

Appendix K Transportation Operations Memorandum

Technical Memorandum

December 4, 2023

Project# 29471

To: Mariana Zimmermann, PlaceWorks

CC: Dwayne Mears, PlaceWorks

From: Kittelson & Associates, Inc.

RE: Amador County School Consolidation EIR – Traffic Operations Memorandum DRAFT

INTRODUCTION

This memorandum presents the findings of the transportation impact analysis conducted for the Amador County Unified School District (ACUSD) in analyzing the school consolidation effort (herein referred to as the "Project"). ACUSD provides preschool through 12th grade and adult education services to Amador County. The consolidation, when completed, will result in Amador County having a single public high school and junior high school. The primary aim of this consolidation endeavor is to enhance educational opportunities, counseling, and other support services by focusing resources on fewer facilities and maintain District financial stability by consolidating resources for efficient program administration.

The aim of this study is to evaluate the effects of the proposed Project on traffic operational performance. A thorough operational analysis was conducted to assess the potential transportation deficiencies resulting from the implementation of the Project on the transportation system, and feasible solutions were identified to improve the deficiencies if needed. The study also serves to inform decision makers of traffic operations resulting from the proposed Project.

Project Description

The Project by the ACUSD involves consolidating and reconfiguring eight schools into six campuses. Table 1 summarizes the proposed changes in grade levels, student enrollment, and student capacities at the six campuses. The proposed building and site improvements were also considered for this analysis during the trip distribution and assignment phases as needed.

As part of this effort, Kittelson analyzed the operational performance near Argonaut High School and Lone Jr. High School campuses. From Table 1, the proposed consolidation will combine Amador and Argonaut High Schools onto the Argonaut campus, increasing capacity from 925 to 1,325 students in grades 9-12. The consolidated Argonaut High School campus will have an increased capacity and upgraded facilities to serve the larger 9-12-grade student population. Figure 1 shows the study area and the proposed consolidation program. Sutter Creek Elementary School also experiences an increase in the enrollment capacity with the proposed consolidation program and hence was qualitatively addressed in this memo.

lone and Jackson Jr. High Schools will consolidate at the Amador High School campus, with no change in the capacity. Furthermore, Lone Elementary School will be relocated to the Lone Jr. High School campus. The combined campus would serve preschool through sixth-grade students, with an expanded capacity from 775 to 801 students. Improvements would include converting science labs into kindergarten classrooms, upgrading restrooms for younger students, and expanding parent drop-off/pick-up areas.

Table 1: Proposed Changes in Grade Levels, Student Enrollment and Student Capacities at the Six Campuses

Proposed Action	Enrollment		Capacity	
	Existing	Proposed	Existing	Proposed
Amador and Argonaut High Schools combine at Argonaut High School (Grades 9-12)	536	1,263	925	1,325
Ione and Jackson Jr. High Schools combine at Amador High School (Grades 9-12 change to Grades 7-8)	702	603	875	875
Ione Elementary School moves to Ione Jr. High School (Grades 6-8 change to Preschool, Grades TK-6)	393	649	775	801
Jackson Jr. High becomes County Preschool Center (Grades 6-8 change to Preschool, TK)	346	41	475	195
Jackson Elementary School adds back 6 th grade (Grades TK-5 change to Grades TK-6)	500	528	575	575
Sutter Creek Elementary School expansion (Grades TK-2 change to Grades TK-6)	204	388	325	625

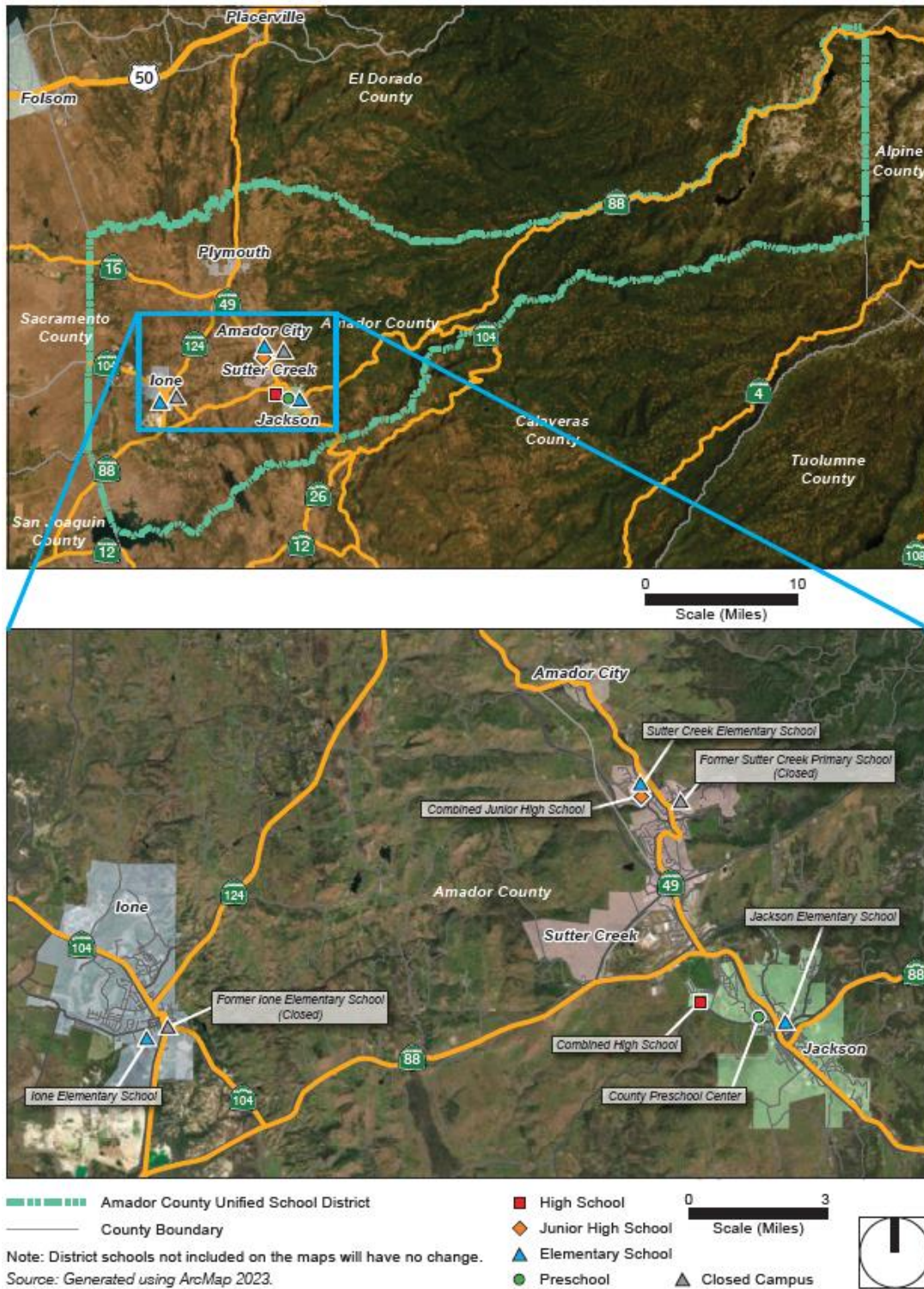
Surrounding Land Uses

Argonaut High School is located within a diverse land use context, including residential areas, auto repair centers, restaurants, and retail establishments to the north and southeast. Additionally, parks and recreational facilities are to the southeast of the school. The school is 0.7 miles south of State Route 88 and 1.7 miles west of State Route 49.

Ione Jr. High School is surrounded by residential areas, parks, and recreational areas to the southwest, car wash and repair services to the northeast, and retail to the north. Additionally, State Route 124 is located 0.3 miles to the northeast of the school and State Route 104 is located 0.4 miles to the east of the school.

Sutter Creek Elementary School is located within a diverse land use context, including residential areas, hotels, and retail establishments to the south. Additionally, State Route 49 is located 0.5 miles to the west of the school.

Figure 1. Study Area and Proposed Consolidation Program.



Source: Notice of Preparation, School Closure/Consolidation Program Project, Amador County Unified School District, Received on June 16, 2023

Analysis Approach

The analysis assessed the Project's potential effects on vehicular traffic, transit operations, bicycle infrastructure, and pedestrian infrastructure. The analysis focused on the intersections projected to undergo significant changes in their circulation patterns compared to prior conditions and on the comments received from the public on the *draft notice of preparation* for the project.

Analysis Scenarios

Vehicle volumes were evaluated to assess the traffic performance of the circulation system. Thus, turning movement counts were collected during AM (7:00 – 9:00 AM) and school PM peak periods (2:00 – 4:00 PM) on typical weekday school days. Trip generation was calculated for the Project using the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). Furthermore, projections were made for Project trip distribution based on current traffic patterns and anticipated circulation changes due to the Project. Four scenarios were assessed at the study intersections:

- Existing AM peak hour
- Existing PM peak hour
- Existing AM peak hour with Project
- Existing PM peak hour with Project.

Study Locations

A set of intersections were selected for analysis based on their location and the anticipated distributional patterns of Project traffic. The intersection locations chosen for analysis are near Argonaut High School and Lone Jr. High School which are shown in Figure 2 and Figure 3, respectively. It was assumed that the freeways near the Project would not be significantly impacted, and thus no freeway analyses were performed.

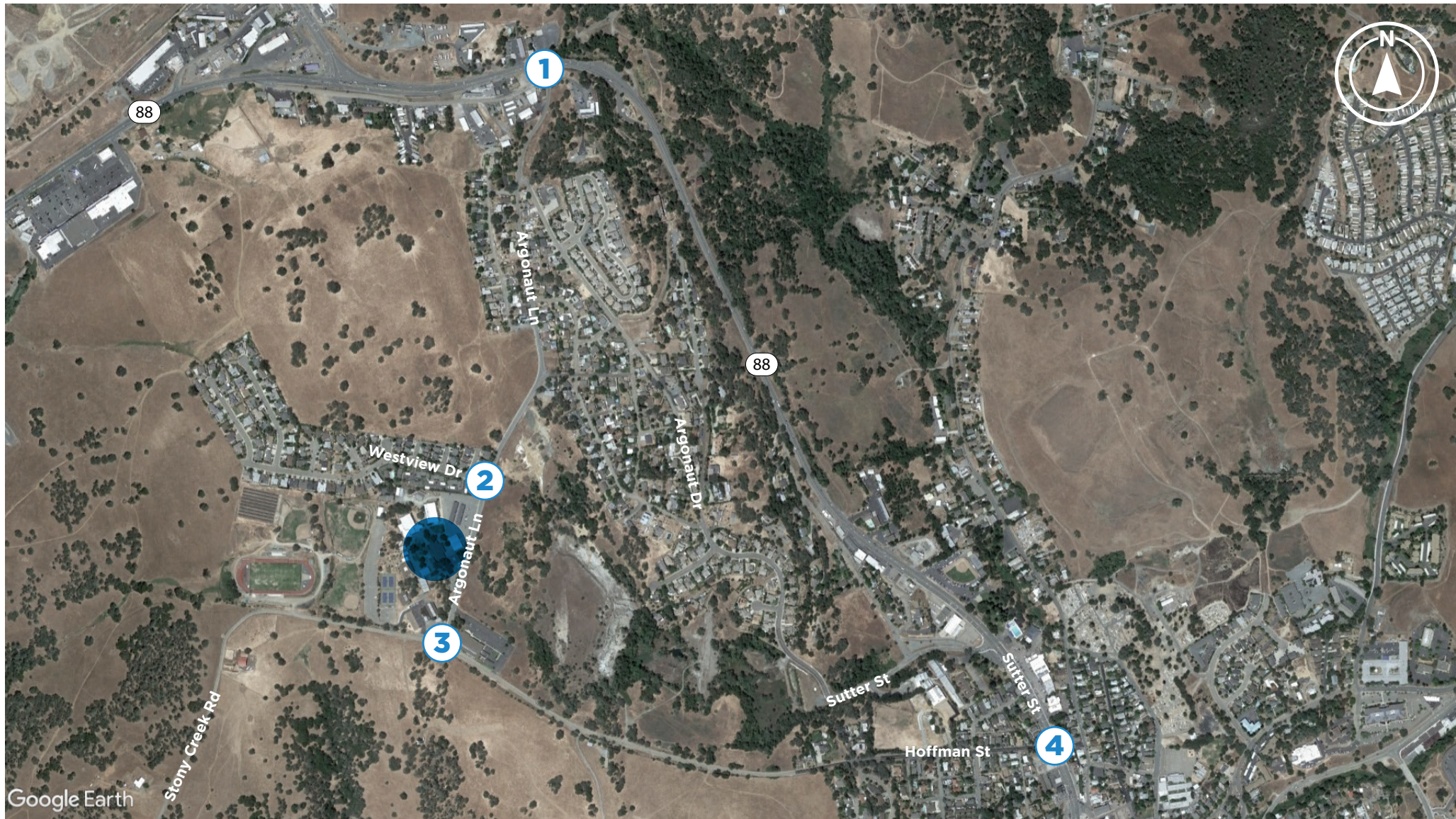
Study Intersections

Study intersections near Argonaut High School include:

