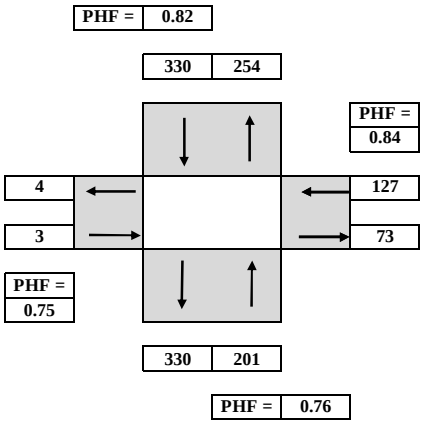
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**2:00 PM**	**TO**	**4:00 PM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-2MD**

PEAK HOUR
2:15 PM to 3:15 PM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
2:00 PM	2:15 PM	0	0	51	6		13	44	1		0	0	1		11	0	18	**145**
2:15 PM	2:30 PM	0	0	111	12		24	101	1		0	0	1		16	0	42	**308**
2:30 PM	2:45 PM	0	0	150	18		32	173	1		0	0	2		30	0	55	**461**
2:45 PM	3:00 PM	0	1	187	24		40	266	1		1	0	2		43	2	78	**645**
3:00 PM	3:15 PM	0	1	226	31		60	327	1		1	1	2		57	3	96	**806**
3:15 PM	3:30 PM	1	2	275	37		70	378	2		1	2	2		73	3	112	**958**
3:30 PM	3:45 PM	1	3	323	46		86	433	2		2	2	3		84	3	133	**1121**
3:45 PM	4:00 PM	1	4	374	48		97	486	2		2	2	3		92	3	152	**1266**
TOTAL BY PERIOD																		
2:00 PM	2:15 PM	0	0	51	6	0	13	44	1	0	0	0	1	0	11	0	18	**145**
2:15 PM	2:30 PM	0	0	60	6	0	11	57	0	0	0	0	0	0	5	0	24	**163**
2:30 PM	2:45 PM	0	0	39	6	0	8	72	0	0	0	0	1	0	14	0	13	**153**
2:45 PM	3:00 PM	0	1	37	6	0	8	93	0	0	1	0	0	0	13	2	23	**184**
3:00 PM	3:15 PM	0	0	39	7	0	20	61	0	0	0	1	0	0	14	1	18	**161**
3:15 PM	3:30 PM	1	1	49	6	0	10	51	1	0	0	1	0	0	16	0	16	**152**
3:30 PM	3:45 PM	0	1	48	9	0	16	55	0	0	1	0	1	0	11	0	21	**163**
3:45 PM	4:00 PM	0	1	51	2	0	11	53	0	0	0	0	0	0	8	0	19	**145**
HOURLY TOTALS																		
2:00 PM	3:00 PM	0	1	187	24	0	40	266	1	0	1	0	2	0	43	2	78	**645**
2:15 PM	3:15 PM	0	1	175	25	0	47	283	0	0	1	1	1	0	46	3	78	**661**
2:30 PM	3:30 PM	1	2	164	25	0	46	277	1	0	1	2	1	0	57	3	70	**650**
2:45 PM	3:45 PM	1	3	173	28	0	54	260	1	0	2	2	1	0	54	3	78	**660**
3:00 PM	4:00 PM	1	3	187	24	0	57	220	1	0	1	2	1	0	49	1	74	**621**

PEAK HOUR SUMMARY

2:15 PM to 3:15 PM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	0	1	175	25	0	47	283	0	0	1	1	1	0	46	3	78	**661**
PHF BY MOVEMENT	0.00	0.25	0.73	0.89	0.00	0.59	0.76	0.00	0.00	0.25	0.25	0.25	0.00	0.82	0.38	0.81	OVERALL
PHF BY APPROACH	0.76				0.82				0.75				0.84				0.90
BICYCLE	0				0				0				0				**0**
PEDESTRIAN	6				125				2				9				**142**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	11				0				100				31				**142**

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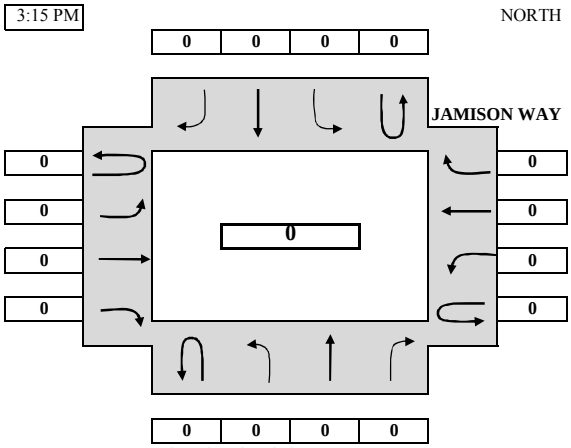
BICYCLE TURNING MOVEMENT SUMMARY

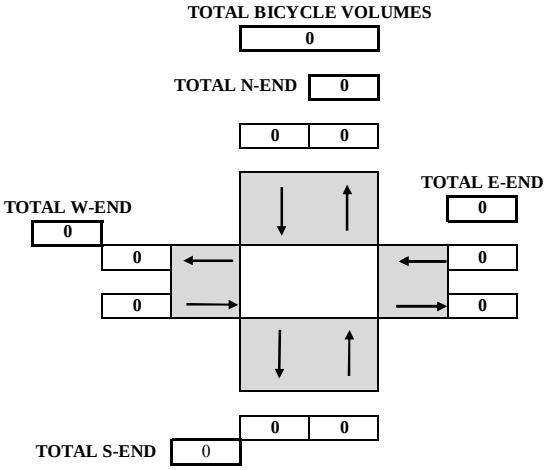
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**2:00 PM**	**TO**	**4:00 PM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-2MD**

PEAK HOUR
2:15 PM to 3:15 PM

NORTH



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
2:00 PM	to	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:15 PM	to	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:30 PM	to	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:45 PM	to	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:00 PM	to	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:15 PM	to	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:30 PM	to	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:45 PM	to	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
TOTAL BY PERIOD																			
2:00 PM	to	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:15 PM	to	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:30 PM	to	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:45 PM	to	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:00 PM	to	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:15 PM	to	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:30 PM	to	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:45 PM	to	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
HOURLY TOTALS																			
2:00 PM	to	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:15 PM	to	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:30 PM	to	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:45 PM	to	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:00 PM	to	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**

TEL: (510) 232 - 1271 EMAIL: BAYMETRICS@GMAIL.COM

2:15 PM to 3:15 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	0	0	0	0	**0**

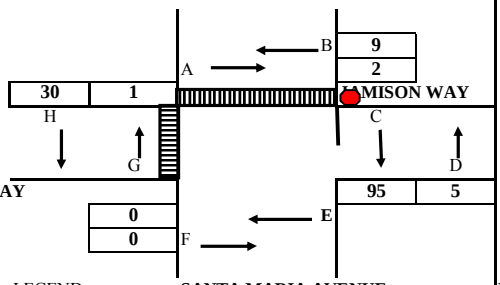
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**2:00 PM TO 4:00 PM**	**FILE:**	**3612100-2MD**

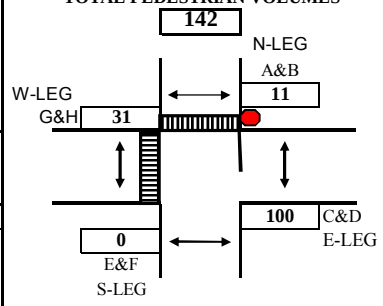
PEAK HOUR

02:15 PM TO 03:15 PM



PEAK HOUR

TOTAL PEDESTRIAN VOLUMES



LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

SANTA MARIA AVENUE

BY LEG:	
N-LEG	**11**
S-LEG	**0**
E-LEG	**100**
W-LEG	**31**

BY DIRECTION:	
NB(D+G)	**6**
SB(C+H)	**125**
EB(A+F)	**2**
WB(B+E)	**9**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
02:00 PM	---	02:15 PM	0	0	2	2	0	1	1	1	***7***
02:15 PM	---	02:30 PM	0	1	2	3	0	1	1	1	***9***
02:30 PM	---	02:45 PM	1	7	51	3	0	1	2	18	***83***
02:45 PM	---	03:00 PM	2	9	79	6	0	1	2	31	***130***
03:00 PM	---	03:15 PM	2	9	97	7	0	1	2	31	***149***
03:15 PM	---	03:30 PM	2	9	101	15	0	3	2	32	***164***
03:30 PM	---	03:45 PM	2	9	111	15	0	4	2	32	***175***
03:45 PM	---	04:00 PM	2	9	114	15	0	4	4	34	***182***
TOTAL BY PERIOD											
02:00 PM	---	02:15 PM	0	0	2	2	0	1	1	1	***7***
02:15 PM	---	02:30 PM	0	1	0	1	0	0	0	0	***2***
02:30 PM	---	02:45 PM	1	6	49	0	0	0	1	17	***74***
02:45 PM	---	03:00 PM	1	2	28	3	0	0	0	13	***47***
03:00 PM	---	03:15 PM	0	0	18	1	0	0	0	0	***19***
03:15 PM	---	03:30 PM	0	0	4	8	0	2	0	1	***15***
03:30 PM	---	03:45 PM	0	0	10	0	0	1	0	0	***11***
03:45 PM	---	04:00 PM	0	0	3	0	0	0	2	2	***7***
HOURLY TOTALS											
02:00 PM	---	03:00 PM	2	9	79	6	0	1	2	31	***130***
02:15 PM	---	03:15 PM	2	9	95	5	0	0	1	30	***142***
02:30 PM	---	03:30 PM	2	8	99	12	0	2	1	31	***155***
02:45 PM	---	03:45 PM	1	2	60	12	0	3	0	14	***92***
03:00 PM	---	04:00 PM	0	0	35	9	0	3	2	3	***52***

Tel : (510) 232-1271 ***EMAIL: BAYMETRICS@GMAIL.COM***

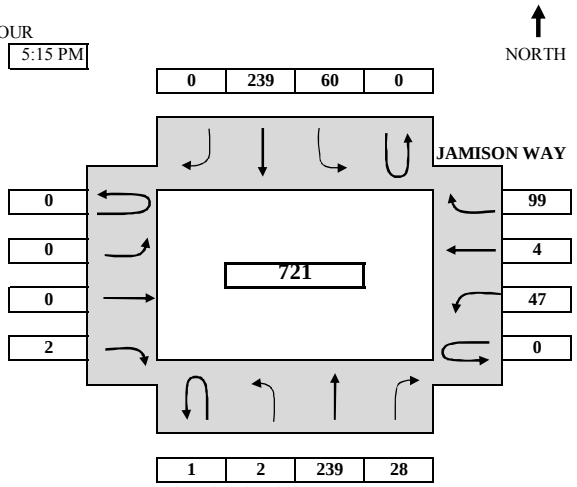
12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	6	125	2	9	**142**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	11	0	100	31	**142**

B.A.Y.M.E.T.R.I.C.S.

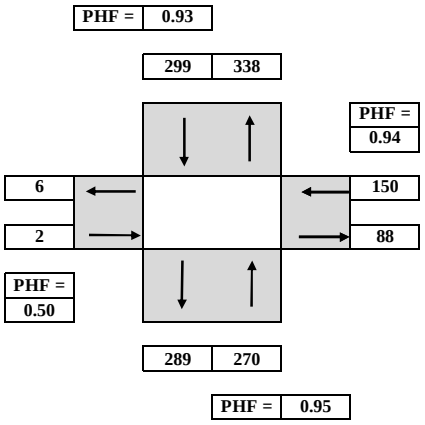
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-2PM**

PEAK HOUR
4:15 PM to 5:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
4:00 PM	4:15 PM	0	0	56	3	0	18	48	0	0	0	0	0	0	11	0	21	**157**
4:15 PM	4:30 PM	0	0	115	7	0	30	116	0	0	0	0	1	0	24	0	40	**333**
4:30 PM	4:45 PM	0	0	174	15	0	38	182	0	0	0	0	1	0	38	2	64	**514**
4:45 PM	5:00 PM	0	2	232	26	0	61	233	0	0	0	0	1	0	53	2	89	**699**
5:00 PM	5:15 PM	1	2	295	31	0	78	287	0	0	0	0	2	0	58	4	120	**878**
5:15 PM	5:30 PM	1	2	355	34	0	94	333	1	0	0	1	3	0	68	5	145	**1042**
5:30 PM	5:45 PM	1	4	389	40	1	110	375	1	0	0	4	3	0	79	5	175	**1187**
5:45 PM	6:00 PM	1	5	472	45	1	129	410	1	0	0	5	3	0	87	6	209	**1374**
TOTAL BY PERIOD																		
4:00 PM	4:15 PM	0	0	56	3	0	18	48	0	0	0	0	0	0	11	0	21	**157**
4:15 PM	4:30 PM	0	0	59	4	0	12	68	0	0	0	0	1	0	13	0	19	**176**
4:30 PM	4:45 PM	0	0	59	8	0	8	66	0	0	0	0	0	0	14	2	24	**181**
4:45 PM	5:00 PM	0	2	58	11	0	23	51	0	0	0	0	0	0	15	0	25	**185**
5:00 PM	5:15 PM	1	0	63	5	0	17	54	0	0	0	0	1	0	5	2	31	**179**
5:15 PM	5:30 PM	0	0	60	3	0	16	46	1	0	0	1	1	0	10	1	25	**164**
5:30 PM	5:45 PM	0	2	34	6	1	16	42	0	0	0	3	0	0	11	0	30	**145**
5:45 PM	6:00 PM	0	1	83	5	0	19	35	0	0	0	1	0	0	8	1	34	**187**
HOURLY TOTALS																		
4:00 PM	5:00 PM	0	2	232	26	0	61	233	0	0	0	0	1	0	53	2	89	**699**
4:15 PM	5:15 PM	1	2	239	28	0	60	239	0	0	0	0	2	0	47	4	99	**721**
4:30 PM	5:30 PM	1	2	240	27	0	64	217	1	0	0	1	2	0	44	5	105	**709**
4:45 PM	5:45 PM	1	4	215	25	1	72	193	1	0	0	4	2	0	41	3	111	**673**
5:00 PM	6:00 PM	1	3	240	19	1	68	177	1	0	0	5	2	0	34	4	120	**675**

PEAK HOUR SUMMARY

4:15 PM to 5:15 PM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	1	2	239	28	0	60	239	0	0	0	0	2	0	47	4	99	**721**
PHF BY MOVEMENT	0.25	0.25	0.95	0.64	0.00	0.65	0.88	0.00	0.00	0.00	0.00	0.50	0.00	0.78	0.50	0.80	OVERALL
PHF BY APPROACH	0.95				0.93				0.50				0.94				0.97
BICYCLE	1				1				0				0				**2**
PEDESTRIAN	10				11				6				5				**32**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	10				1				12				9				**32**

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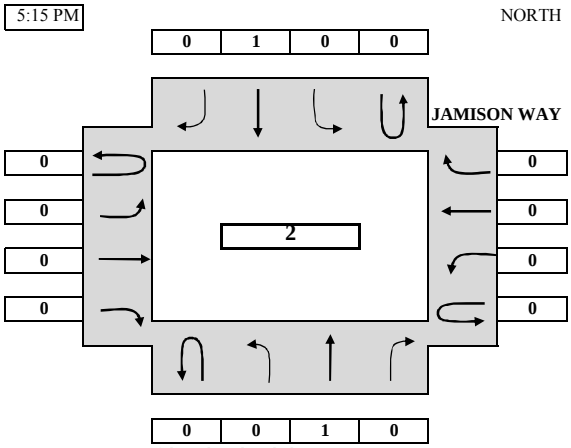
B.A.Y.M.E.T.R.I.C.S.

BICYCLE TURNING MOVEMENT SUMMARY

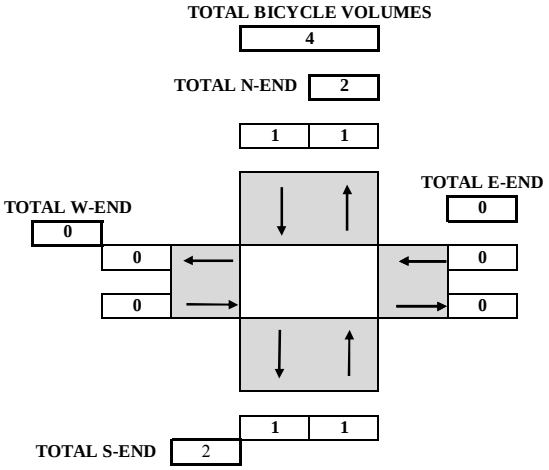
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-2PM**

PEAK HOUR
4:15 PM to 5:15 PM

NORTH



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME From		PERIOD To	NORTHBOUND U-TURN	NORTHBOUND LEFT	NORTHBOUND THRU	NORTHBOUND RIGHT	SOUTHBOUND U-TURN	SOUTHBOUND LEFT	SOUTHBOUND THRU	SOUTHBOUND RIGHT	EASTBOUND U-TURN	EASTBOUND LEFT	EASTBOUND THRU	EASTBOUND RIGHT	WESTBOUND U-TURN	WESTBOUND LEFT	WESTBOUND THRU	WESTBOUND RIGHT	TOTAL
SURVEY DATA																			
4:00 PM	to	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**2**
4:15 PM	to	4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	**4**
4:30 PM	to	4:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	**4**
4:45 PM	to	5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	**4**
5:00 PM	to	5:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	**4**
5:15 PM	to	5:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	**4**
5:30 PM	to	5:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	**4**
5:45 PM	to	6:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	2	**5**
TOTAL BY PERIOD																			
4:00 PM	to	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**2**
4:15 PM	to	4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**
4:30 PM	to	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4:45 PM	to	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:00 PM	to	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:15 PM	to	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:30 PM	to	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:45 PM	to	6:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
HOURLY TOTALS																			
4:00 PM	to	5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	**4**
4:15 PM	to	5:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**
4:30 PM	to	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4:45 PM	to	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:00 PM	to	6:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**

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4:15 PM to 5:15 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	1	1	0	0	**2**

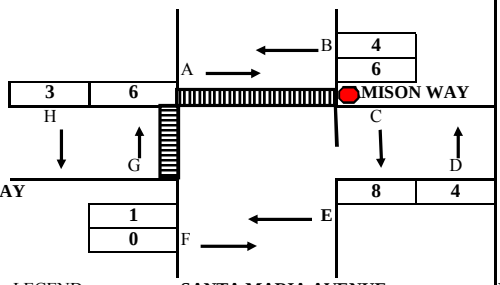
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**4:00 PM TO 6:00 PM**	**FILE:**	**3612100-2PM**

PEAK HOUR

04:15 PM TO 05:15 PM



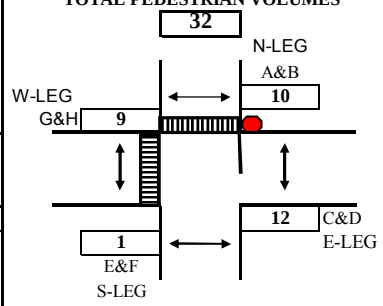
LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

SANTA MARIA AVENUE

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES



BY LEG:		**BY DIRECTION:**	
N-LEG	**10**	**NB**(D+G)	**10**
S-LEG	**1**	**SB**(C+H)	**11**
E-LEG	**12**	**EB**(A+F)	**6**
W-LEG	**9**	**WB**(B+E)	**5**

TIME PERIOD			**NORTH X-WALK**		**EAST X-WALK**		**SOUTH X-WALK**		**WEST X-WALK**		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
04:00 PM	---	04:15 PM	3	0	3	1	1	2	0	3	***13***
04:15 PM	---	04:30 PM	4	1	5	1	2	2	0	4	***19***
04:30 PM	---	04:45 PM	7	2	7	1	2	2	3	5	***29***
04:45 PM	---	05:00 PM	9	3	9	3	2	2	6	6	***40***
05:00 PM	---	05:15 PM	9	4	11	5	2	2	6	6	***45***
05:15 PM	---	05:30 PM	13	5	16	6	2	4	8	10	***64***
05:30 PM	---	05:45 PM	13	5	20	10	2	4	9	13	***76***
05:45 PM	---	06:00 PM	13	6	22	10	2	4	9	14	***80***
TOTAL BY PERIOD											
04:00 PM	---	04:15 PM	3	0	3	1	1	2	0	3	***13***
04:15 PM	---	04:30 PM	1	1	2	0	1	0	0	1	***6***
04:30 PM	---	04:45 PM	3	1	2	0	0	0	3	1	***10***
04:45 PM	---	05:00 PM	2	1	2	2	0	0	3	1	***11***
05:00 PM	---	05:15 PM	0	1	2	2	0	0	0	0	***5***
05:15 PM	---	05:30 PM	4	1	5	1	0	2	2	4	***19***
05:30 PM	---	05:45 PM	0	0	4	4	0	0	1	3	***12***
05:45 PM	---	06:00 PM	0	1	2	0	0	0	0	1	***4***
HOURLY TOTALS											
04:00 PM	---	05:00 PM	9	3	9	3	2	2	6	6	***40***
04:15 PM	---	05:15 PM	6	4	8	4	1	0	6	3	***32***
04:30 PM	---	05:30 PM	9	4	11	5	0	2	8	6	***45***
04:45 PM	---	05:45 PM	6	3	13	9	0	2	6	8	***47***
05:00 PM	---	06:00 PM	4	3	13	7	0	2	3	8	***40***

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12:00 AM to 12:00 AM

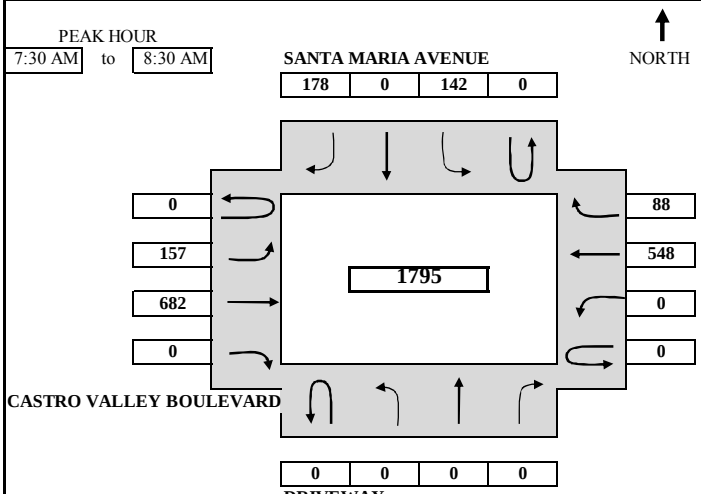
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	10	11	6	5	**32**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	10	1	12	9	**32**

B.A.Y.M.E.T.R.I.C.S.