- 1) Argonaut Lane/State Route 88
- 2) Argonaut Lane/Westview Drive
- 3) Argonaut Lane/Stony Creek Road/Hoffman Street
- 4) Sutter Street/Hoffman Street

Study intersections near Lone Jr. High School include:

- 5) Mills Street/Marlette Street
- 6) Sacramento Street/Marlette Street
- 7) State Route 124/Relihan Drive
- 8) Church Street/Market Street



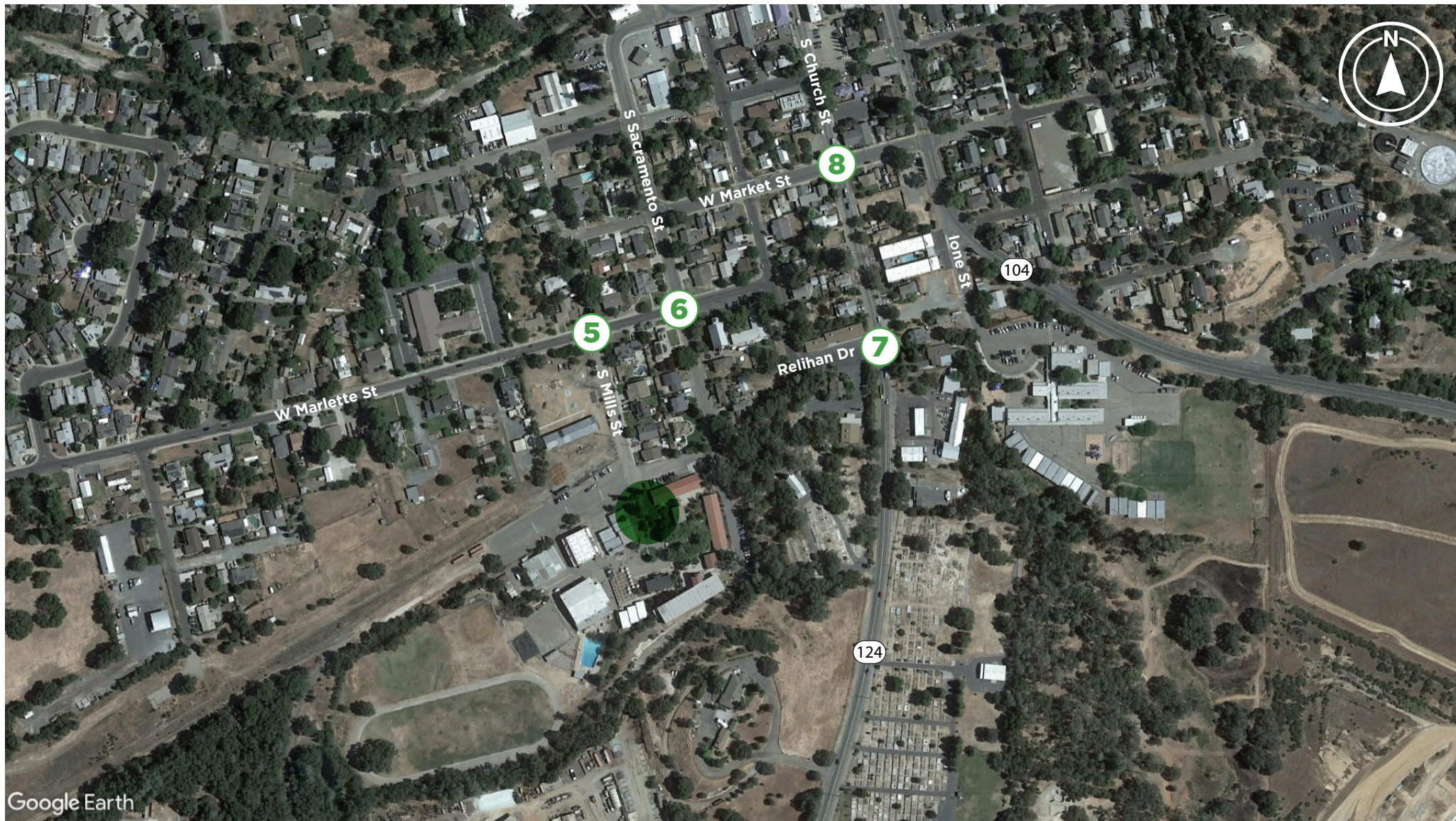
Argonaut High School Intersection Locations



Project Location



Intersection Location



Lone Junior High School Intersection Locations



Project Location



Intersection Location

EXISTING CONDITIONS

Roadway Network

State Routes

Argonaut High School is primarily accessed via State Route 88 to the north and northeast and State Route 49 to the east. Lone Jr. High School is accessed primarily via State Route 124 and State Route 104. Additionally, Sutter Creek Elementary School is accessed by State Route 49 to the west.

State Route 88, also known as the Carson Pass Highway, is a five-lane highway with a speed limit of 45 miles per hour within the city limits. Outside the city limit, State Route 88 is a two-lane highway with a speed limit of 55 miles per hour. It provides a connection to Stockton and the San Joaquin Valley. There are limited sidewalks when passing east of Argonaut High school. The route passes through several farms, vineyards, and orchards along with small towns that are situated in the San Joaquin Valley. The highway runs concurrently with State Route 49 through town. State Route 88 separates from State Route 49 and leaves Jackson following Jackson Creek to climb to the small town of Pine Grove. It also provides access to the freeway network with direct connections to State Route 41, State Route 49, and State Route 124. Additionally, the proposed United States Bicycle Route 50 (USBR50) pathway aligns with State Route 88.

State Route 49 is a north-south two-lane highway with a speed limit of 55 miles per hour outside the city limit. The route turns into a three-lane highway with a speed limit of 30 miles per hour within the city limits as it approaches city of Jackson. Within the Jackson city limits, State Route 49 is primarily a four-lane facility with a two-way left-turn lane (TWLTL), though the southerly, downhill portion heading into downtown Jackson features a single travel lane. It passes through Sutter Hill, Martell, Jackson, and Scottsville. There are limited sidewalks when passing through these cities and no bike facilities. State Route 49 briefly runs concurrently with State Route 88 through the town of Martell before intersecting with the eastern terminus of State Route 104. Continuing its route, State Route 49 travels west of Sutter Creek and Amador City. Additionally, it provides access to the freeway network, establishing direct connections to State Route 88 and State Route 26.

State Route 124 is a north-south two-lane highway with a speed limit of 25 miles per hour within the city limit and 45 miles per hour outside the city limits. It enters the city of Lone from State Route 16 near Plymouth and continues south to SR 88. State Route 124 continues north as Church Street into the city of Lone, intersecting Buena Vista Road and passing Lake Flint along the way. It also provides access to the freeway network with direct connections to State Route 16 and State Route 104. Sidewalks and crosswalks are available within the lone city limits. However, there are no pedestrian or bike facilities along State Route 124 outside the city limits.

State Route 104 is a west-east two-lane highway between Sutter Lane and State Route 88 with a speed limit of 25 miles per hour within lone city limits and 45 mph outside the city limits. Within the city limits, State Route 104 is referred to as Preston Avenue, South lone Street, and Main Street. It connects State Route 99 near Galt to State Route 49 in Sutter Creek via the city of lone. It provides a direct connection to Interstate 5 and State Route 160. The route begins in Galt in Sacramento County at State Route 99. It then heads eastward. The route turns northeast, passing through Herald, near Rancho Seco Nuclear Generating Station and on to the community of Clay before entering Amador County SR 124 and SR 104 follow the same alignment through downtown lone. Like State Route 124, Sidewalks and crosswalks are available within the lone City limits, while no pedestrian or bike facilities along State Route 104 outside the city limits.

Minor Arterials

Church St. is a two-lane north-south roadway with a speed limit of 25 miles per hour near Lone Junior High School. The facility extends from Main Street on the north to State Route 124 on the South with limited sidewalks and no bicycle facilities.

Main St. is a two-lane east-west roadway with a speed limit of 25 miles per hour located near Lone Junior High School. The road spans from Old Lone-Jackson Road on the east to Sacramento Street on the west with limited sidewalks and no bicycle facilities.

lone St. is a two-lane north-south roadway with a speed limit of 25 miles per hour, located near Lone Junior High School. It extends from Main Street on the north to State Route 104 on the south, featuring limited sidewalks and no bicycle facilities.

Old Route 49 is a two-lane north-south roadway with a speed limit of 45 miles per hour. Near Sutter Creek Elementary School, the roadway transitions into a three-lane road with a speed limit of 35 miles per hour. The facility extends from State Route 49 on the west, passes through Sutter Creek and Amador City, and continues until it reaches State Route 49 to the north. It has limited sidewalks within the cities, and no bicycle facilities.

Major Collectors

Hoffman St. is a two-lane roadway with a speed limit of 25 miles per hour It extends in a southwesterly direction from SR 49 in the city of Jackson to Buena Vista Road near the Calaveras County line. In. The facility is located near Argonaut High School. However, the facility doesn't include sidewalks or bike trails.

Argonaut Ln. is a two-lane north-south roadway with a speed limit of 25 miles per hour that is located near Argonaut High School. It spans from State Route 88 on the north to Hoffman Street on the south, featuring limited sidewalks for pedestrian use and no bicycle facilities.

Marlette St. is a two-lane east-west roadway with a speed limit of 25 miles per hour near Lone Junior High School. It extends from Buena Vista Street on the east to Dave Brubeck Road and 5 Mile Drive on the west. Nevertheless, it has limited sidewalks available and no bicycle facilities.

Sacramento St. is a two-lane north-south roadway near Lone Jr. High School with a speed limit of 25 miles per hour. It extends from Main Street on the north to Marlette Street on the south. The facility also has limited sidewalks for pedestrian accessibility and no bicycle facilities.

Sutter lone Rd. is a two-lane east-west roadway near Sutter Creek Elementary School with a speed limit of 25 miles per hour. It extends from Spanish Street on the east to State Route 124 on the west. It has limited sidewalks near the school and no bicycle facilities.

Local Roads

Mills St. is a two-lane north-south local road with a speed limit of 25 miles per hours near lone Jr. High School. The roadway stretches from Jackson Street on the north to lone Jr. High School on the south. It has limited sidewalks for pedestrian use and no bicycle facilities.

Market St. is a two-lane east-west local road also situated near lone Jr. High School. It extends from Summit Street on the east to Mills Street on the west. It has limited sidewalks and no pedestrian facilities.

Spanish St. is a two-lane north-south local road near Sutter Creek Elementary School, with a speed limit of 25 miles per hour. The roadway extends from Old Route 49 in the north to its southern end. It has limited sidewalks and no bicycle facilities.

Transit Facilities

School Bus Program

The Amador County Unified School District operates a comprehensive bus program that facilitates convenient access to transit facilities and for various schools within the project area. Relevant details to the school bus program can be found in this link: <https://amadorcoe.org/departments/transportation/bus-routes/>.

Public Transit

Near Argonaut High School, there are two bus stations: Courthouse and Argonaut/Westview. These stations serve as pivotal points for Routes 5 and 6. Route 5, also known as the Sutter Creek-Jackson Shuttle, follows a circular route encompassing 37 stops. It starts from the Sutter Hill Transit Center, providing a 1-hour frequency of service and operating between 9:05 AM to 3:15 PM on weekdays. Similarly, Route 6 covers 37 stops from the Sutter Hill Transit Center. This service operates on weekdays and maintains a frequency of 1 hour and 15 minutes, with operational hours extending from 7:00 AM to 4:45 PM. These two routes also serve Sutter Creek Elementary School.

Ione Jr. High School benefits from convenient access to transit facilities through two main bus stations located near the school. These stations, W. Marlette/Depot Rd. and Ione Methodist Church are strategically located along the route of Amador Bus 7, which operates as part of the Sutter Hill Transit Center network. The Route 7 bus encompasses a total of 9 stops, commencing its journey from Castle Park and concluding at The Arc. Notably, the service operates on weekdays once in the morning and once in the afternoon from 7:45 AM to 4:44 PM.

Sutter Creek Elementary School also has easy access to transit facilities through the Amador High School-Spanish Street bus station, located 344 feet away from the school. This station serves Routes 3, 5, and 6. Route 3 includes 15 stops, starting from Sutter Hill Transit Center and ending at The Arc. Weekday service includes one morning and one afternoon trip, running from 8:15 AM to 3:10 PM. Table 2 illustrates the transit facilities in the Project vicinity.