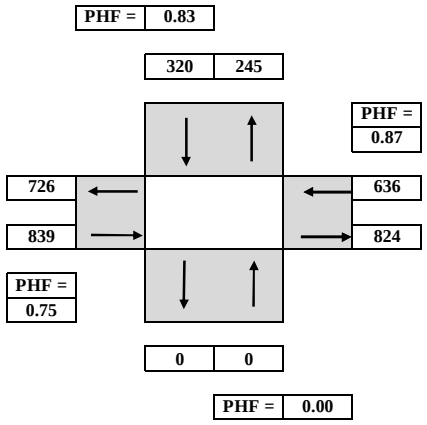
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**7:00 AM**	**TO**	**9:00 AM**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-3AM**

PEAK HOUR
7:30 AM to 8:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
7:00 AM	7:15 AM				0		42	0	34		22	72	1		0	70	9	**250**
7:15 AM	7:30 AM				0		76	0	71		36	147	1		0	164	23	**518**
7:30 AM	7:45 AM				0		117	0	110		73	273	1		0	252	52	**878**
7:45 AM	8:00 AM				0		156	0	155		136	490	1		0	412	74	**1424**
8:00 AM	8:15 AM				0		197	0	210		167	696	1		0	561	92	**1924**
8:15 AM	8:30 AM				0		218	0	249		193	829	1		0	712	111	**2313**
8:30 AM	8:45 AM				1		240	0	274		214	940	1		0	854	128	**2652**
8:45 AM	9:00 AM				1		267	0	304		236	1077	1		0	964	152	**3002**
TOTAL BY PERIOD																		
7:00 AM	7:15 AM	0	0	0	0	0	42	0	34	0	22	72	1	0	0	70	9	**250**
7:15 AM	7:30 AM	0	0	0	0	0	34	0	37	0	14	75	0	0	0	94	14	**268**
7:30 AM	7:45 AM	0	0	0	0	0	41	0	39	0	37	126	0	0	0	88	29	**360**
7:45 AM	8:00 AM	0	0	0	0	0	39	0	45	0	63	217	0	0	0	160	22	**546**
8:00 AM	8:15 AM	0	0	0	0	0	41	0	55	0	31	206	0	0	0	149	18	**500**
8:15 AM	8:30 AM	0	0	0	0	0	21	0	39	0	26	133	0	0	0	151	19	**389**
8:30 AM	8:45 AM	0	0	0	1	0	22	0	25	0	21	111	0	0	0	142	17	**339**
8:45 AM	9:00 AM	0	0	0	0	0	27	0	30	0	22	137	0	0	0	110	24	**350**
HOURLY TOTALS																		
7:00 AM	8:00 AM	0	0	0	0	0	156	0	155	0	136	490	1	0	0	412	74	**1424**
7:15 AM	8:15 AM	0	0	0	0	0	155	0	176	0	145	624	0	0	0	491	83	**1674**
7:30 AM	8:30 AM	0	0	0	0	0	142	0	178	0	157	682	0	0	0	548	88	**1795**
7:45 AM	8:45 AM	0	0	0	1	0	123	0	164	0	141	667	0	0	0	602	76	**1774**
8:00 AM	9:00 AM	0	0	0	1	0	111	0	149	0	100	587	0	0	0	552	78	**1578**

PEAK HOUR SUMMARY

7:30 AM to 8:30 AM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	0	0	0	0	0	142	0	178	0	157	682	0	0	0	548	88	**1795**
PHF BY MOVEMENT	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.81	0.00	0.62	0.79	0.00	0.00	0.00	0.86	0.76	OVERALL
PHF BY APPROACH	0.00				0.83				0.75				0.87				0.82
BICYCLE	0				2				2				1				**5**
PEDESTRIAN	10				7				30				34				**81**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	20				44				17				0				**81**

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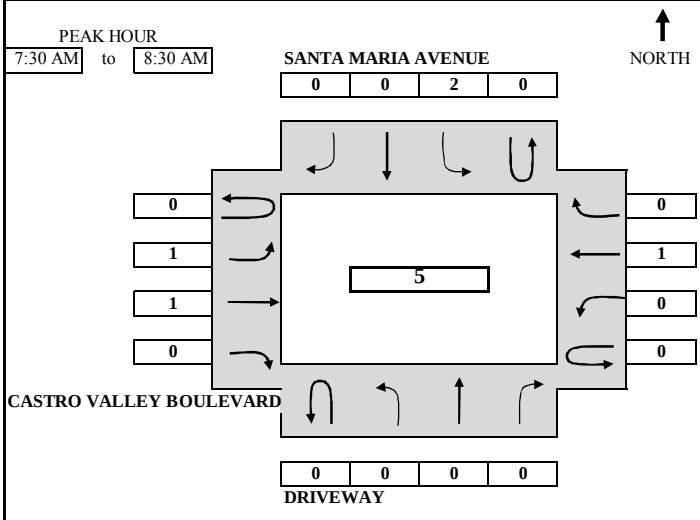
B.A.Y.M.E.T.R.I.C.S.

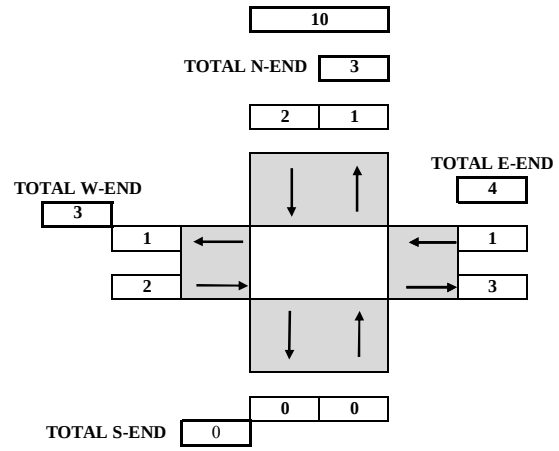
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**7:00 AM**	**TO**	**9:00 AM**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-3AM**

PEAK HOUR
7:30 AM to 8:30 AM



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
7:00 AM	to	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
7:15 AM	to	7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
7:30 AM	to	7:45 AM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	**4**
7:45 AM	to	8:00 AM	0	0	0	0	0	2	0	0	0	1	1	0	0	0	1	0	**5**
8:00 AM	to	8:15 AM	0	0	0	0	0	2	0	0	0	1	1	0	0	0	1	0	**5**
8:15 AM	to	8:30 AM	0	0	0	0	0	3	0	0	0	1	1	0	0	0	1	0	**6**
8:30 AM	to	8:45 AM	0	0	0	0	0	4	0	0	0	1	2	0	0	0	2	0	**9**
8:45 AM	to	9:00 AM	0	0	0	0	0	5	0	0	0	1	2	0	0	0	2	0	**10**
TOTAL BY PERIOD																			
7:00 AM	to	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
7:15 AM	to	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
7:30 AM	to	7:45 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	**3**
7:45 AM	to	8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
8:00 AM	to	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
8:15 AM	to	8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
8:30 AM	to	8:45 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	**3**
8:45 AM	to	9:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
HOURLY TOTALS																			
7:00 AM	to	8:00 AM	0	0	0	0	0	2	0	0	0	1	1	0	0	0	1	0	**5**
7:15 AM	to	8:15 AM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	**4**
7:30 AM	to	8:30 AM	0	0	0	0	0	2	0	0	0	1	1	0	0	0	1	0	**5**
7:45 AM	to	8:45 AM	0	0	0	0	0	3	0	0	0	0	1	0	0	0	1	0	**5**
8:00 AM	to	9:00 AM	0	0	0	0	0	3	0	0	0	0	1	0	0	0	1	0	**5**

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7:30 AM	to	8:30 AM			
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	0	2	2	1	**5**

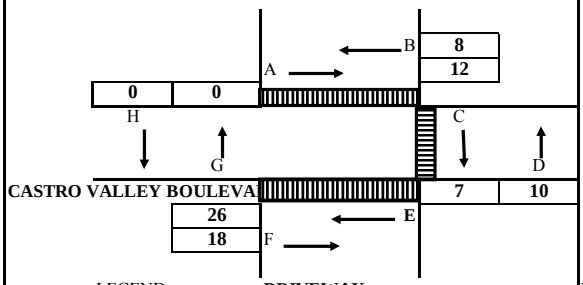
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**7:00 AM TO 9:00 AM**	**FILE:**	**3612100-3AM**

PEAK HOUR

07:30 AM TO 08:30 AM **SANTA MARIA AVENUE**

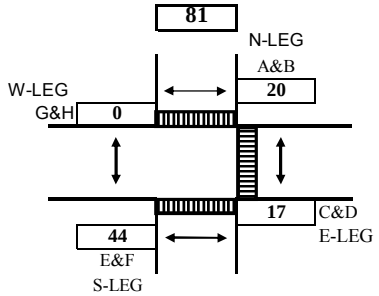


LEGEND:

- **DRIVEWAY**
- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES



BY LEG:		**BY DIRECTION:**	
N-LEG	**20**	**NB**(D+G)	**10**
S-LEG	**44**	**SB**(C+H)	**7**
E-LEG	**17**	**EB**(A+F)	**30**
W-LEG	**0**	**WB**(B+E)	**34**

TIME PERIOD			**NORTH X-WALK**		**EAST X-WALK**		**SOUTH X-WALK**		**WEST X-WALK**		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
07:00 AM	---	07:15 AM	0	3	0	0	1	4	0	0	***8***
07:15 AM	---	07:30 AM	0	3	1	7	7	8	0	0	***26***
07:30 AM	---	07:45 AM	0	4	2	11	7	12	0	0	***36***
07:45 AM	---	08:00 AM	5	4	3	14	21	19	0	0	***66***
08:00 AM	---	08:15 AM	8	6	6	17	31	20	0	0	***88***
08:15 AM	---	08:30 AM	12	11	8	17	33	26	0	0	***107***
08:30 AM	---	08:45 AM	14	15	10	18	34	31	0	0	***122***
08:45 AM	---	09:00 AM	19	16	10	18	37	35	0	0	***135***
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	0	3	0	0	1	4	0	0	***8***
07:15 AM	---	07:30 AM	0	0	1	7	6	4	0	0	***18***
07:30 AM	---	07:45 AM	0	1	1	4	0	4	0	0	***10***
07:45 AM	---	08:00 AM	5	0	1	3	14	7	0	0	***30***
08:00 AM	---	08:15 AM	3	2	3	3	10	1	0	0	***22***
08:15 AM	---	08:30 AM	4	5	2	0	2	6	0	0	***19***
08:30 AM	---	08:45 AM	2	4	2	1	1	5	0	0	***15***
08:45 AM	---	09:00 AM	5	1	0	0	3	4	0	0	***13***
HOURLY TOTALS											
07:00 AM	---	08:00 AM	5	4	3	14	21	19	0	0	***66***
07:15 AM	---	08:15 AM	8	3	6	17	30	16	0	0	***80***
07:30 AM	---	08:30 AM	12	8	7	10	26	18	0	0	***81***
07:45 AM	---	08:45 AM	14	11	8	7	27	19	0	0	***86***
08:00 AM	---	09:00 AM	14	12	7	4	16	16	0	0	***69***

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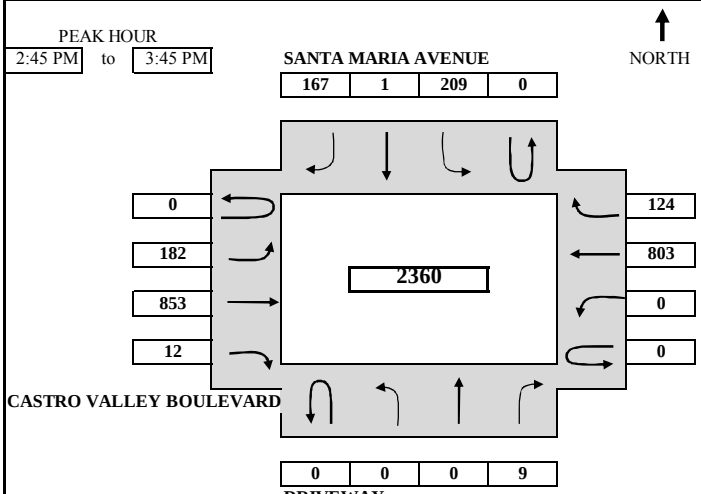
12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	10	7	30	34	**81**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	20	44	17	0	**81**

B.A.Y.M.E.T.R.I.C.S.

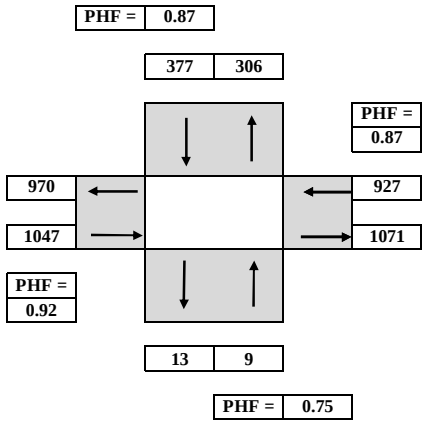
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**2:00 PM**	**TO**	**4:00 PM**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-3MD**

PEAK HOUR
2:45 PM to 3:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
2:00 PM	2:15 PM				4		37	0	44		40	150	2		0	192	38	**507**
2:15 PM	2:30 PM				12		82	0	73		89	326	5		0	339	74	**1000**
2:30 PM	2:45 PM				19		144	0	125		129	506	10		0	489	106	**1528**
2:45 PM	3:00 PM				20		209	0	168		184	732	12		0	664	134	**2123**
3:00 PM	3:15 PM				22		258	0	217		221	967	17		0	885	158	**2745**
3:15 PM	3:30 PM				25		309	1	256		271	1162	19		0	1117	191	**3351**
3:30 PM	3:45 PM				28		353	1	292		311	1359	22		0	1292	230	**3888**
3:45 PM	4:00 PM				31		401	2	319		362	1566	25		0	1449	252	**4407**
TOTAL BY PERIOD																		
2:00 PM	2:15 PM	0	0	0	4	0	37	0	44	0	40	150	2	0	0	192	38	**507**
2:15 PM	2:30 PM	0	0	0	8	0	45	0	29	0	49	176	3	0	0	147	36	**493**
2:30 PM	2:45 PM	0	0	0	7	0	62	0	52	0	40	180	5	0	0	150	32	**528**
2:45 PM	3:00 PM	0	0	0	1	0	65	0	43	0	55	226	2	0	0	175	28	**595**
3:00 PM	3:15 PM	0	0	0	2	0	49	0	49	0	37	235	5	0	0	221	24	**622**
3:15 PM	3:30 PM	0	0	0	3	0	51	1	39	0	50	195	2	0	0	232	33	**606**
3:30 PM	3:45 PM	0	0	0	3	0	44	0	36	0	40	197	3	0	0	175	39	**537**
3:45 PM	4:00 PM	0	0	0	3	0	48	1	27	0	51	207	3	0	0	157	22	**519**
HOURLY TOTALS																		
2:00 PM	3:00 PM	0	0	0	20	0	209	0	168	0	184	732	12	0	0	664	134	**2123**
2:15 PM	3:15 PM	0	0	0	18	0	221	0	173	0	181	817	15	0	0	693	120	**2238**
2:30 PM	3:30 PM	0	0	0	13	0	227	1	183	0	182	836	14	0	0	778	117	**2351**
2:45 PM	3:45 PM	0	0	0	9	0	209	1	167	0	182	853	12	0	0	803	124	**2360**
3:00 PM	4:00 PM	0	0	0	11	0	192	2	151	0	178	834	13	0	0	785	118	**2284**

PEAK HOUR SUMMARY

2:45 PM to 3:45 PM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	0	0	0	9	0	209	1	167	0	182	853	12	0	0	803	124	**2360**
PHF BY MOVEMENT	0.00	0.00	0.00	0.75	0.00	0.80	0.25	0.85	0.00	0.83	0.91	0.60	0.00	0.00	0.87	0.79	OVERALL
PHF BY APPROACH	0.75				0.87				0.92				0.87				0.95
BICYCLE	0				1				1				1				**3**
PEDESTRIAN	9				22				75				57				**163**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	58				74				31				0				**163**

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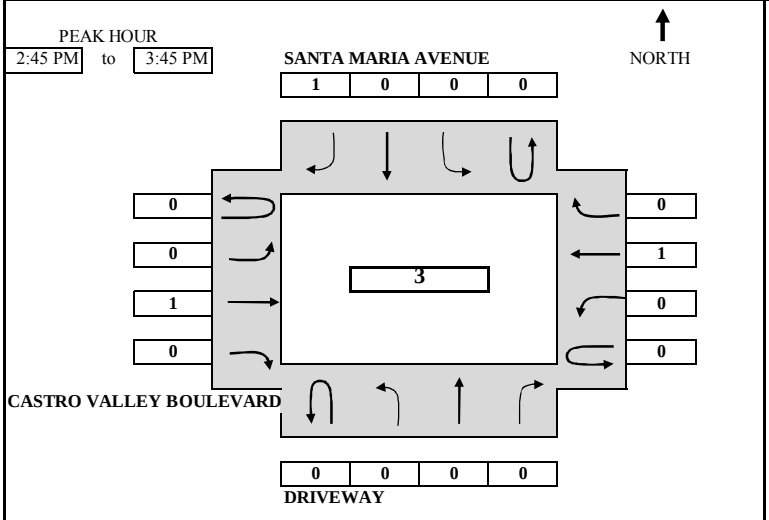
B.A.Y.M.E.T.R.I.C.S.

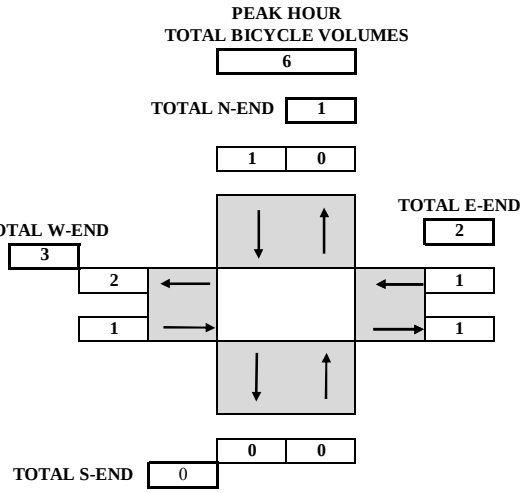
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**2:00 PM**	**TO**	**4:00 PM**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-3MD**

PEAK HOUR
2:45 PM to 3:45 PM



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
2:00 PM	to	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
2:15 PM	to	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**
2:30 PM	to	2:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	**3**
2:45 PM	to	3:00 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	1	**5**
3:00 PM	to	3:15 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	1	**5**
3:15 PM	to	3:30 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	2	1	**6**
3:30 PM	to	3:45 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	2	1	**6**
3:45 PM	to	4:00 PM	0	0	0	0	0	1	0	1	0	0	2	0	0	0	2	2	**8**
TOTAL BY PERIOD																			
2:00 PM	to	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
2:15 PM	to	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**
2:30 PM	to	2:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
2:45 PM	to	3:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	**2**
3:00 PM	to	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:15 PM	to	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
3:30 PM	to	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:45 PM	to	4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	**2**
HOURLY TOTALS																			
2:00 PM	to	3:00 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	1	**5**
2:15 PM	to	3:15 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	1	**4**
2:30 PM	to	3:30 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	**4**
2:45 PM	to	3:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	**3**
3:00 PM	to	4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	**3**

TEL: (510) 232 - 1271 EMAIL: BAYMETRICS@GMAIL.COM

2:45 PM to 3:45 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	0	1	1	1	**3**

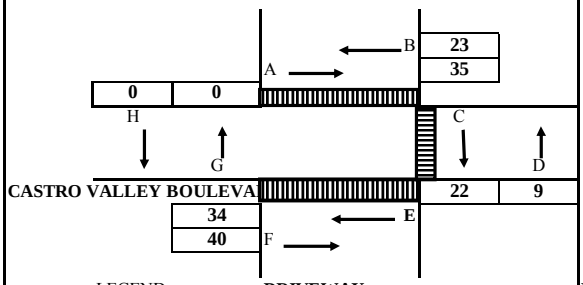
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**2:00 PM TO 4:00 PM**	**FILE:**	**3612100-3MD**

PEAK HOUR

02:45 PM TO 03:45 PM **SANTA MARIA AVENUE**



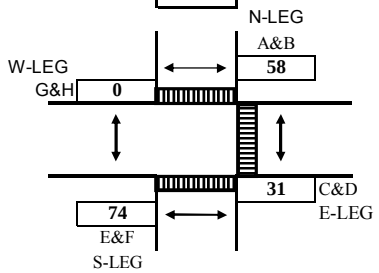
LEGEND:

- **DRIVEWAY**
- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES

163



BY LEG:		**BY DIRECTION:**	
N-LEG	**58**	**NB**(D+G)	**9**
S-LEG	**74**	**SB**(C+H)	**22**
E-LEG	**31**	**EB**(A+F)	**75**
W-LEG	**0**	**WB**(B+E)	**57**

TIME PERIOD			**NORTH X-WALK**		**EAST X-WALK**		**SOUTH X-WALK**		**WEST X-WALK**		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
02:00 PM	---	02:15 PM	2	4	1	1	1	4	0	0	***13***
02:15 PM	---	02:30 PM	4	7	1	5	6	5	0	0	***28***
02:30 PM	---	02:45 PM	8	13	13	8	8	9	0	0	***59***
02:45 PM	---	03:00 PM	16	20	24	10	23	21	0	0	***114***
03:00 PM	---	03:15 PM	24	23	30	10	32	38	0	0	***157***
03:15 PM	---	03:30 PM	28	30	35	14	38	46	0	0	***191***
03:30 PM	---	03:45 PM	43	36	35	17	42	49	0	0	***222***
03:45 PM	---	04:00 PM	50	48	39	18	51	57	0	0	***263***
TOTAL BY PERIOD											
02:00 PM	---	02:15 PM	2	4	1	1	1	4	0	0	***13***
02:15 PM	---	02:30 PM	2	3	0	4	5	1	0	0	***15***
02:30 PM	---	02:45 PM	4	6	12	3	2	4	0	0	***31***
02:45 PM	---	03:00 PM	8	7	11	2	15	12	0	0	***55***
03:00 PM	---	03:15 PM	8	3	6	0	9	17	0	0	***43***
03:15 PM	---	03:30 PM	4	7	5	4	6	8	0	0	***34***
03:30 PM	---	03:45 PM	15	6	0	3	4	3	0	0	***31***
03:45 PM	---	04:00 PM	7	12	4	1	9	8	0	0	***41***
HOURLY TOTALS											
02:00 PM	---	03:00 PM	16	20	24	10	23	21	0	0	***114***
02:15 PM	---	03:15 PM	22	19	29	9	31	34	0	0	***144***
02:30 PM	---	03:30 PM	24	23	34	9	32	41	0	0	***163***
02:45 PM	---	03:45 PM	35	23	22	9	34	40	0	0	***163***
03:00 PM	---	04:00 PM	34	28	15	8	28	36	0	0	***149***

Tel : (510) 232-1271 ***EMAIL: BAYMETRICS@GMAIL.COM***

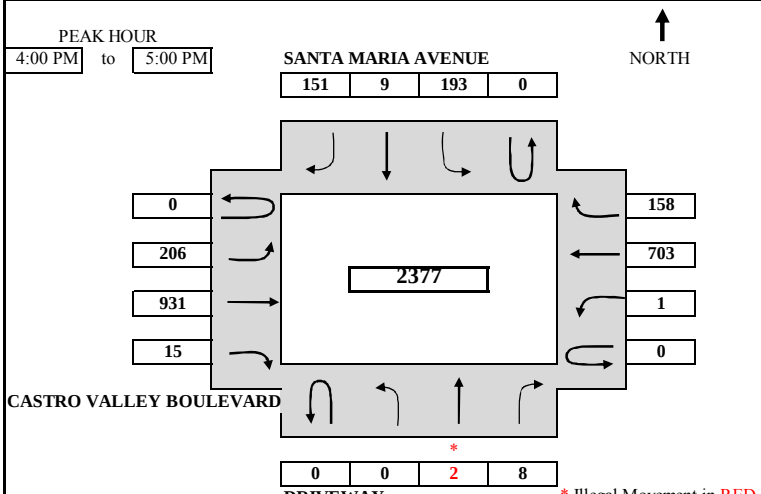
12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	9	22	75	57	**163**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	58	74	31	0	**163**