Table 2: Bus Routes Serving in the Project Vicinity

Route	Serving	Distance From School	Day	Times		Frequency
Route 3	Sutter Creek Elementary School	344 ft	Weekday	8:15 AM	3:10 PM	Operates once in the morning and once in the afternoon
Route 5	Argonaut High School	0.1 mile	Weekday	9:05 AM	3:15 PM	1 hr
Route 6	Argonaut High School	0.1 mile	Weekday	7:00 AM	4:45 PM	1 hr 15 min
Route 7	Ione Junior High School	0.3 mile	Weekday	7:45 AM	4:44 PM	Operates once in the morning and once in the afternoon

Source: Amador Transit System website, <https://amadortransit.com/schedules/>, accessed August 18, 2023

Bicycle and Pedestrian Facilities

Existing Bicycle Facilities

Bicycle and pedestrian facilities are important components of the transportation network in the study area. They not only offer non-vehicular opportunities for both commute and recreational trips but also provide connections to the region's transit network.

Bicycle facilities are defined by the following four classes¹:

- **Class I** – Provides a completely separate 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 IV** – Provides a restricted right-of-way designated lane for the exclusive use of bicyclists that is separated by a vertical element to provide further separation from motor vehicle traffic.

An existing Class II Bicycle Route is on Argonaut Lane, stretching from Mariposa St. to Hoffman St. near Argonaut High School (Jackson).

Planned Bicycle Facilities

As detailed in the city of Ione Updated General Plan, the city's Proposed Bikeway Project List (city of Ione, 2008) includes 20 bike lane improvement projects within the Circulation Element². One of the proposed bicycle facilities consists of a Class I bike path near Ione Jr. High School, located south of Marlette Street.

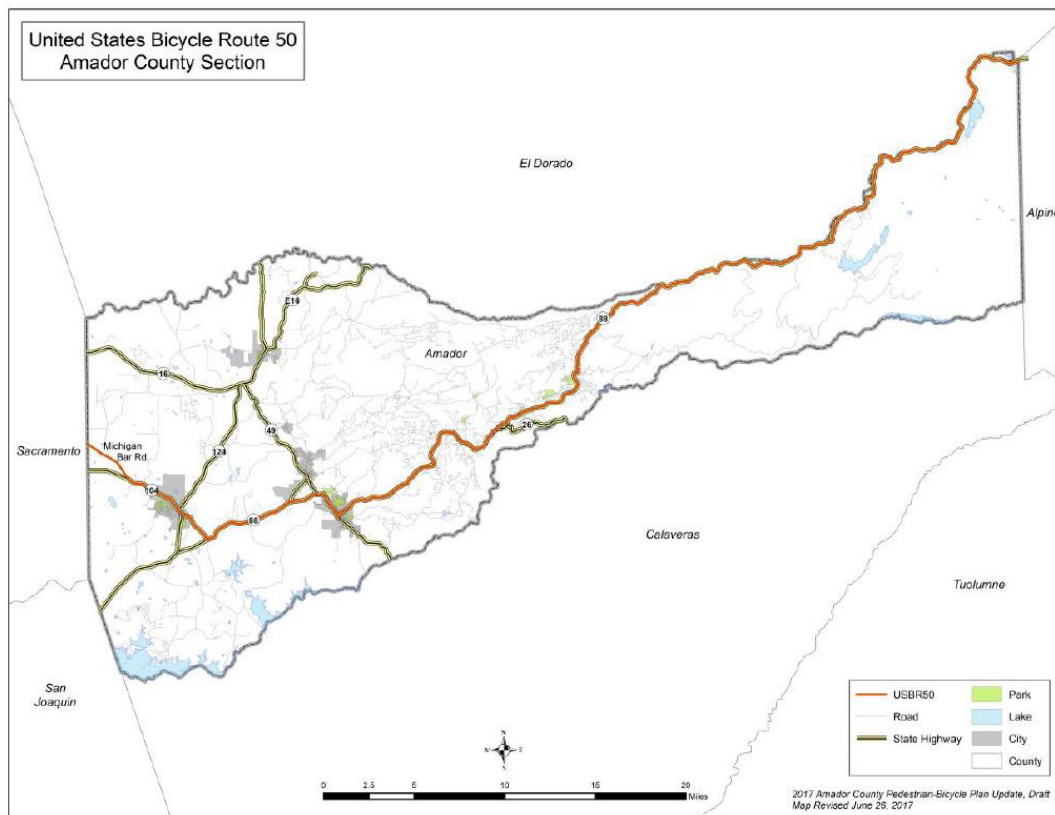
On a broader scale, the USBR50 emerges as a national cycling route connecting San Francisco to Washington D.C. This section of the United States Bicycle Route System (USBRS) envisions an expansive

¹ As detailed in Chapter 1000 of the Highway Design Manual (Caltrans, 2015).

² As detailed in Chapter 4.4. Traffic and Circulation of the city of Ione General Plan Update (June 2015).

network spanning 50,000 miles of pathways, tailored for cross-country travel, regional exploration, and bicycle commuting upon full development. In Amador County, the proposed USBR50 pathway aligns with State Route 88, extending from Kirkwood's Upcountry County Line to the State Route 104 junction. Continuing through Lone, the route shifts north onto Michigan Bar Rd and extends to the Sacramento County line. It passes near Argonaut High School. Figure 4 shows the USBR50 Amador County Section.

Figure 4. The United States Bicycle Route 50 (USBR50) Amador County Section

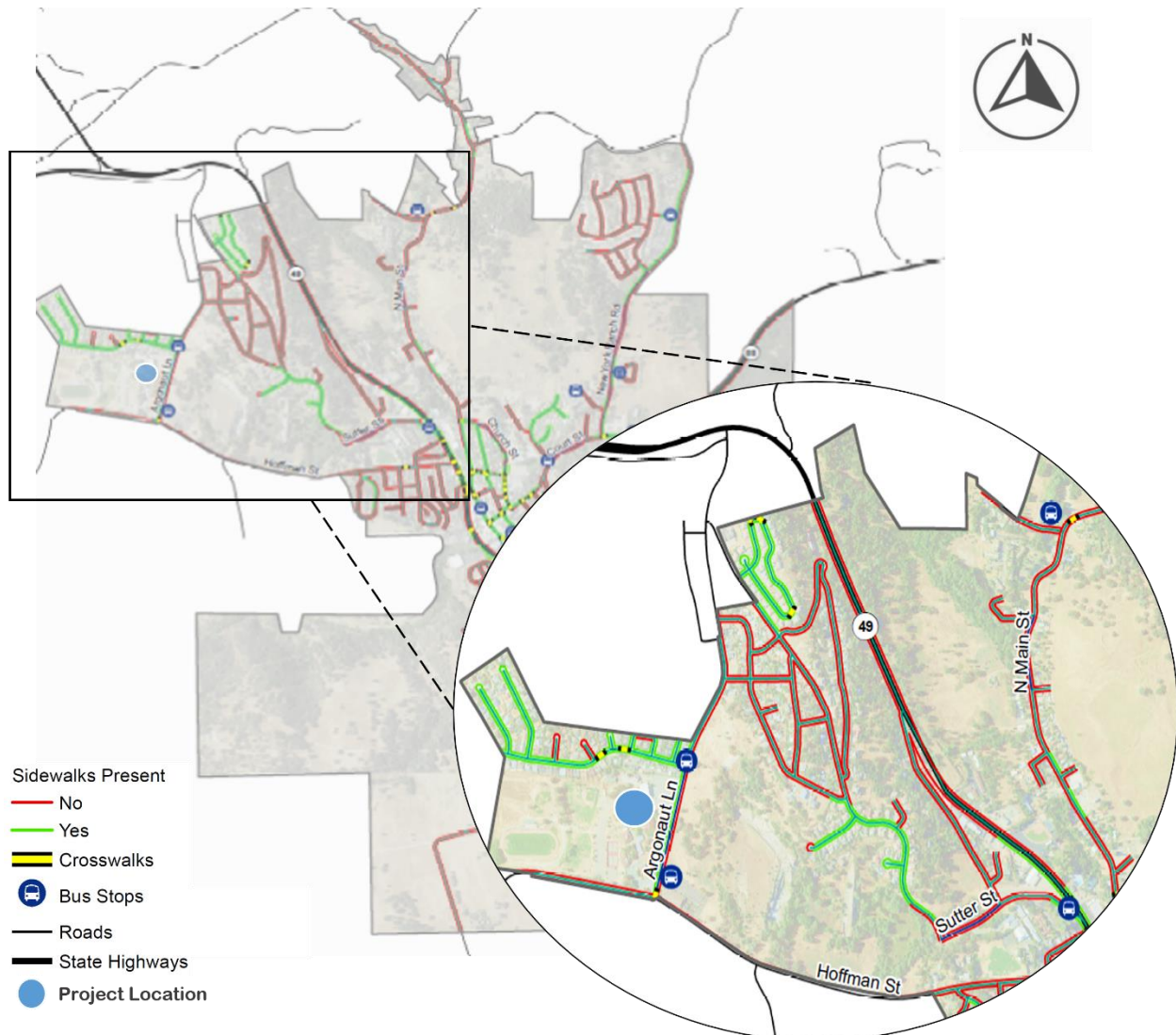


Source: Amador Countywide Pedestrian and Bicycle Plan, October 5th, 2017

Pedestrian Facilities

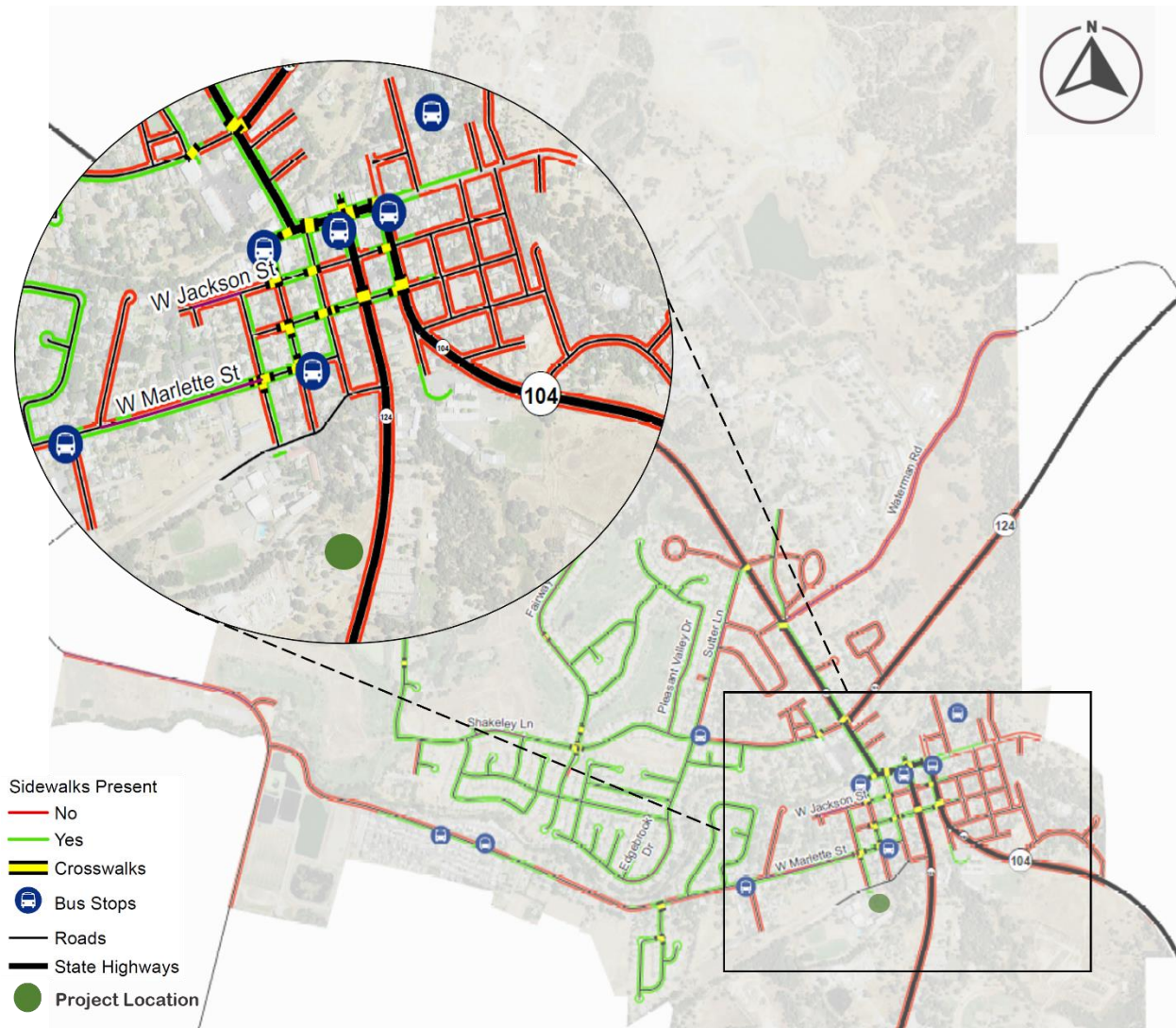
Pedestrian facilities are present near Argonaut High School, Lone Jr. High School, and Sutter Creek Elementary School. However, due to the rural nature of Amador County, the presence of sidewalks and crosswalks is not uniform across all roads. Sidewalks are intermittently present along certain major arterials and collectors. Crosswalks are present intermittently at intersections near these three campuses. Figure 5, Figure 6, and Figure 7 illustrate the pedestrian facilities near Argonaut High School, Lone Jr. High School, and Sutter Creek Elementary School respectively.