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

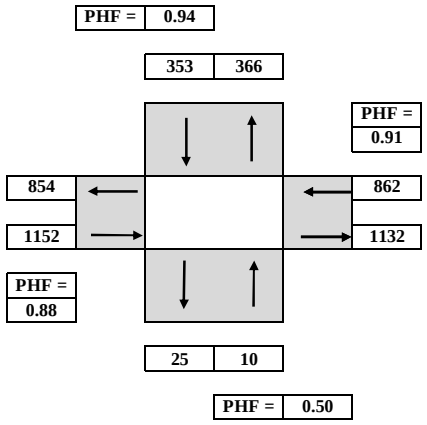
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-3PM**

PEAK HOUR
4:00 PM to 5:00 PM



* Illegal Movement in RED

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU*	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
4:00 PM	4:15 PM			1	1		48	1	32		52	210	1		1	150	35	**532**
4:15 PM	4:30 PM			1	3		93	5	77		93	492	5		1	333	73	**1176**
4:30 PM	4:45 PM			2	7		142	6	116		147	719	10		1	506	117	**1773**
4:45 PM	5:00 PM			2	8		193	9	151		206	931	15		1	703	158	**2377**
5:00 PM	5:15 PM			2	23		231	12	184		248	1116	21		1	850	187	**2875**
5:15 PM	5:30 PM			2	26		271	12	219		288	1311	26		1	1021	222	**3399**
5:30 PM	5:45 PM			2	29		303	18	249		327	1557	31		1	1173	259	**3949**
5:45 PM	6:00 PM			2	32		323	20	276		383	1766	35		1	1356	285	**4479**
TOTAL BY PERIOD																		
4:00 PM	4:15 PM	0	0	1	1	0	48	1	32	0	52	210	1	0	1	150	35	**532**
4:15 PM	4:30 PM	0	0	0	2	0	45	4	45	0	41	282	4	0	0	183	38	**644**
4:30 PM	4:45 PM	0	0	1	4	0	49	1	39	0	54	227	5	0	0	173	44	**597**
4:45 PM	5:00 PM	0	0	0	1	0	51	3	35	0	59	212	5	0	0	197	41	**604**
5:00 PM	5:15 PM	0	0	0	15	0	38	3	33	0	42	185	6	0	0	147	29	**498**
5:15 PM	5:30 PM	0	0	0	3	0	40	0	35	0	40	195	5	0	0	171	35	**524**
5:30 PM	5:45 PM	0	0	0	3	0	32	6	30	0	39	246	5	0	0	152	37	**550**
5:45 PM	6:00 PM	0	0	0	3	0	20	2	27	0	56	209	4	0	0	183	26	**530**
HOURLY TOTALS																		
4:00 PM	5:00 PM	0	0	2	8	0	193	9	151	0	206	931	15	0	1	703	158	**2377**
4:15 PM	5:15 PM	0	0	1	22	0	183	11	152	0	196	906	20	0	0	700	152	**2343**
4:30 PM	5:30 PM	0	0	1	23	0	178	7	142	0	195	819	21	0	0	688	149	**2223**
4:45 PM	5:45 PM	0	0	0	22	0	161	12	133	0	180	838	21	0	0	667	142	**2176**
5:00 PM	6:00 PM	0	0	0	24	0	130	11	125	0	177	835	20	0	0	653	127	**2102**

PEAK HOUR SUMMARY

4:00 PM to 5:00 PM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	0	0	2	8	0	193	9	151	0	206	931	15	0	1	703	158	**2377**
PHF BY MOVEMENT	0.00	0.00	0.50	0.50	0.00	0.95	0.56	0.84	0.00	0.87	0.83	0.75	0.00	0.25	0.89	0.90	OVERALL
PHF BY APPROACH	0.50				0.94				0.88				0.91				0.92
BICYCLE	0				0				0				2				**2**
PEDESTRIAN	12				7				61				55				**135**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	46				70				19				0				**135**

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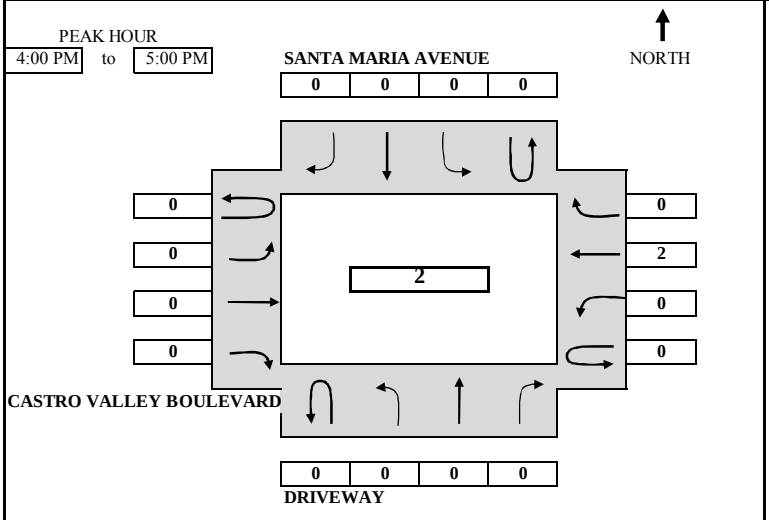
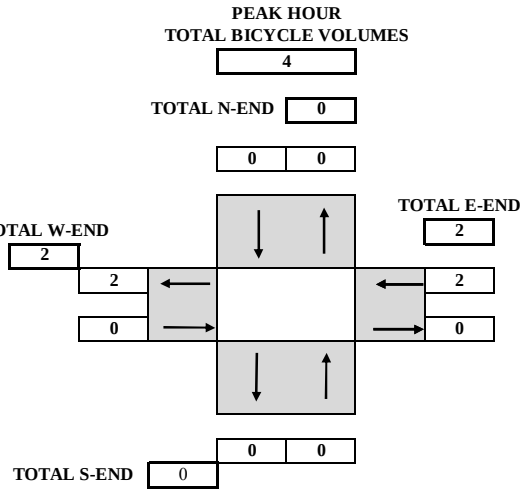
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**SANTA MARIA AVENUE**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-3PM**

PEAK HOUR
4:00 PM to 5:00 PM



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
4:00 PM	to	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
4:15 PM	to	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
4:30 PM	to	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
4:45 PM	to	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	**2**
5:00 PM	to	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	**2**
5:15 PM	to	5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	**4**
5:30 PM	to	5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	**4**
5:45 PM	to	6:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	1	**6**
TOTAL BY PERIOD																			
4:00 PM	to	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
4:15 PM	to	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4:30 PM	to	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4:45 PM	to	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
5:00 PM	to	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:15 PM	to	5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	**2**
5:30 PM	to	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:45 PM	to	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**
HOURLY TOTALS																			
4:00 PM	to	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	**2**
4:15 PM	to	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**
4:30 PM	to	5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	**3**
4:45 PM	to	5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	**3**
5:00 PM	to	6:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	**4**

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4:00 PM to 5:00 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	0	0	0	2	**2**

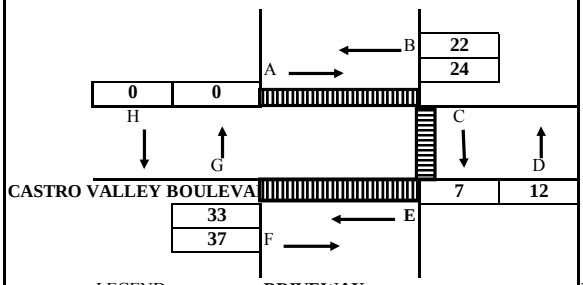
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**SANTA MARIA AVENUE**	**DAY:**	**TUESDAY**
E-W APPROACH:	**CASTRO VALLEY BOULEVARD**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**4:00 PM TO 6:00 PM**	**FILE:**	**3612100-3PM**

PEAK HOUR

04:00 PM TO 05:00 PM **SANTA MARIA AVENUE**

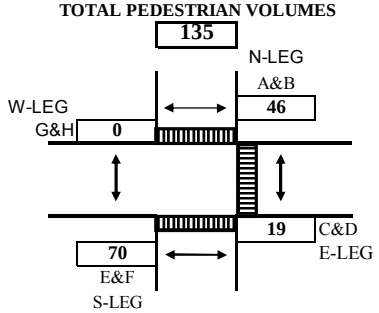


LEGEND:

- **DRIVEWAY**
- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES



BY LEG:		**BY DIRECTION:**	
N-LEG	**46**	**NB**(D+G)	**12**
S-LEG	**70**	**SB**(C+H)	**7**
E-LEG	**19**	**EB**(A+F)	**61**
W-LEG	**0**	**WB**(B+E)	**55**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
04:00 PM	---	04:15 PM	8	7	4	2	7	11	0	0	***39***
04:15 PM	---	04:30 PM	14	10	4	5	19	21	0	0	***73***
04:30 PM	---	04:45 PM	17	17	5	7	27	26	0	0	***99***
04:45 PM	---	05:00 PM	24	22	7	12	33	37	0	0	***135***
05:00 PM	---	05:15 PM	27	25	11	12	35	45	0	0	***155***
05:15 PM	---	05:30 PM	33	31	14	18	38	52	0	0	***186***
05:30 PM	---	05:45 PM	39	35	19	20	45	57	0	0	***215***
05:45 PM	---	06:00 PM	41	37	19	22	50	60	0	0	***229***
TOTAL BY PERIOD											
04:00 PM	---	04:15 PM	8	7	4	2	7	11	0	0	***39***
04:15 PM	---	04:30 PM	6	3	0	3	12	10	0	0	***34***
04:30 PM	---	04:45 PM	3	7	1	2	8	5	0	0	***26***
04:45 PM	---	05:00 PM	7	5	2	5	6	11	0	0	***36***
05:00 PM	---	05:15 PM	3	3	4	0	2	8	0	0	***20***
05:15 PM	---	05:30 PM	6	6	3	6	3	7	0	0	***31***
05:30 PM	---	05:45 PM	6	4	5	2	7	5	0	0	***29***
05:45 PM	---	06:00 PM	2	2	0	2	5	3	0	0	***14***
HOURLY TOTALS											
04:00 PM	---	05:00 PM	24	22	7	12	33	37	0	0	***135***
04:15 PM	---	05:15 PM	19	18	7	10	28	34	0	0	***116***
04:30 PM	---	05:30 PM	19	21	10	13	19	31	0	0	***113***
04:45 PM	---	05:45 PM	22	18	14	13	18	31	0	0	***116***
05:00 PM	---	06:00 PM	17	15	12	10	17	23	0	0	***94***

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12:00 AM to 12:00 AM

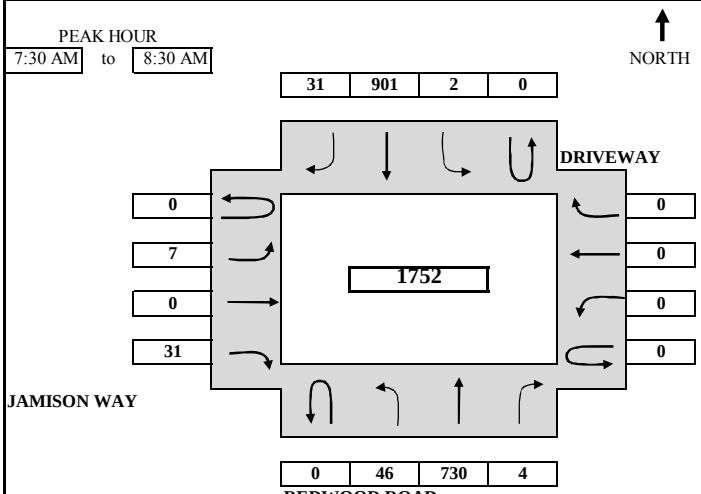
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	12	7	61	55	**135**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	46	70	19	0	**135**

B.A.Y.M.E.T.R.I.C.S.