Figure 5. Pedestrian Facilities near Argonaut High School



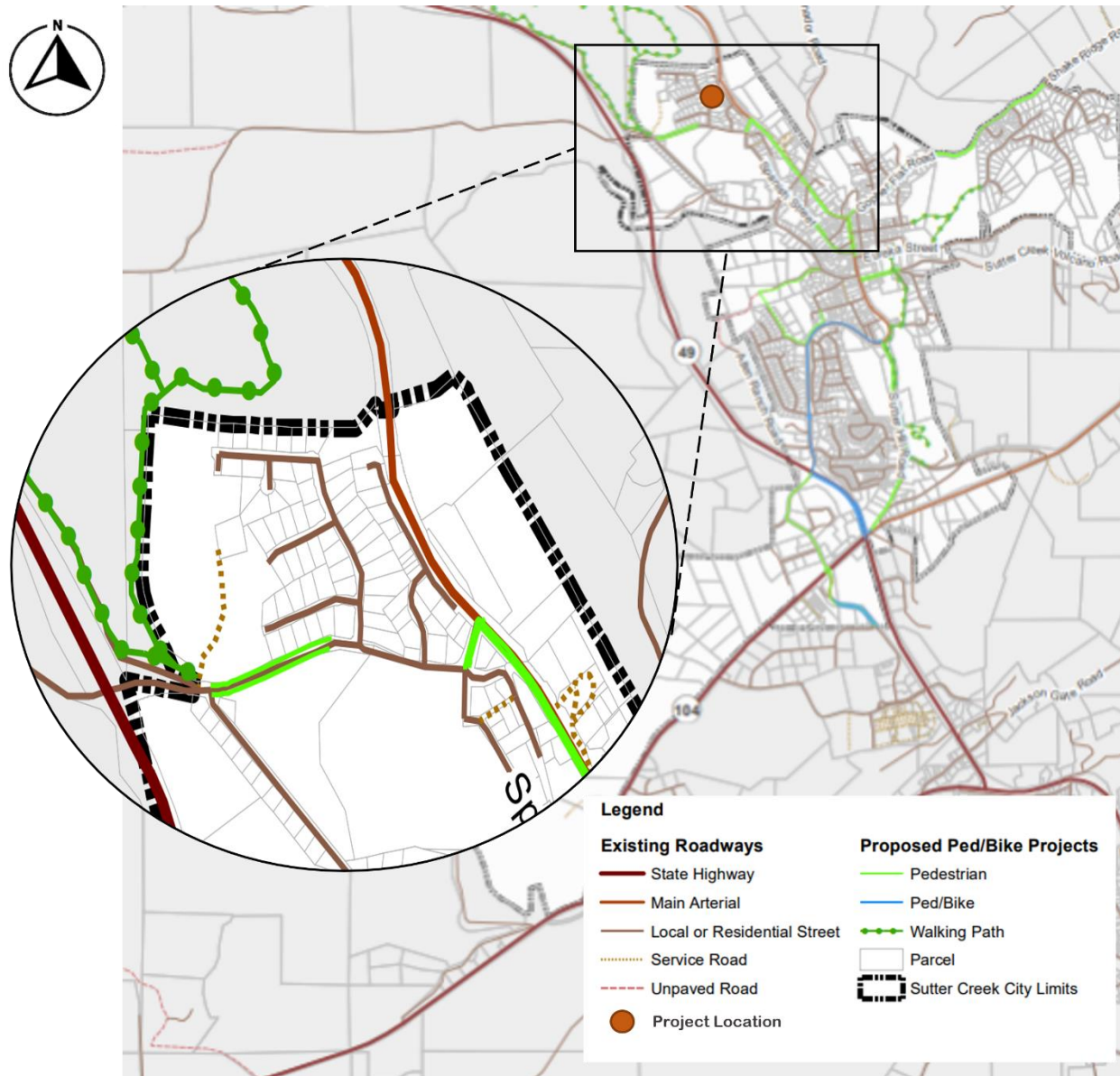
Source: Amador Countywide Pedestrian and Bicycle Plan, Appendix G: Sidewalk Audit Maps, October 5th, 2017

Figure 6. Pedestrian Facilities near Lone Jr. High School



Source: Amador Countywide Pedestrian and Bicycle Plan, Appendix G: Sidewalk Audit Maps, October 5th, 2017

Figure 7: Pedestrian facilities near Sutter Creek Elementary School



Source: Sutter Creek General Plan Volume I – Policy Document, July 2019

Truck Facilities

State Route 104 and State Route 124 that pass near Lone Jr. High School are classified as California Legal Network with California Legal Advisory Route Kingpin to Rear Axle (KPRA) Advisory of 30 feet in downtown lone. This means that trucks up to 40 feet are permitted to travel on State Route 104 and State Route 124, but trucks over 30 feet in downtown lone are not advised due to roadway constraints (e.g., tight turning radius downtown lone).³

³ As detailed in Chapter 4.4. Traffic and Circulation of the city of Lone General Plan Update (June 2015).

Existing Traffic Conditions

The existing operations of the study intersections were assessed for the weekday AM and weekday PM peak hours for schools ("School PM"). These peak hours represent the hours with the highest vehicle volumes during the study periods, which are the AM peak period (7:00 AM to 9:00 AM) and School PM peak period (2:00 PM to 4:00 PM). Data were collected on Wednesday, May 31, 2023, a midweek day when schools were in session representing typical conditions, presented in Appendix A. Figure 8 and Figure 9 illustrate the lane configuration and traffic control for Argonaut High School and Lone Jr. High School study locations, respectively. Additionally, Figure 10 and Figure 11 show the existing turning movement counts for the study intersections near the Argonaut High School and Lone Jr. High School, respectively.

Analysis Methodologies and Level of Service Standards

"Level of service" describes the operating conditions experienced by users of a facility. Level of service is a qualitative measure of the effect of several factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, and convenience. Levels of service are designated A through F from best to worst, which covers the entire range of traffic operations that might occur. Level of Service (LOS) A through E generally represents traffic volumes at less than roadway capacity, while LOS F represents over capacity and/or forced flow conditions.

LOS was analyzed using methodologies described in the 7th Edition of the *Highway Capacity Manual*, as implemented in the analysis software program Vistro. The LOS criteria for unsignalized intersections is shown in Table 3, respectively.

Table 3: HCM 7th Edition LOS Criteria for Unsignalized Intersections

Level of Service (LOS)	Average Delay (seconds/vehicle)	Description
A	≤ 10	Very Low Delay
B	> 10 and ≤ 15	Minimal Delays
C	> 15 and ≤ 25	Acceptable Delay
D	> 25 and ≤ 35	Approaching Unstable Operation and/or Significant Delays
E	> 35 and ≤ 50	Unstable Operation and/or Substantial Delays
F	> 50	Excessive Delays

Source: *Highway Capacity Manual 7th Edition*



Argonaut High School Configuration and Signals



Project Location



Intersection Location



Google Earth

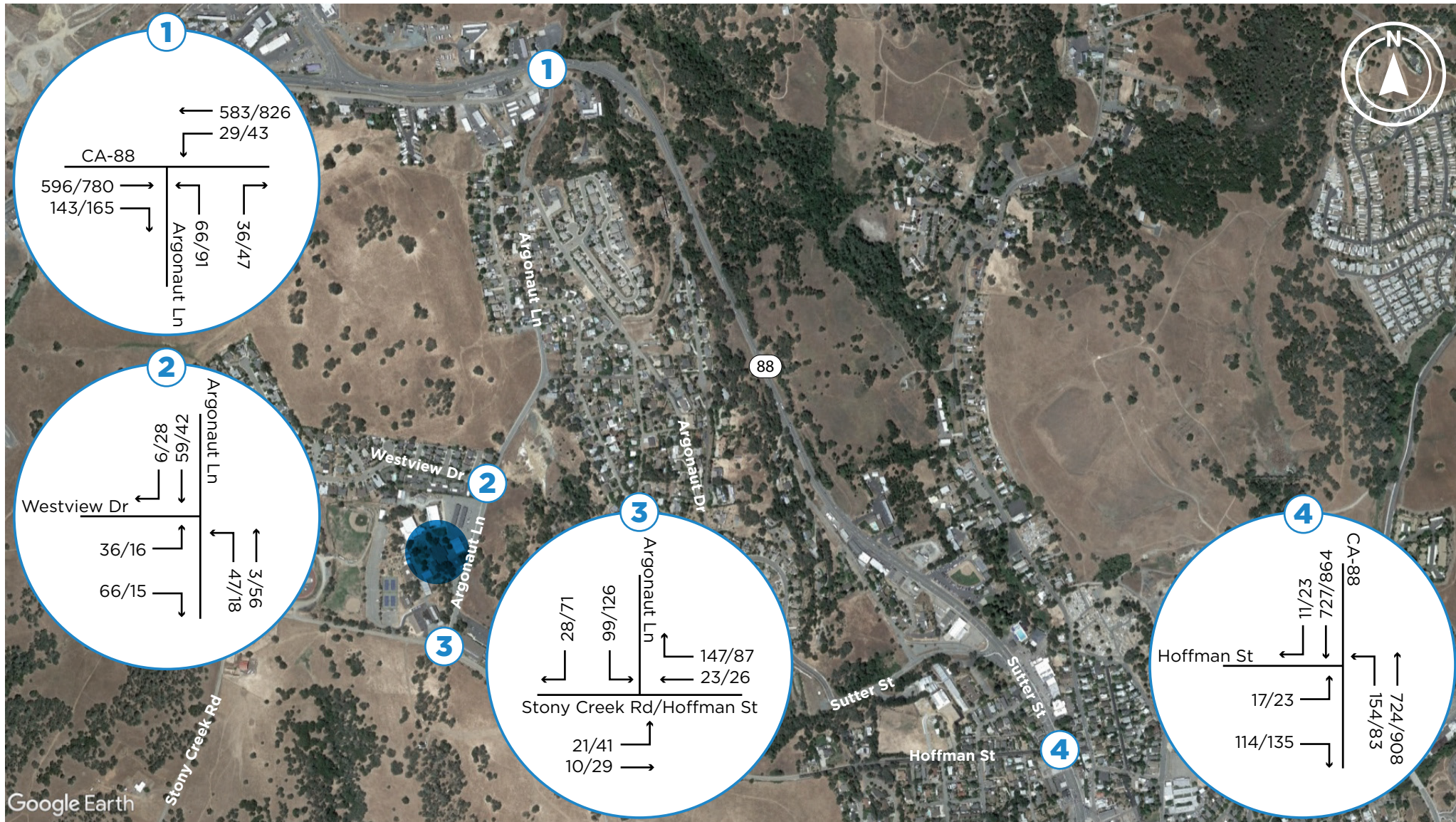
Lone Junior High School Configuration and Signals



Project Location



Intersection Location



Argonaut High School Existing Volumes AM/PM



Project Location



Intersection Location



Lone Junior High School Existing Volumes AM/PM



Project Location



Intersection Location

Existing Intersection Levels of Service

Intersection turning movement volumes, lane configurations, and traffic control were used to calculate the levels of service at the study intersections for the AM and School PM peak hours. Table 4 shows a list of study intersections and the LOS results for existing conditions. As shown, all intersections except Argonaut Lane/State Route 88 operate at LOS D or better in both AM and School PM peak hours in the existing conditions. Detailed calculation worksheets from Vistro, a traffic analysis software that evaluates the operations based on the Highway Capacity Manual, are provided in Appendix B.

Table 4: Intersection Level of Service – Existing Conditions

#	Intersection	Existing AM			Existing PM		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Argonaut Lane/State Route 88	0.27	25.2	D	0.46	42.9	E
2	Argonaut Lane/Westview Drive	0.03	9.6	A	0.02	9.7	A
3	Argonaut Lane/Stony Creek Road/Hoffman Street	0.19	11.3	B	0.32	14.6	B
4	Sutter Street/Hoffman Street	0.1	27.8	D	0.13	29.9	D
5	Mills Street/Marlette Street	0.01	13.5	B	0.01	10.9	B
6	Sacramento Street/Marlette Street	0.11	12.2	B	0.19	12.9	B
7	State Route 124/Relihan Drive	0.02	13.9	B	0.04	10.3	B
8	Church Street/Market Street	0.06	15.7	C	0.05	15.8	C

Source: Kittelson & Associates, Inc. 2023; Intersections analyzed using HCM 7th Edition methodologies
 V/C = Volume/capacity ratio; Delay = Average vehicle delay in seconds; LOS = Level of service; Bold indicates LOS standard not met.

Project Travel Demand

Trip Generation

Trip generation is a key consideration for determining the local effects of the project on the transportation network. Trip generation rates published by the Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition were used to estimate the number of trips the proposed Project would generate. ITE trip estimates were only calculated for the net change in student population at the two schools since trip generation for the existing student body at each school is already included in the traffic count data. The ITE land use codes found to be most applicable to the Project are listed below. The Project is assumed to be in a General Urban/Suburban area and Table 5 below shows the net new trip generation estimates used for the analysis.

- High School (ITE Land Use Code - 525)
- Elementary School (ITE Land Use Code - 520)

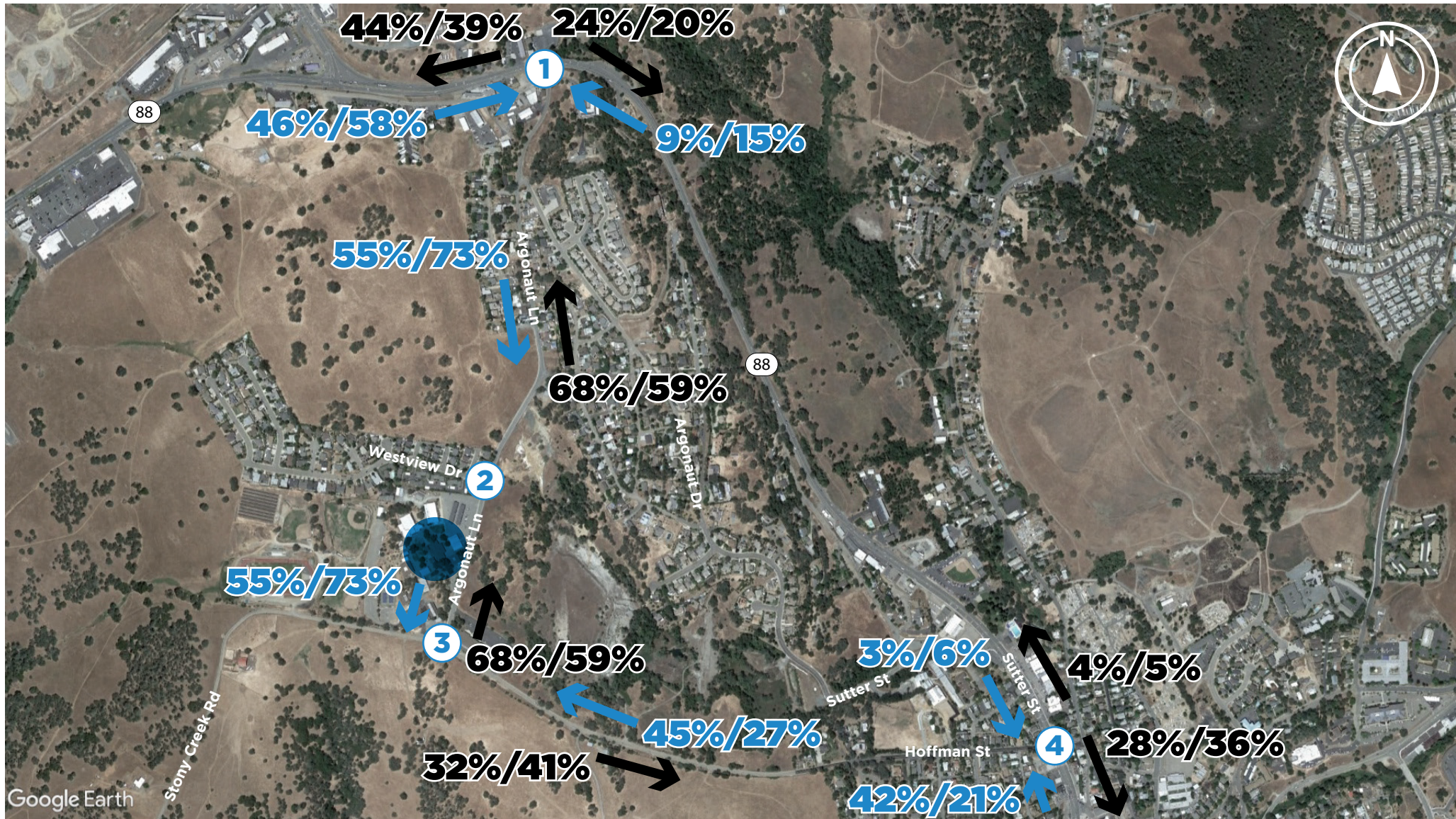
Table 5: Proposed Project Trip Generation Estimates

Land Use (ITE Code)	Unit	Net Increase in The Number of Students	Weekday Daily	Weekday AM Peak Hour			Weekday School PM Peak Hour		
				In	Out	Total	In	Out	Total
High School (525)	Student	789	1531	279	131	410	81	172	252
Elementary School (520)	Student	408	926	165	141	306	84	99	184

Source: ITE Trip Generation Manual, 11th Edition; Kittelson & Associates, 2023.

Trip Distribution and Assignment

Vehicular traffic going to/from the schools were distributed at each intersection according to the turning movement proportions consistent with the existing counts for both the AM and School PM peak hours. The trip distribution and assignment are shown in Figure 12 and Figure 13 for the peak hours for Argonaut High School and Lone Jr. High School (site of relocated Lone Elementary School), respectively.



Argonaut High School Project Trip Distribution



Project Location



Intersection Location

%%

AM/PM

%

In

%

Out



Lone Junior High School Existing Trip Distribution



Project Location



Intersection Location

%/%

AM/PM

%

In

%

Out

Existing Plus Project Conditions

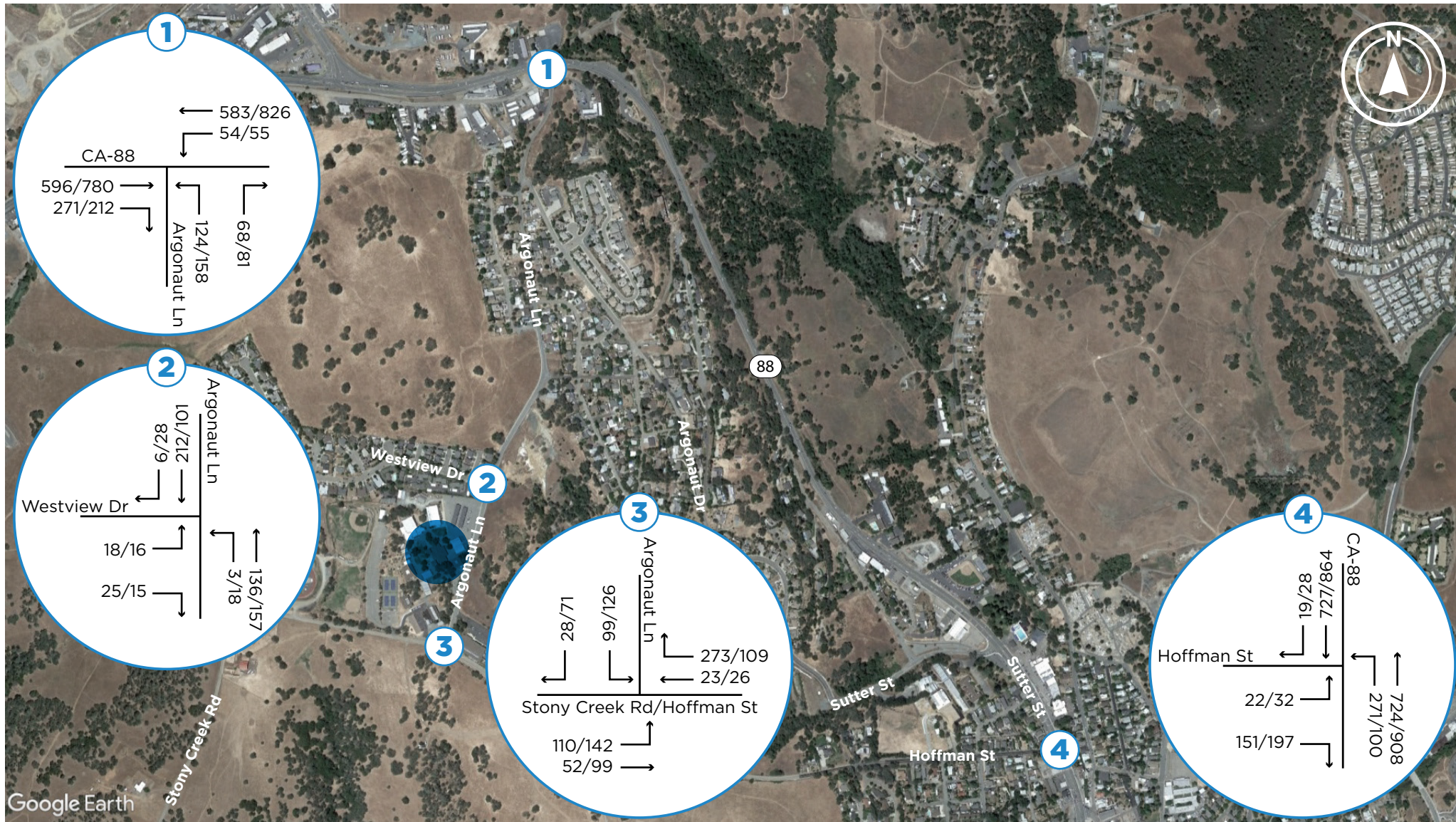
Existing Plus Project Intersection Levels of Service

Traffic volumes for the Existing Plus Project Conditions were developed by combining the existing traffic counts with the Project only volumes. The resulting Existing Plus Project turning movement volumes are shown in Figure 14 and Figure 15 for Argonaut High School and Lone Jr. High School (site of relocated Lone Elementary School), respectively. Table 6 shows the Existing Plus Project intersection operations for the AM and School PM peak hours for the study intersections. As shown, all intersections except Argonaut Lane/State Route 88, Argonaut Lane/Stony Creek Road/Hoffman Street, and Sutter Street/Hoffman Street operate at LOS D or better in both AM and School PM peak hours in the existing plus project conditions. Detailed calculation worksheets from Vistro are provided in Appendix C.

Table 6: Intersection Level of Service – Existing Plus Project Conditions

#	Intersection	Existing Plus Project AM			Existing Plus Project PM		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Argonaut Lane/State Route 88	0.57	53.9	F	0.84	134.3	F
2	Argonaut Lane/Westview Drive	0.05	13.6	B	0.03	10.9	B
3	Argonaut Lane/Stony Creek Road/Hoffman Street	0.38	21.0	C	0.71	49.9	E
4	Sutter Street/Hoffman Street	0.21	43.83	E	0.19	38.2	E
5	Mills Street/Marlette Street	0.01	23.3	C	0.03	14.6	B
6	Sacramento Street/Marlette Street	0.40	18.8	C	0.39	20.1	C
7	State Route 124/Relihan Drive	0.02	15.7	C	0.08	10.6	B
8	Church Street/Market Street	0.09	21.6	C	0.07	18.9	C

Source: Kittelson & Associates, Inc. 2023; Intersections analyzed using HCM 7th methodologies
 V/C = Volume/capacity ratio; Delay = Average vehicle delay in seconds; LOS = Level of service, Bold indicates LOS standard not met.



Argonaut High School 2022+Project Volumes AM/PM



Project Location



Intersection Location



Lone Junior High School 2022+Project Volumes AM/PM



Project Location



Intersection Location

Conclusions

The aim of this study is to evaluate the effects of the proposed Project on traffic operational performance at the study intersections. The LOS standards were not met, and operational deficiencies were identified for the three intersections, i.e., Argonaut Lane/State Route 88, Argonaut Lane/Stony Creek Road/Hoffman Street, and Sutter Street/Hoffman Street. To address these operational deficiencies, a preliminary peak hour signal warrant analysis is conducted at these three intersections. The peak hour signal warrant analysis was conducted using Vistro software.