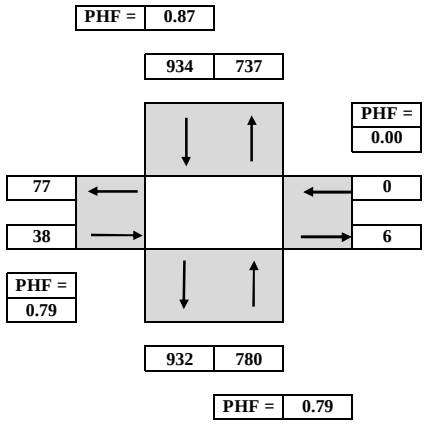
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**REDWOOD ROAD**	**SURVEY TIME:**	**7:00 AM**	**TO**	**9:00 AM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-4AM**

PEAK HOUR
7:30 AM to 8:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
7:00 AM	7:15 AM		16	95	0	0	0	217	7		4	0	7		0	0	0	**346**
7:15 AM	7:30 AM		31	210	0	0	0	380	10		5	0	15		0	0	0	**651**
7:30 AM	7:45 AM		36	425	1	0	0	585	17		5	0	21		0	0	0	**1090**
7:45 AM	8:00 AM		53	652	3	0	0	813	25		8	0	30		0	0	0	**1584**
8:00 AM	8:15 AM		67	778	4	0	1	1071	35		9	0	38		0	0	0	**2003**
8:15 AM	8:30 AM		77	940	4	0	2	1281	41		12	0	46		0	0	0	**2403**
8:30 AM	8:45 AM		83	1096	5	0	2	1452	45		13	0	51		2	0	0	**2749**
8:45 AM	9:00 AM		95	1256	8	1	2	1632	50		15	0	64		2	1	0	**3126**
TOTAL BY PERIOD																		
7:00 AM	7:15 AM	0	16	95	0	0	0	217	7	0	4	0	7	0	0	0	0	**346**
7:15 AM	7:30 AM	0	15	115	0	0	0	163	3	0	1	0	8	0	0	0	0	**305**
7:30 AM	7:45 AM	0	5	215	1	0	0	205	7	0	0	0	6	0	0	0	0	**439**
7:45 AM	8:00 AM	0	17	227	2	0	0	228	8	0	3	0	9	0	0	0	0	**494**
8:00 AM	8:15 AM	0	14	126	1	0	1	258	10	0	1	0	8	0	0	0	0	**419**
8:15 AM	8:30 AM	0	10	162	0	0	1	210	6	0	3	0	8	0	0	0	0	**400**
8:30 AM	8:45 AM	0	6	156	1	0	0	171	4	0	1	0	5	0	2	0	0	**346**
8:45 AM	9:00 AM	0	12	160	3	1	0	180	5	0	2	0	13	0	0	1	0	**377**
HOURLY TOTALS																		
7:00 AM	8:00 AM	0	53	652	3	0	0	813	25	0	8	0	30	0	0	0	0	**1584**
7:15 AM	8:15 AM	0	51	683	4	0	1	854	28	0	5	0	31	0	0	0	0	**1657**
7:30 AM	8:30 AM	0	46	730	4	0	2	901	31	0	7	0	31	0	0	0	0	**1752**
7:45 AM	8:45 AM	0	47	671	4	0	2	867	28	0	8	0	30	0	2	0	0	**1659**
8:00 AM	9:00 AM	0	42	604	5	1	2	819	25	0	7	0	34	0	2	1	0	**1542**

PEAK HOUR SUMMARY

7:30 AM to 8:30 AM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	0	46	730	4	0	2	901	31	0	7	0	31	0	0	0	0	**1752**
PHF BY MOVEMENT	0.00	0.68	0.80	0.50	0.00	0.50	0.87	0.78	0.00	0.58	0.00	0.86	0.00	0.00	0.00	0.00	OVERALL
PHF BY APPROACH	0.79				0.87				0.79				0.00				0.89
BICYCLE	1				0				0				0				**1**
PEDESTRIAN	14				5				0				2				**21**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	0				2				0				19				**21**

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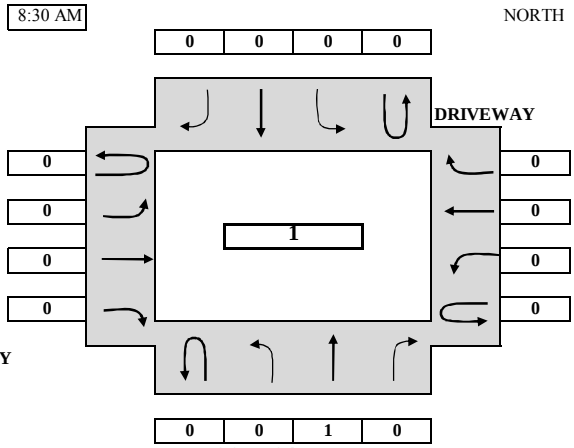
B.A.Y.M.E.T.R.I.C.S.

BICYCLE TURNING MOVEMENT SUMMARY

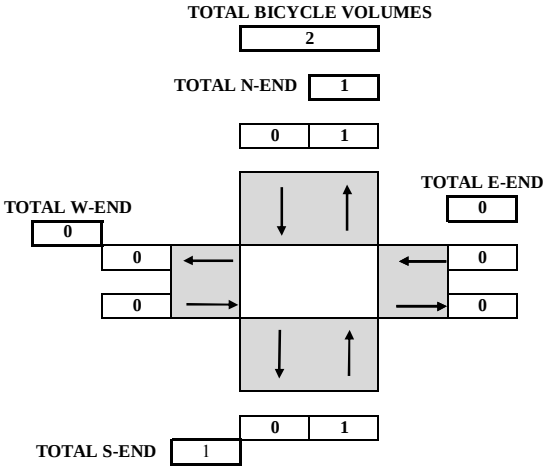
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**REDWOOD ROAD**	**SURVEY TIME:**	**7:00 AM**	**TO**	**9:00 AM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-4AM**

PEAK HOUR
7:30 AM to 8:30 AM

NORTH



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
7:00 AM	to	7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
7:15 AM	to	7:30 AM	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	**5**
7:30 AM	to	7:45 AM	0	0	1	0	0	0	4	1	0	0	0	0	0	0	0	0	**6**
7:45 AM	to	8:00 AM	0	0	1	0	0	0	4	1	0	0	0	0	0	0	0	0	**6**
8:00 AM	to	8:15 AM	0	0	1	0	0	0	4	1	0	0	0	0	0	0	0	0	**6**
8:15 AM	to	8:30 AM	0	0	1	0	0	0	4	1	0	0	0	0	0	0	0	0	**6**
8:30 AM	to	8:45 AM	0	0	1	0	0	0	7	1	0	0	0	0	0	0	0	0	**9**
8:45 AM	to	9:00 AM	0	0	1	0	0	0	8	1	0	0	0	0	0	0	0	0	**10**
TOTAL BY PERIOD																			
7:00 AM	to	7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
7:15 AM	to	7:30 AM	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	**4**
7:30 AM	to	7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
7:45 AM	to	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
8:00 AM	to	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
8:15 AM	to	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
8:30 AM	to	8:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	**3**
8:45 AM	to	9:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
HOURLY TOTALS																			
7:00 AM	to	8:00 AM	0	0	1	0	0	0	4	1	0	0	0	0	0	0	0	0	**6**
7:15 AM	to	8:15 AM	0	0	1	0	0	0	3	1	0	0	0	0	0	0	0	0	**5**
7:30 AM	to	8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
7:45 AM	to	8:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	**3**
8:00 AM	to	9:00 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	**4**

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7:30 AM	to	8:30 AM			
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	1	0	0	0	**1**

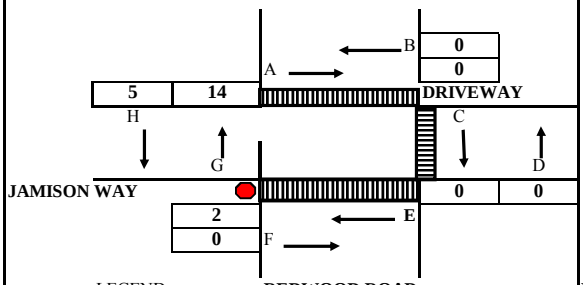
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**REDWOOD ROAD**	**DAY:**	**TUESDAY**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**7:00 AM TO 9:00 AM**	**FILE:**	**3612100-4AM**

PEAK HOUR

07:30 AM TO 08:30 AM



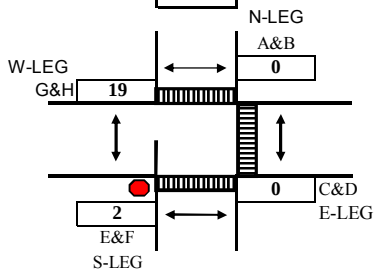
LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES

21



BY LEG:	
N-LEG	**0**
S-LEG	**2**
E-LEG	**0**
W-LEG	**19**

BY DIRECTION:	
NB(D+G)	**14**
SB(C+H)	**5**
EB(A+F)	**0**
WB(B+E)	**2**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
07:00 AM	---	07:15 AM	0	0	0	0	0	0	1	2	***3***
07:15 AM	---	07:30 AM	0	0	0	0	0	0	1	7	***8***
07:30 AM	---	07:45 AM	0	0	0	0	0	0	5	10	***15***
07:45 AM	---	08:00 AM	0	0	0	0	1	0	12	11	***24***
08:00 AM	---	08:15 AM	0	0	0	0	2	0	15	12	***29***
08:15 AM	---	08:30 AM	0	0	0	0	2	0	15	12	***29***
08:30 AM	---	08:45 AM	0	0	0	0	2	0	16	12	***30***
08:45 AM	---	09:00 AM	0	0	0	0	2	0	16	16	***34***
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	0	0	0	0	0	0	1	2	***3***
07:15 AM	---	07:30 AM	0	0	0	0	0	0	0	5	***5***
07:30 AM	---	07:45 AM	0	0	0	0	0	0	4	3	***7***
07:45 AM	---	08:00 AM	0	0	0	0	1	0	7	1	***9***
08:00 AM	---	08:15 AM	0	0	0	0	1	0	3	1	***5***
08:15 AM	---	08:30 AM	0	0	0	0	0	0	0	0	***0***
08:30 AM	---	08:45 AM	0	0	0	0	0	0	1	0	***1***
08:45 AM	---	09:00 AM	0	0	0	0	0	0	0	4	***4***
HOURLY TOTALS											
07:00 AM	---	08:00 AM	0	0	0	0	1	0	12	11	***24***
07:15 AM	---	08:15 AM	0	0	0	0	2	0	14	10	***26***
07:30 AM	---	08:30 AM	0	0	0	0	2	0	14	5	***21***
07:45 AM	---	08:45 AM	0	0	0	0	2	0	11	2	***15***
08:00 AM	---	09:00 AM	0	0	0	0	1	0	4	5	***10***

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12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	14	5	0	2	**21**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	0	2	0	19	**21**

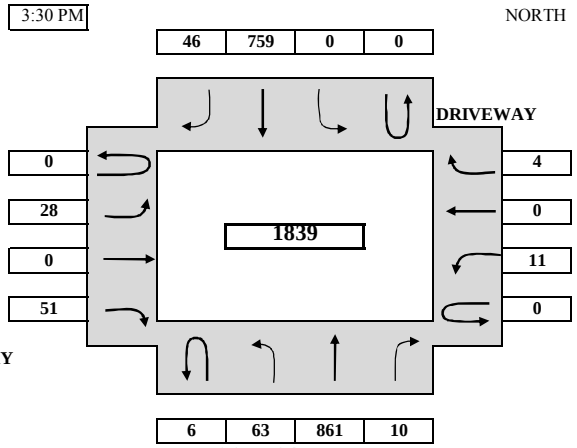
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