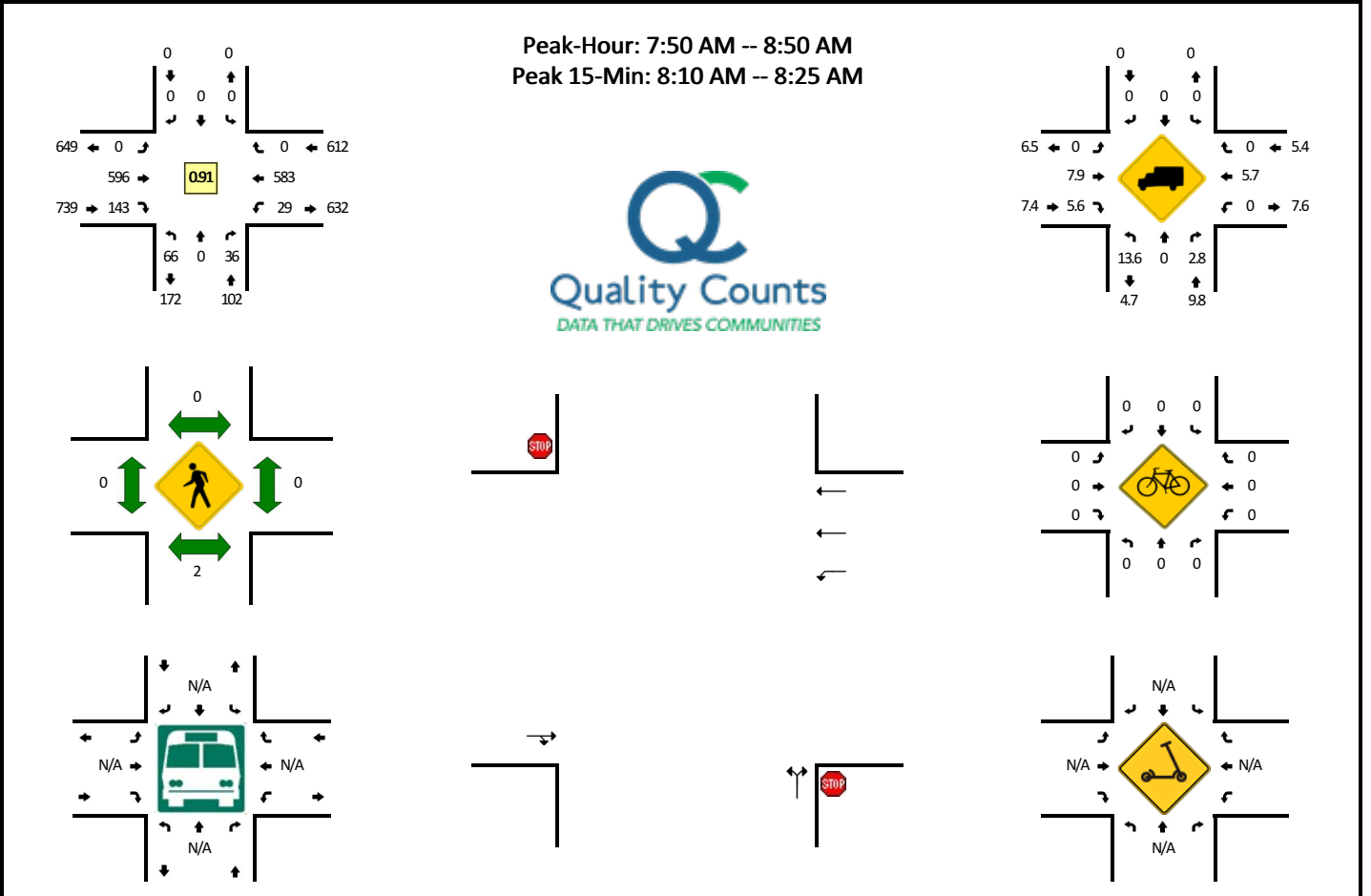
This signal warrant analysis will help in identifying solutions to improve the operational deficiencies identified at these three study intersections. If the installation of signals is warranted with the addition of the cumulative traffic of the Project and other related projects, then the Project's fair share percent will need to be calculated. The peak hour signal warrant analysis results are presented in Appendix D.

The peak hour signal warrant analysis results show that the School PM peak hour volumes at Argonaut Lane/State Route 88 intersection meet the threshold to warrant signalization. Based on the results of the preliminary peak hour signal warrant analysis, an 8-hour signal warrant analysis is recommended at this intersection to evaluate whether the traffic volumes will be sufficient to warrant installation of a traffic signal. The other two intersections, Argonaut Lane/Stony Creek Road/Hoffman Street, and Sutter Street/Hoffman Street do not meet the peak hour signal warrant requirements and hence are not recommended for signalization or for further study.

APPENDIX A: TURNING MOVEMENT COUNTS

LOCATION: Argonaut Ln -- CA-88
CITY/STATE: Martell, CA

QC JOB #: 16221701
DATE: Wed, May 31 2023

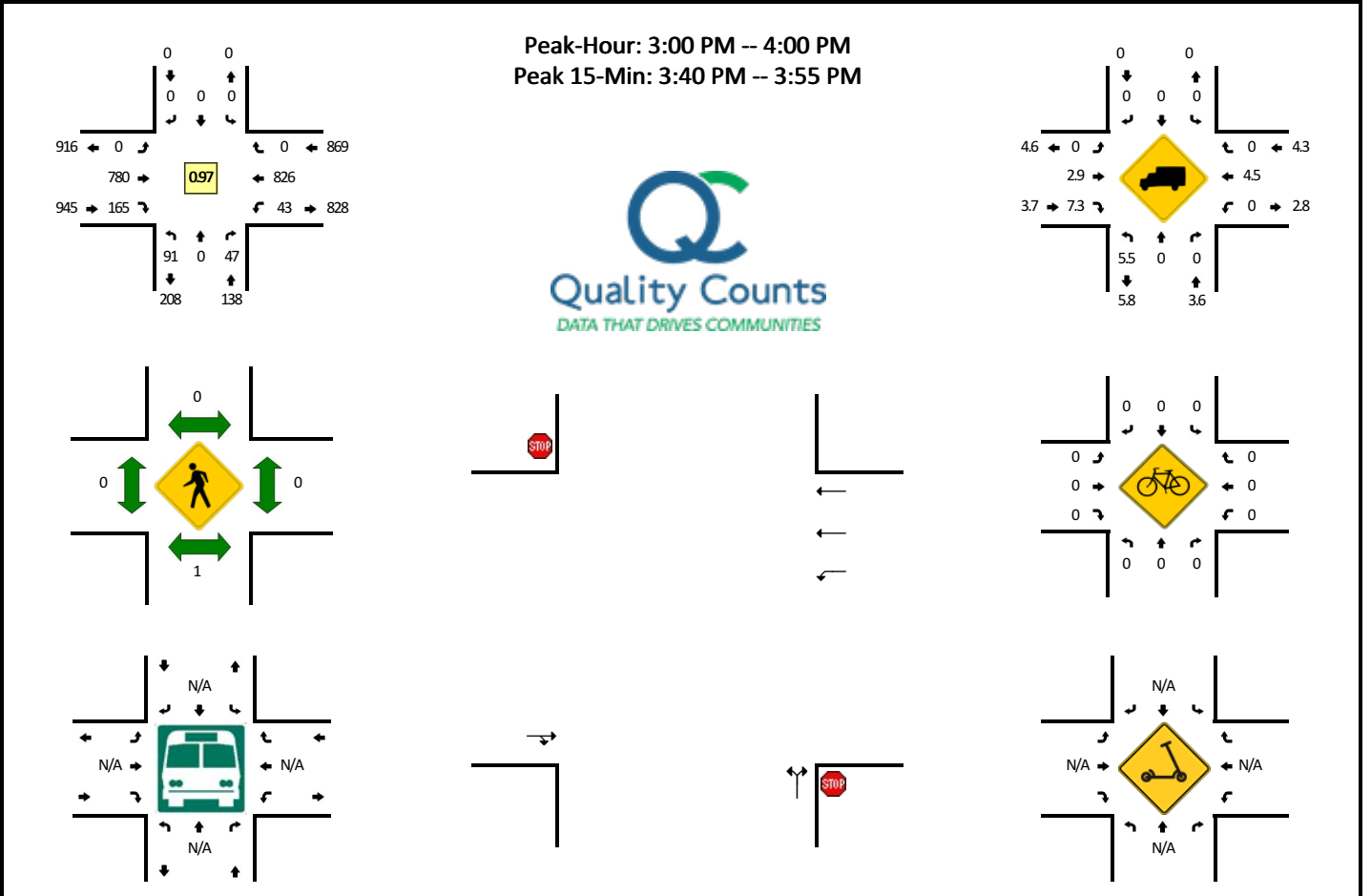


5-Min Count Period Beginning At	Argonaut Ln (Northbound)				Argonaut Ln (Southbound)				CA-88 (Eastbound)				CA-88 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	0	0	0	0	0	0	0	20	4	0	2	34	0	0	61	
7:05 AM	2	0	0	0	0	0	0	0	0	19	6	0	4	25	0	0	56	
7:10 AM	4	0	2	0	0	0	0	0	0	33	3	0	2	30	0	0	74	
7:15 AM	5	0	0	0	0	0	0	0	0	21	1	0	2	52	0	0	81	
7:20 AM	1	0	0	0	0	0	0	0	0	28	6	0	0	39	0	0	74	
7:25 AM	5	0	0	0	0	0	0	0	0	40	11	0	3	27	0	0	86	
7:30 AM	3	0	1	0	0	0	0	0	0	46	10	0	0	34	0	0	94	
7:35 AM	4	0	2	0	0	0	0	0	0	40	6	0	1	36	0	0	89	
7:40 AM	5	0	2	0	0	0	0	0	0	47	9	0	2	45	0	0	110	
7:45 AM	9	0	4	0	0	0	0	0	0	44	6	0	3	43	0	0	109	
7:50 AM	4	0	4	0	0	0	0	0	0	52	9	0	1	53	0	0	123	
7:55 AM	3	0	2	0	0	0	0	0	0	55	14	0	2	60	0	0	136	1093
8:00 AM	9	0	1	0	0	0	0	0	0	54	11	0	1	38	0	0	114	1146
8:05 AM	6	0	3	0	0	0	0	0	0	38	12	0	4	53	0	0	116	1206
8:10 AM	10	0	4	0	0	0	0	0	0	63	17	0	5	45	0	0	144	1276
8:15 AM	7	0	2	0	0	0	0	0	0	41	17	0	2	62	0	0	131	1326
8:20 AM	6	0	3	0	0	0	0	0	0	45	19	0	2	49	0	0	124	1376
8:25 AM	5	0	6	0	0	0	0	0	0	47	15	0	3	57	0	0	133	1423
8:30 AM	8	0	3	0	0	0	0	0	0	48	11	0	1	43	0	0	114	1443
8:35 AM	2	0	2	0	0	0	0	0	0	41	5	0	3	43	0	0	96	1450
8:40 AM	3	0	2	0	0	0	0	0	0	54	8	0	4	37	0	0	108	1448
8:45 AM	3	0	4	0	0	0	0	0	0	58	5	0	1	43	0	0	114	1453
8:50 AM	2	0	0	0	0	0	0	0	0	41	6	0	2	40	0	0	91	1421
8:55 AM	3	0	6	0	0	0	0	0	0	41	12	0	6	39	0	0	107	1392
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	92	0	36	0	0	0	0	0	0	596	212	0	36	624	0	0	1596	
Heavy Trucks	16	0	0		0	0	0		0	60	8		0	16	0		100	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Argonaut Ln -- CA-88
CITY/STATE: Martell, CA

QC JOB #: 16221702
DATE: Wed, May 31 2023

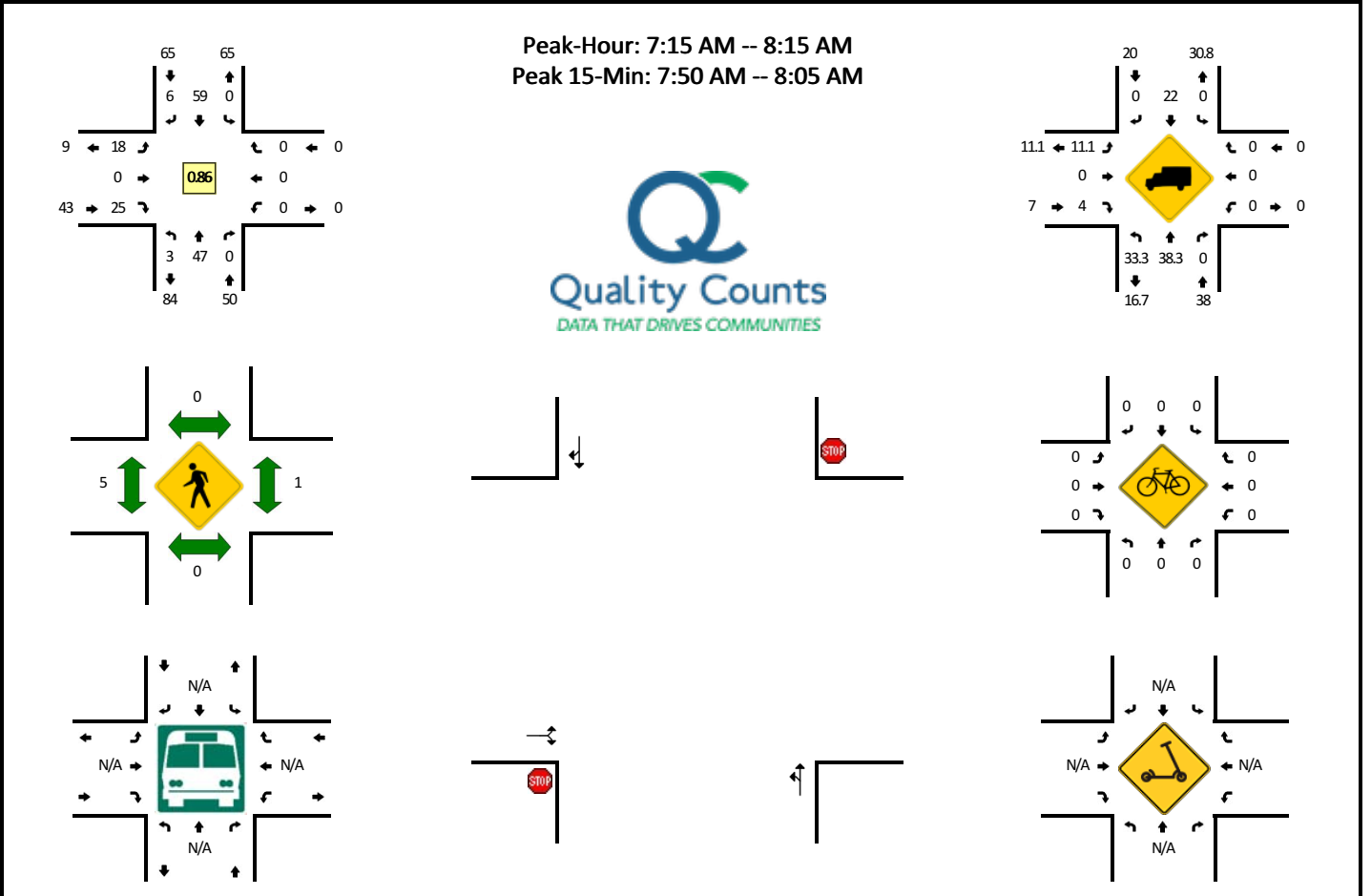


5-Min Count Period Beginning At	Argonaut Ln (Northbound)				Argonaut Ln (Southbound)				CA-88 (Eastbound)				CA-88 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	8	0	5	0	0	0	0	0	0	57	7	0	2	56	0	0	135	
2:05 PM	8	0	6	0	0	0	0	0	0	52	9	0	2	63	0	0	140	
2:10 PM	5	0	5	0	0	0	0	0	0	59	9	0	4	50	0	0	132	
2:15 PM	3	0	4	0	0	0	0	0	0	78	13	0	2	49	0	0	149	
2:20 PM	5	0	5	0	0	0	0	0	0	61	8	0	1	86	0	1	167	
2:25 PM	4	0	9	0	0	0	0	0	0	74	5	0	3	82	0	0	177	
2:30 PM	5	0	4	0	0	0	0	0	0	56	10	0	1	72	0	0	148	
2:35 PM	4	0	2	0	0	0	0	0	0	74	12	0	5	43	0	0	140	
2:40 PM	2	0	6	0	0	0	0	0	0	66	8	0	3	83	0	0	168	
2:45 PM	4	0	4	0	0	0	0	0	0	64	7	0	1	53	0	1	134	
2:50 PM	1	0	2	0	0	0	0	0	0	82	8	0	3	62	0	0	158	
2:55 PM	3	0	1	0	0	0	0	0	0	53	11	0	3	53	0	0	124	1772
3:00 PM	3	0	4	0	0	0	0	0	0	69	14	0	4	59	0	0	153	1790
3:05 PM	5	0	3	0	0	0	0	0	0	52	20	0	3	81	0	0	164	1814
3:10 PM	5	0	6	0	0	0	0	0	0	61	13	0	4	57	0	0	146	1828
3:15 PM	12	0	5	0	0	0	0	0	0	56	12	0	6	73	0	0	164	1843
3:20 PM	13	0	5	0	0	0	0	0	0	64	13	0	4	60	0	0	159	1835
3:25 PM	11	0	4	0	0	0	0	0	0	71	12	0	3	77	0	0	178	1836
3:30 PM	10	0	5	0	0	0	0	0	0	61	19	0	0	62	0	0	157	1845
3:35 PM	7	0	0	0	0	0	0	0	0	78	11	0	3	65	0	0	164	1869
3:40 PM	7	0	9	0	0	0	0	0	0	80	13	0	4	64	0	0	177	1878
3:45 PM	9	0	0	1	0	0	0	0	0	73	15	0	1	49	0	0	148	1892
3:50 PM	2	0	2	0	0	0	0	0	0	62	16	0	5	90	0	0	177	1911
3:55 PM	6	0	4	0	0	0	0	0	0	53	7	0	5	89	0	1	165	1952
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	72	0	44	4	0	0	0	0	0	860	176	0	40	812	0	0	2008	
Heavy Trucks	4	0	0		0	0	0		0	20	8		0	52	0		84	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Argonaut Ln -- Westview Dr
CITY/STATE: Jackson, CA

QC JOB #: 16221703
DATE: Sun, May 7 2023

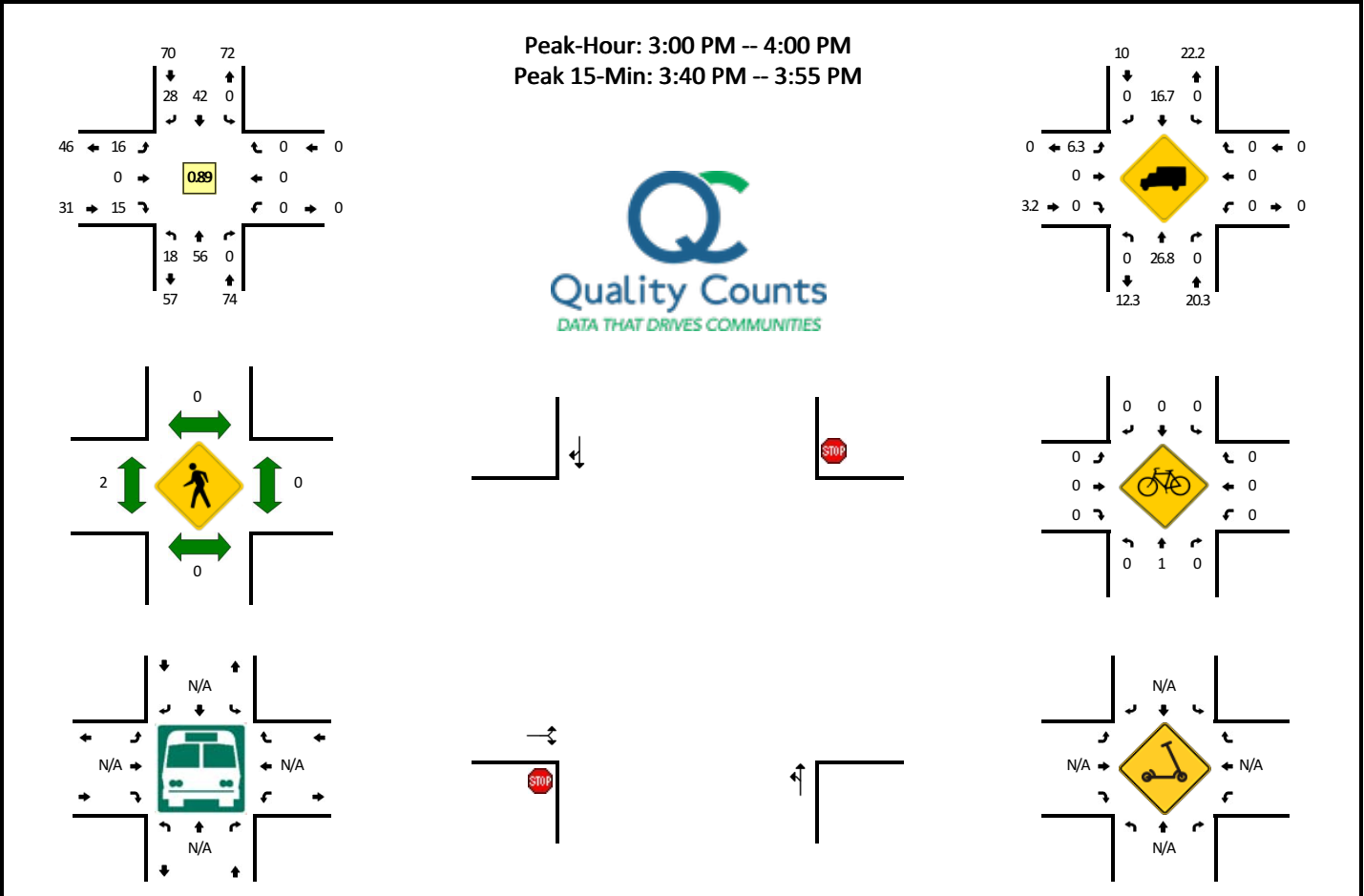


5-Min Count Period Beginning At	Argonaut Ln (Northbound)				Argonaut Ln (Southbound)				Westview Dr (Eastbound)				Westview Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	0	0	0	1	0	0	1	0	2	0	0	0	0	0	5	
7:05 AM	0	1	0	0	0	3	2	0	2	0	0	0	0	0	0	0	8	
7:10 AM	0	3	0	0	0	3	1	0	3	0	1	0	0	0	0	0	11	
7:15 AM	0	3	0	0	0	9	1	0	1	0	5	0	0	0	0	0	19	
7:20 AM	1	4	0	0	0	0	1	0	0	0	1	0	0	0	0	0	7	
7:25 AM	0	7	0	0	0	7	0	0	1	0	0	0	0	0	0	0	15	
7:30 AM	0	2	0	0	0	4	1	0	0	0	1	0	0	0	0	0	8	
7:35 AM	0	2	0	0	0	4	1	0	0	0	3	0	0	0	0	0	10	
7:40 AM	0	0	0	0	0	6	0	0	2	0	3	0	0	0	0	0	11	
7:45 AM	0	4	0	0	0	5	0	0	2	0	0	0	0	0	0	0	11	
7:50 AM	2	4	0	0	0	3	1	0	2	0	4	0	0	0	0	0	16	
7:55 AM	0	6	0	0	0	2	0	0	5	0	3	0	0	0	0	0	16	137
8:00 AM	0	6	0	0	0	4	0	0	1	0	3	0	0	0	0	0	14	146
8:05 AM	0	5	0	0	0	6	0	0	3	0	2	0	0	0	0	0	16	154
8:10 AM	0	4	0	0	0	9	1	0	1	0	0	0	0	0	0	0	15	158
8:15 AM	0	5	0	0	0	1	0	0	1	0	2	0	0	0	0	0	9	148
8:20 AM	0	2	0	0	0	4	0	0	2	0	0	0	0	0	0	0	8	149
8:25 AM	1	2	0	0	0	11	0	0	3	0	1	0	0	0	0	0	18	152
8:30 AM	0	3	0	0	0	5	2	0	1	0	0	0	0	0	0	0	11	155
8:35 AM	0	5	0	0	0	4	0	0	0	0	1	0	0	0	0	0	10	155
8:40 AM	1	4	0	0	0	4	0	0	1	0	1	0	0	0	0	0	11	155
8:45 AM	0	5	0	0	0	3	1	0	1	0	0	0	0	0	0	0	10	154
8:50 AM	1	6	0	0	0	4	2	0	5	0	0	0	0	0	0	0	18	156
8:55 AM	0	4	0	0	0	2	4	0	4	0	0	0	0	0	0	0	14	154
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	64	0	0	0	36	4	0	32	0	40	0	0	0	0	0	184	
Heavy Trucks	4	20	0	0	0	4	0	0	4	0	0	0	0	0	0	0	32	
Buses																		
Pedestrians		0				0				8				4			12	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Argonaut Ln -- Westview Dr
CITY/STATE: Jackson, CA