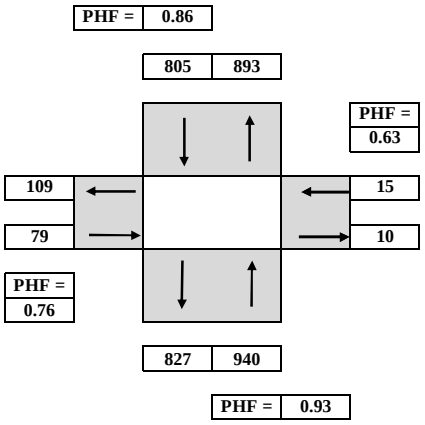
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**REDWOOD ROAD**	**SURVEY TIME:**	**2:00 PM**	**TO**	**4:00 PM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-4MD**

PEAK HOUR
2:30 PM to 3:30 PM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND U-TURN	LEFT	THRU	RIGHT	SOUTHBOUND U-TURN	LEFT	THRU	RIGHT	EASTBOUND U-TURN	LEFT	THRU	RIGHT	WESTBOUND U-TURN	LEFT	THRU	RIGHT	TOTAL
SURVEY DATA																		
2:00 PM	2:15 PM	0	17	185	3		1	128	9		10	0	19		0	0	1	**373**
2:15 PM	2:30 PM	0	31	414	3		3	262	13		17	0	26		0	1	2	**772**
2:30 PM	2:45 PM	1	48	648	4		3	444	23		21	0	36		1	1	4	**1234**
2:45 PM	3:00 PM	1	62	863	8		3	658	35		32	0	44		5	1	4	**1716**
3:00 PM	3:15 PM	3	76	1051	11		3	878	48		38	0	64		9	1	6	**2188**
3:15 PM	3:30 PM	6	94	1275	13		3	1021	59		45	0	77		11	1	6	**2611**
3:30 PM	3:45 PM	6	112	1470	14		3	1207	62		55	0	92		11	1	7	**3040**
3:45 PM	4:00 PM	6	127	1674	14		4	1343	72		63	0	100		11	1	8	**3423**
TOTAL BY PERIOD																		
2:00 PM	2:15 PM	0	17	185	3	0	1	128	9	0	10	0	19	0	0	0	1	**373**
2:15 PM	2:30 PM	0	14	229	0	0	2	134	4	0	7	0	7	0	0	1	1	**399**
2:30 PM	2:45 PM	1	17	234	1	0	0	182	10	0	4	0	10	0	1	0	2	**462**
2:45 PM	3:00 PM	0	14	215	4	0	0	214	12	0	11	0	8	0	4	0	0	**482**
3:00 PM	3:15 PM	2	14	188	3	0	0	220	13	0	6	0	20	0	4	0	2	**472**
3:15 PM	3:30 PM	3	18	224	2	0	0	143	11	0	7	0	13	0	2	0	0	**423**
3:30 PM	3:45 PM	0	18	195	1	0	0	186	3	0	10	0	15	0	0	0	1	**429**
3:45 PM	4:00 PM	0	15	204	0	0	1	136	10	0	8	0	8	0	0	0	1	**383**
HOURLY TOTALS																		
2:00 PM	3:00 PM	1	62	863	8	0	3	658	35	0	32	0	44	0	5	1	4	**1716**
2:15 PM	3:15 PM	3	59	866	8	0	2	750	39	0	28	0	45	0	9	1	5	**1815**
2:30 PM	3:30 PM	6	63	861	10	0	0	759	46	0	28	0	51	0	11	0	4	**1839**
2:45 PM	3:45 PM	5	64	822	10	0	0	763	39	0	34	0	56	0	10	0	3	**1806**
3:00 PM	4:00 PM	5	65	811	6	0	1	685	37	0	31	0	56	0	6	0	4	**1707**

PEAK HOUR SUMMARY

2:30 PM to 3:30 PM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	6	63	861	10	0	0	759	46	0	28	0	51	0	11	0	4	**1839**
PHF BY MOVEMENT	0.50	0.88	0.92	0.63	0.00	0.00	0.86	0.88	0.00	0.64	0.00	0.64	0.00	0.69	0.00	0.50	OVERALL
PHF BY APPROACH	0.93				0.86				0.76				0.63				0.95
BICYCLE	2				1				0				0				**3**
PEDESTRIAN	8				101				5				0				**114**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	0				5				0				109				**114**

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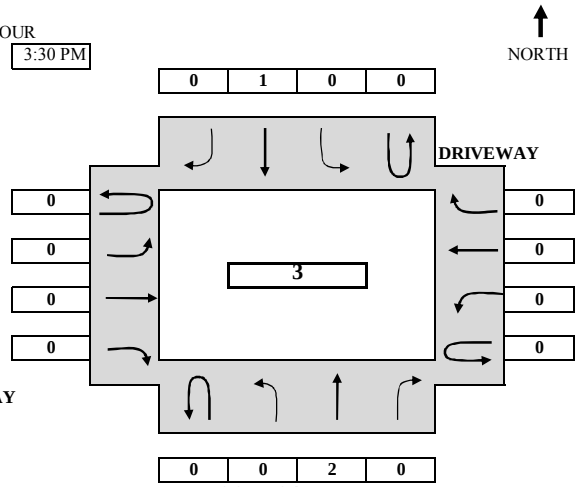
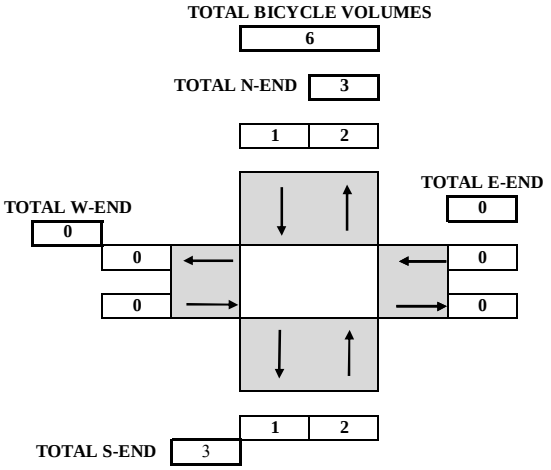
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**REDWOOD ROAD**	**SURVEY TIME:**	**2:00 PM**	**TO**	**4:00 PM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-4MD**

PEAK HOUR
2:30 PM to 3:30 PM



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
2:00 PM	to	2:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	**2**
2:15 PM	to	2:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	**2**
2:30 PM	to	2:45 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	**5**
2:45 PM	to	3:00 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	**5**
3:00 PM	to	3:15 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	**5**
3:15 PM	to	3:30 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	**5**
3:30 PM	to	3:45 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	**5**
3:45 PM	to	4:00 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	**5**
TOTAL BY PERIOD																			
2:00 PM	to	2:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	**2**
2:15 PM	to	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
2:30 PM	to	2:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	**3**
2:45 PM	to	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:00 PM	to	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:15 PM	to	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:30 PM	to	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:45 PM	to	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
HOURLY TOTALS																			
2:00 PM	to	3:00 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	**5**
2:15 PM	to	3:15 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	**3**
2:30 PM	to	3:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	**3**
2:45 PM	to	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
3:00 PM	to	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**

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2:30 PM to 3:30 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	2	1	0	0	**3**

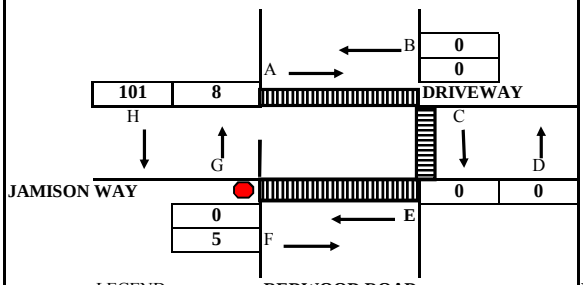
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**REDWOOD ROAD**	**DAY:**	**TUESDAY**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**2:00 PM TO 4:00 PM**	**FILE:**	**3612100-4MD**

PEAK HOUR

02:30 PM TO 03:30 PM



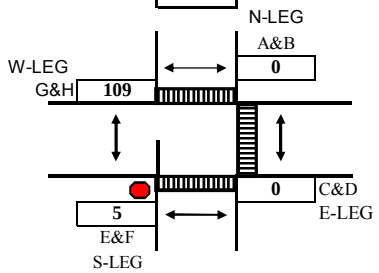
LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES

114



BY LEG:		**BY DIRECTION:**	
N-LEG	**0**	**NB**(D+G)	**8**
S-LEG	**5**	**SB**(C+H)	**101**
E-LEG	**0**	**EB**(A+F)	**5**
W-LEG	**109**	**WB**(B+E)	**0**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
02:00 PM	---	02:15 PM	0	0	0	0	2	2	4	3	***11***
02:15 PM	---	02:30 PM	0	0	0	0	2	2	7	3	***14***
02:30 PM	---	02:45 PM	0	0	0	0	2	7	10	51	***70***
02:45 PM	---	03:00 PM	0	0	0	0	2	7	10	86	***105***
03:00 PM	---	03:15 PM	0	0	0	0	2	7	13	104	***126***
03:15 PM	---	03:30 PM	0	0	0	0	2	7	15	104	***128***
03:30 PM	---	03:45 PM	0	0	0	0	2	7	18	106	***133***
03:45 PM	---	04:00 PM	0	0	0	0	2	10	20	117	***149***
TOTAL BY PERIOD											
02:00 PM	---	02:15 PM	0	0	0	0	2	2	4	3	***11***
02:15 PM	---	02:30 PM	0	0	0	0	0	0	3	0	***3***
02:30 PM	---	02:45 PM	0	0	0	0	0	5	3	48	***56***
02:45 PM	---	03:00 PM	0	0	0	0	0	0	0	35	***35***
03:00 PM	---	03:15 PM	0	0	0	0	0	0	3	18	***21***
03:15 PM	---	03:30 PM	0	0	0	0	0	0	2	0	***2***
03:30 PM	---	03:45 PM	0	0	0	0	0	0	3	2	***5***
03:45 PM	---	04:00 PM	0	0	0	0	0	3	2	11	***16***
HOURLY TOTALS											
02:00 PM	---	03:00 PM	0	0	0	0	2	7	10	86	***105***
02:15 PM	---	03:15 PM	0	0	0	0	0	5	9	101	***115***
02:30 PM	---	03:30 PM	0	0	0	0	0	5	8	101	***114***
02:45 PM	---	03:45 PM	0	0	0	0	0	0	8	55	***63***
03:00 PM	---	04:00 PM	0	0	0	0	0	3	10	31	***44***

Tel : (510) 232-1271 EMAIL: BAYMETRICS@GMAIL.COM

12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	8	101	5	0	**114**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	0	5	0	109	**114**

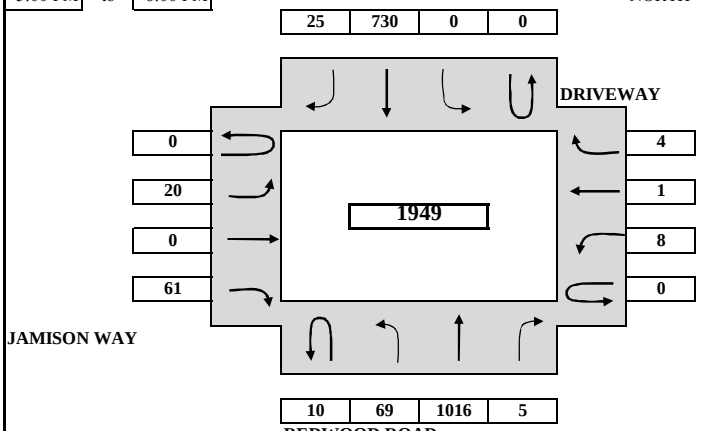
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

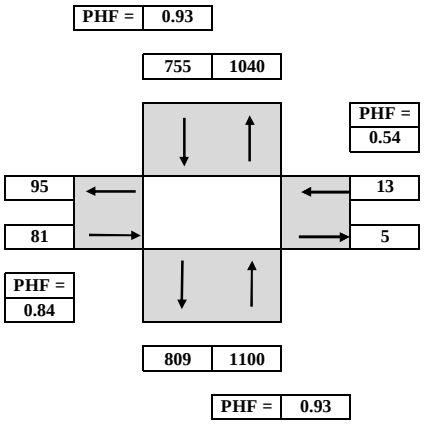
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**REDWOOD ROAD**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-4PM**

PEAK HOUR
5:00 PM to 6:00 PM

NORTH



ARRIVAL / DEPARTURE VOLUMES



TIME From		PERIOD To	NORTHBOUND U-TURN	NORTHBOUND LEFT	NORTHBOUND THRU	NORTHBOUND RIGHT	SOUTHBOUND U-TURN	SOUTHBOUND LEFT	SOUTHBOUND THRU	SOUTHBOUND RIGHT	EASTBOUND U-TURN	EASTBOUND LEFT	EASTBOUND THRU	EASTBOUND RIGHT	WESTBOUND U-TURN	WESTBOUND LEFT	WESTBOUND THRU	WESTBOUND RIGHT	TOTAL
SURVEY DATA																			
4:00 PM	to	4:15 PM	1	19	209	3		0	165	7		2	0	9		1	0	0	**416**
4:15 PM	to	4:30 PM	3	33	442	3		0	334	14		9	0	23		1	0	0	**862**
4:30 PM	to	4:45 PM	4	45	640	11		0	496	21		15	0	34		1	0	3	**1270**
4:45 PM	to	5:00 PM	6	65	879	14		2	671	28		19	0	49		4	0	8	**1745**
5:00 PM	to	5:15 PM	8	86	1088	15		2	857	32		26	0	66		8	1	9	**2198**
5:15 PM	to	5:30 PM	10	99	1354	16		2	1037	39		28	0	83		10	1	9	**2688**
5:30 PM	to	5:45 PM	14	116	1627	19		2	1233	47		31	0	96		11	1	11	**3208**
5:45 PM	to	6:00 PM	16	134	1895	19		2	1401	53		39	0	110		12	1	12	**3694**
TOTAL BY PERIOD																			
4:00 PM	to	4:15 PM	1	19	209	3	0	0	165	7	0	2	0	9	0	1	0	0	**416**
4:15 PM	to	4:30 PM	2	14	233	0	0	0	169	7	0	7	0	14	0	0	0	0	**446**
4:30 PM	to	4:45 PM	1	12	198	8	0	0	162	7	0	6	0	11	0	0	0	3	**408**
4:45 PM	to	5:00 PM	2	20	239	3	0	2	175	7	0	4	0	15	0	3	0	5	**475**
5:00 PM	to	5:15 PM	2	21	209	1	0	0	186	4	0	7	0	17	0	4	1	1	**453**
5:15 PM	to	5:30 PM	2	13	266	1	0	0	180	7	0	2	0	17	0	2	0	0	**490**
5:30 PM	to	5:45 PM	4	17	273	3	0	0	196	8	0	3	0	13	0	1	0	2	**520**
5:45 PM	to	6:00 PM	2	18	268	0	0	0	168	6	0	8	0	14	0	1	0	1	**486**
HOURLY TOTALS																			
4:00 PM	to	5:00 PM	6	65	879	14	0	2	671	28	0	19	0	49	0	4	0	8	**1745**
4:15 PM	to	5:15 PM	7	67	879	12	0	2	692	25	0	24	0	57	0	7	1	9	**1782**
4:30 PM	to	5:30 PM	7	66	912	13	0	2	703	25	0	19	0	60	0	9	1	9	**1826**
4:45 PM	to	5:45 PM	10	71	987	8	0	2	737	26	0	16	0	62	0	10	1	8	**1938**
5:00 PM	to	6:00 PM	10	69	1016	5	0	0	730	25	0	20	0	61	0	8	1	4	**1949**

PEAK HOUR SUMMARY

5:00 PM to 6:00 PM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	10	69	1016	5	0	0	730	25	0	20	0	61	0	8	1	4	**1949**
PHF BY MOVEMENT	0.63	0.82	0.93	0.42	0.00	0.00	0.93	0.78	0.00	0.63	0.00	0.90	0.00	0.50	0.25	0.50	OVERALL
PHF BY APPROACH	0.93				0.93				0.84				0.54				0.94
BICYCLE	4				3				0				0				**7**
PEDESTRIAN	18				6				0				0				**24**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	0				0				0				24				**24**

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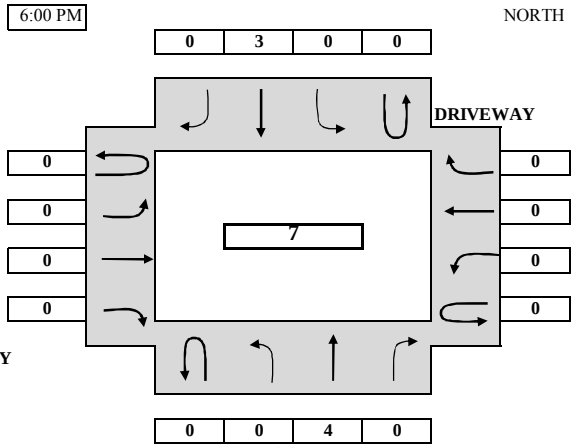
BICYCLE TURNING MOVEMENT SUMMARY

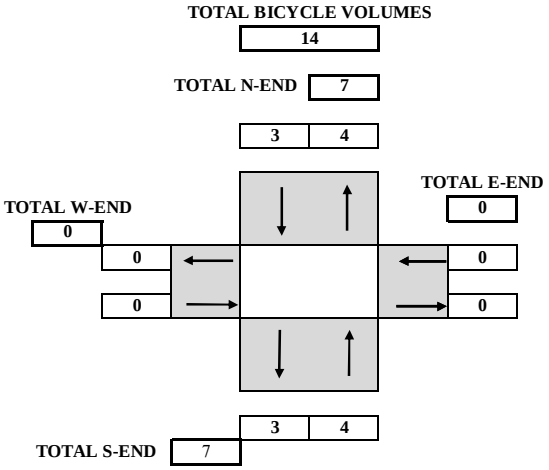
PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**	**DAY:**	**TUESDAY**
N-S APPROACH:	**REDWOOD ROAD**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**	**FILE:**	**3612100-4PM**

PEAK HOUR
5:00 PM to 6:00 PM

NORTH



PEAK HOUR
TOTAL BICYCLE VOLUMES



TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
4:00 PM	to	4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
4:15 PM	to	4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
4:30 PM	to	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
4:45 PM	to	5:00 PM	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	2	**5**
5:00 PM	to	5:15 PM	0	0	2	0	0	2	0	0	0	1	0	0	0	0	0	2	**7**
5:15 PM	to	5:30 PM	0	0	3	0	0	2	2	0	0	1	0	0	0	0	0	2	**10**
5:30 PM	to	5:45 PM	0	0	3	0	0	2	2	0	0	1	0	0	0	0	0	2	**10**
5:45 PM	to	6:00 PM	0	0	4	0	0	2	3	0	0	1	0	0	0	0	0	2	**12**
TOTAL BY PERIOD																			
4:00 PM	to	4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
4:15 PM	to	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4:30 PM	to	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
4:45 PM	to	5:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	**4**
5:00 PM	to	5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
5:15 PM	to	5:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	**3**
5:30 PM	to	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
5:45 PM	to	6:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**
HOURLY TOTALS																			
4:00 PM	to	5:00 PM	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	2	**5**
4:15 PM	to	5:15 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	2	**6**
4:30 PM	to	5:30 PM	0	0	3	0	0	2	2	0	0	0	0	0	0	0	0	2	**9**
4:45 PM	to	5:45 PM	0	0	3	0	0	2	2	0	0	0	0	0	0	0	0	2	**9**
5:00 PM	to	6:00 PM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	**7**

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5:00 PM	to	6:00 PM				
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	4	3	0	0	**7**

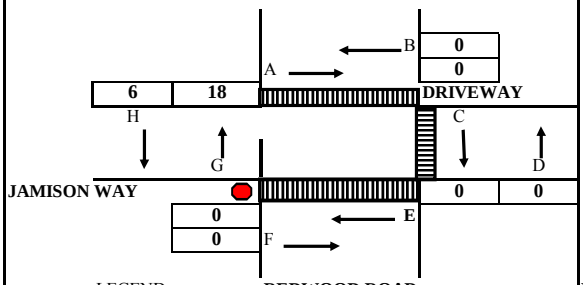
B.A.Y.M.E.T.R.I.C.S.

PEDESTRIAN MOVEMENT SUMMARY

PROJECT:	**TRAFFIC COUNTS IN CASTRO VALLEY**	**SURVEY DATE:**	**12/6/2016**
N-S APPROACH:	**REDWOOD ROAD**	**DAY:**	**TUESDAY**
E-W APPROACH:	**JAMISON WAY**	**JURISDICTION:**	**CASTRO VALLEY**
SURVEY PERIOD:	**4:00 PM TO 6:00 PM**	**FILE:**	**3612100-4PM**

PEAK HOUR

05:00 PM TO 06:00 PM



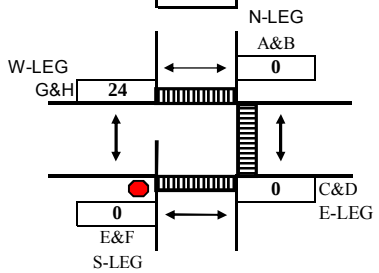
LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

PEAK HOUR

TOTAL PEDESTRIAN VOLUMES

24



BY LEG:		**BY DIRECTION:**	
N-LEG	**0**	**NB**(D+G)	**18**
S-LEG	**0**	**SB**(C+H)	**6**
E-LEG	**0**	**EB**(A+F)	**0**
W-LEG	**24**	**WB**(B+E)	**0**

TIME PERIOD			NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		
From		**To**	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***	***TOTAL***
SURVEY DATA											
04:00 PM	---	04:15 PM	0	0	0	0	0	0	8	6	***14***
04:15 PM	---	04:30 PM	0	0	0	0	0	0	18	6	***24***
04:30 PM	---	04:45 PM	0	0	0	0	0	0	23	9	***32***
04:45 PM	---	05:00 PM	0	0	0	0	0	0	24	10	***34***
05:00 PM	---	05:15 PM	0	0	0	0	0	0	25	12	***37***
05:15 PM	---	05:30 PM	0	0	0	0	0	0	33	13	***46***
05:30 PM	---	05:45 PM	0	0	0	0	0	0	38	15	***53***
05:45 PM	---	06:00 PM	0	0	0	0	0	0	42	16	***58***
TOTAL BY PERIOD											
04:00 PM	---	04:15 PM	0	0	0	0	0	0	8	6	***14***
04:15 PM	---	04:30 PM	0	0	0	0	0	0	10	0	***10***
04:30 PM	---	04:45 PM	0	0	0	0	0	0	5	3	***8***
04:45 PM	---	05:00 PM	0	0	0	0	0	0	1	1	***2***
05:00 PM	---	05:15 PM	0	0	0	0	0	0	1	2	***3***
05:15 PM	---	05:30 PM	0	0	0	0	0	0	8	1	***9***
05:30 PM	---	05:45 PM	0	0	0	0	0	0	5	2	***7***
05:45 PM	---	06:00 PM	0	0	0	0	0	0	4	1	***5***
HOURLY TOTALS											
04:00 PM	---	05:00 PM	0	0	0	0	0	0	24	10	***34***
04:15 PM	---	05:15 PM	0	0	0	0	0	0	17	6	***23***
04:30 PM	---	05:30 PM	0	0	0	0	0	0	15	7	***22***
04:45 PM	---	05:45 PM	0	0	0	0	0	0	15	6	***21***
05:00 PM	---	06:00 PM	0	0	0	0	0	0	18	6	***24***

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12:00 AM to 12:00 AM					
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	18	6	0	0	**24**
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	0	0	0	24	**24**