QC JOB #: 16221704
DATE: Sun, May 7 2023

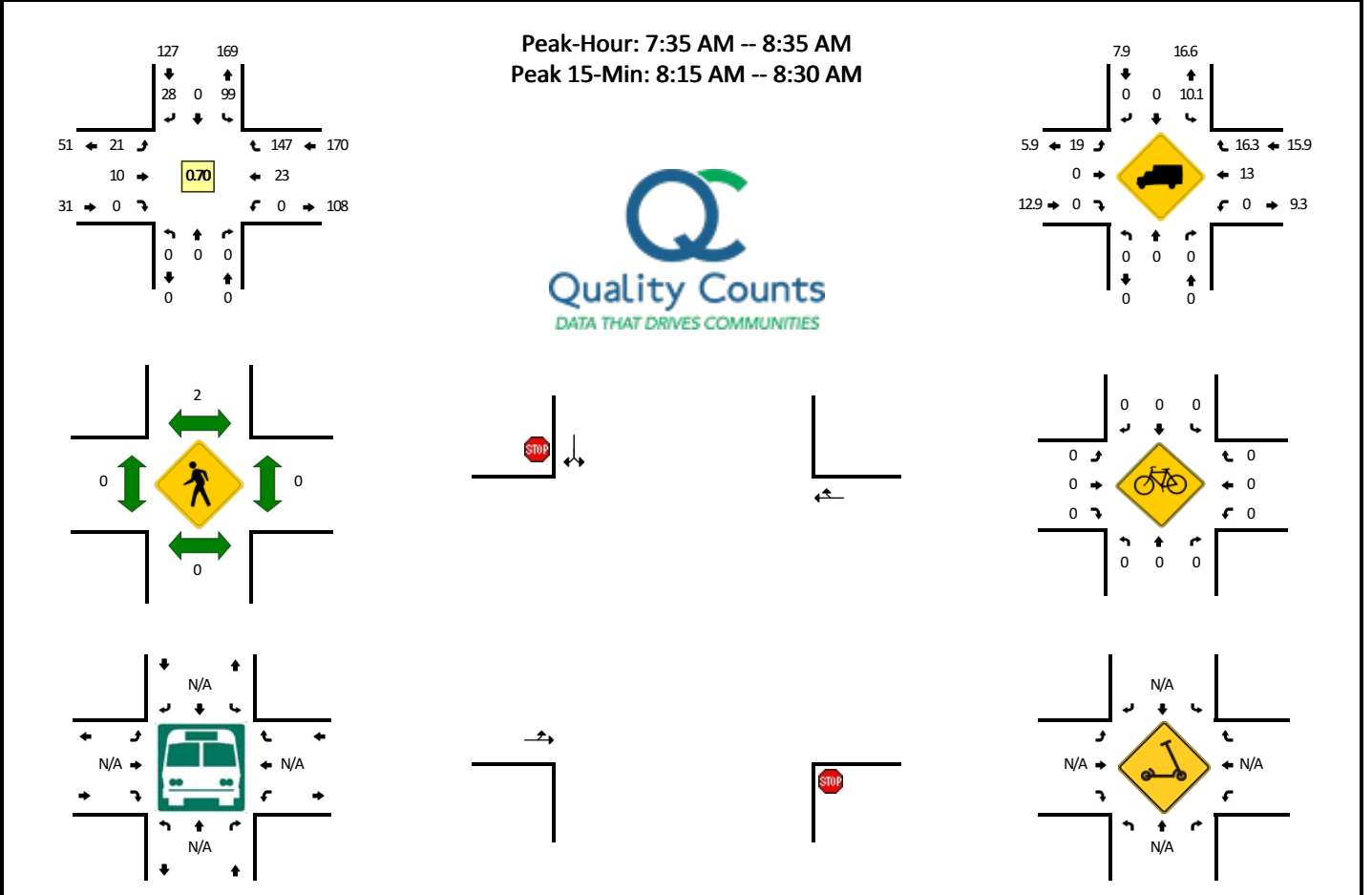


5-Min Count Period Beginning At	Argonaut Ln (Northbound)				Argonaut Ln (Southbound)				Westview Dr (Eastbound)				Westview Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	2	0	0	0	5	1	0	0	0	1	0	0	0	0	0	9	
2:05 PM	1	7	0	0	0	3	1	0	2	0	1	0	0	0	0	0	15	
2:10 PM	1	5	0	0	0	3	0	0	1	0	1	0	0	0	0	0	11	
2:15 PM	3	3	0	0	0	1	1	0	0	0	3	0	0	0	0	0	11	
2:20 PM	0	5	0	0	0	1	4	0	1	0	0	0	0	0	0	0	11	
2:25 PM	1	5	0	0	0	3	1	0	2	0	0	0	0	0	0	0	12	
2:30 PM	1	6	0	0	0	2	3	0	4	0	1	0	0	0	0	0	17	
2:35 PM	0	8	0	0	0	4	2	0	1	0	1	0	0	0	0	0	16	
2:40 PM	0	5	0	0	0	3	2	0	2	0	2	0	0	0	0	0	14	
2:45 PM	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	4	
2:50 PM	5	2	0	0	0	1	2	0	0	0	0	0	0	0	0	0	10	
2:55 PM	1	1	0	0	0	2	2	0	0	0	1	0	0	0	0	0	7	137
3:00 PM	1	6	0	0	0	0	2	0	3	0	0	0	0	0	0	0	12	140
3:05 PM	2	7	0	0	0	4	2	0	1	0	0	0	0	0	0	0	16	141
3:10 PM	2	2	0	0	0	2	3	0	1	0	2	0	0	0	0	0	12	142
3:15 PM	0	5	0	0	0	3	3	0	0	0	3	0	0	0	0	0	14	145
3:20 PM	0	6	0	0	0	5	4	0	1	0	0	0	0	0	0	0	16	150
3:25 PM	3	2	0	0	0	7	3	0	0	0	1	0	0	0	0	0	16	154
3:30 PM	3	2	0	0	0	2	4	0	3	0	0	0	0	0	0	0	14	151
3:35 PM	0	3	0	0	0	2	1	0	1	0	4	0	0	0	0	0	11	146
3:40 PM	1	5	0	0	0	4	2	0	3	0	2	0	0	0	0	0	17	149
3:45 PM	1	4	0	0	0	2	1	0	1	0	2	0	0	0	0	0	11	156
3:50 PM	2	10	0	0	0	4	2	0	2	0	1	0	0	0	0	0	21	167
3:55 PM	3	4	0	0	0	7	1	0	0	0	0	0	0	0	0	0	15	175
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	76	0	0	0	40	20	0	24	0	20	0	0	0	0	0	196	
Heavy Trucks	0	28	0	0	0	4	0	0	0	0	0	0	0	0	0	0	32	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Argonaut Ln -- Stony Creek Rd/Hoffman St
CITY/STATE: Jackson, CA

QC JOB #: 16221705
DATE: Wed, May 31 2023

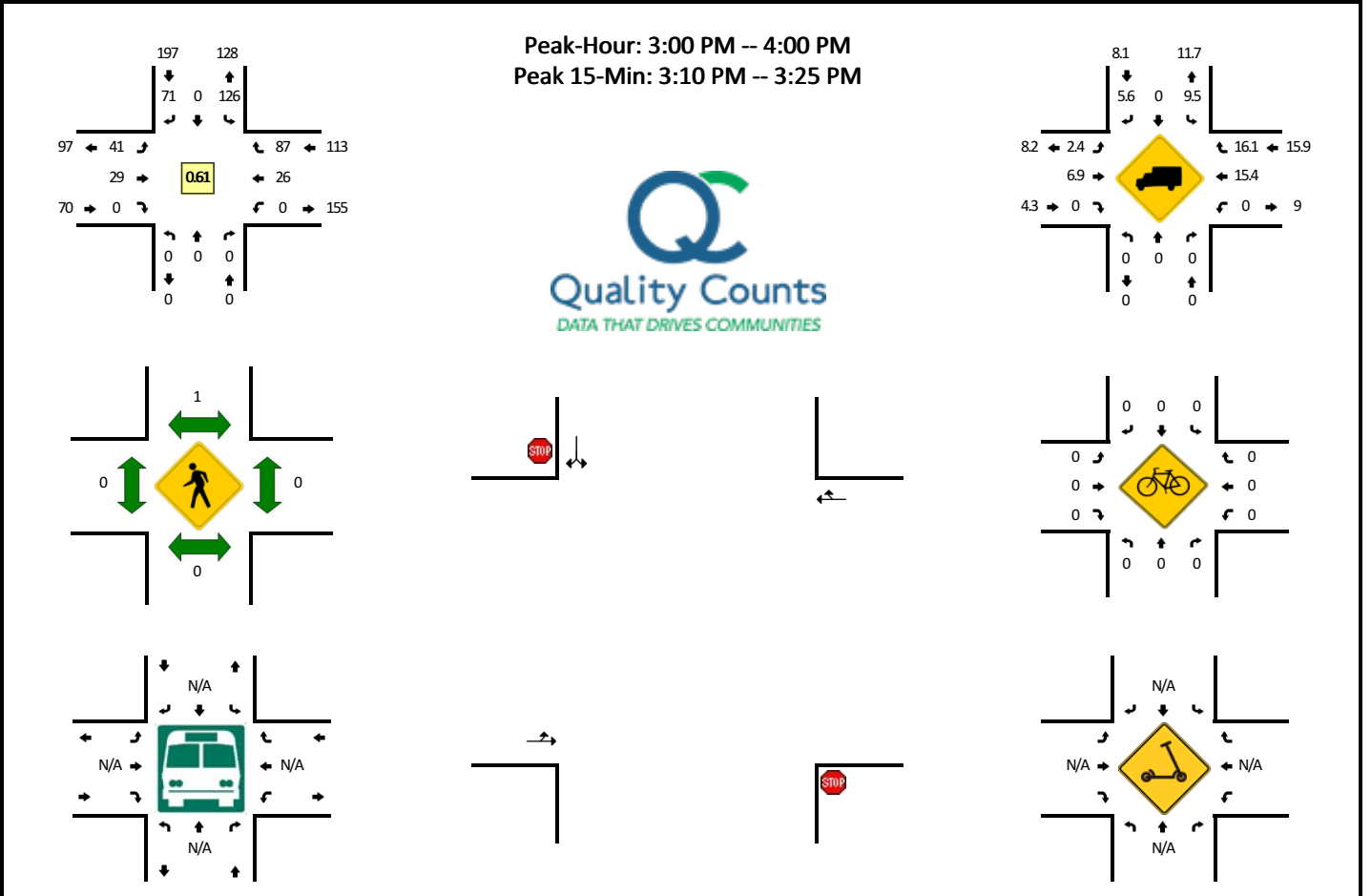


5-Min Count Period Beginning At	Argonaut Ln (Northbound)				Argonaut Ln (Southbound)				Stony Creek Rd/Hoffman St (Eastbound)				Stony Creek Rd/Hoffman St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	0	2	0	0	0	0	0	0	0	4	0	7	
7:05 AM	0	0	0	0	2	0	0	0	0	2	0	0	0	0	1	1	6	
7:10 AM	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	1	5	
7:15 AM	0	0	0	0	6	0	1	0	0	1	0	0	0	0	0	3	11	
7:20 AM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
7:25 AM	0	0	0	0	5	0	2	0	0	1	0	0	0	0	0	4	12	
7:30 AM	0	0	0	0	4	0	1	0	1	0	0	0	0	0	1	5	12	
7:35 AM	0	0	0	0	4	0	2	0	0	2	0	0	0	0	1	6	15	
7:40 AM	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	11	15	
7:45 AM	0	0	0	0	10	0	4	0	1	2	0	0	0	0	0	5	22	
7:50 AM	0	0	0	0	9	0	1	0	0	0	0	0	0	0	3	9	22	
7:55 AM	0	0	0	0	10	0	4	0	2	0	0	0	0	0	0	12	28	
8:00 AM	0	0	0	0	10	0	2	0	3	1	0	0	0	0	2	9	27	158
8:05 AM	0	0	0	0	5	0	1	0	2	1	0	0	0	0	2	15	26	178
8:10 AM	0	0	0	0	6	0	4	0	0	0	0	0	0	0	6	11	27	198
8:15 AM	0	0	0	0	11	0	1	0	2	0	0	0	0	0	4	18	36	220
8:20 AM	0	0	0	0	13	0	3	0	0	2	0	0	0	0	2	21	41	245
8:25 AM	0	0	0	0	10	0	3	1	2	1	0	0	0	0	3	20	40	283
8:30 AM	0	0	0	0	8	0	3	0	7	1	0	0	0	0	0	10	29	311
8:35 AM	0	0	0	0	5	0	3	0	0	1	0	0	0	0	1	1	11	328
8:40 AM	0	0	0	0	3	0	2	1	1	0	0	0	0	0	1	3	11	324
8:45 AM	0	0	0	0	9	0	1	0	1	1	0	0	0	0	0	2	14	320
8:50 AM	0	0	0	0	3	0	0	0	1	3	0	0	0	0	0	4	11	312
8:55 AM	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	7	11	301
																	12	285
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	136	0	28	4	16	12	0	0	0	36	236	0	468	
Heavy Trucks	0	0	0	0	8	0	0	0	4	0	0	0	0	8	24	0	44	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Argonaut Ln -- Stony Creek Rd/Hoffman St
CITY/STATE: Jackson, CA

QC JOB #: 16221706
DATE: Wed, May 31 2023

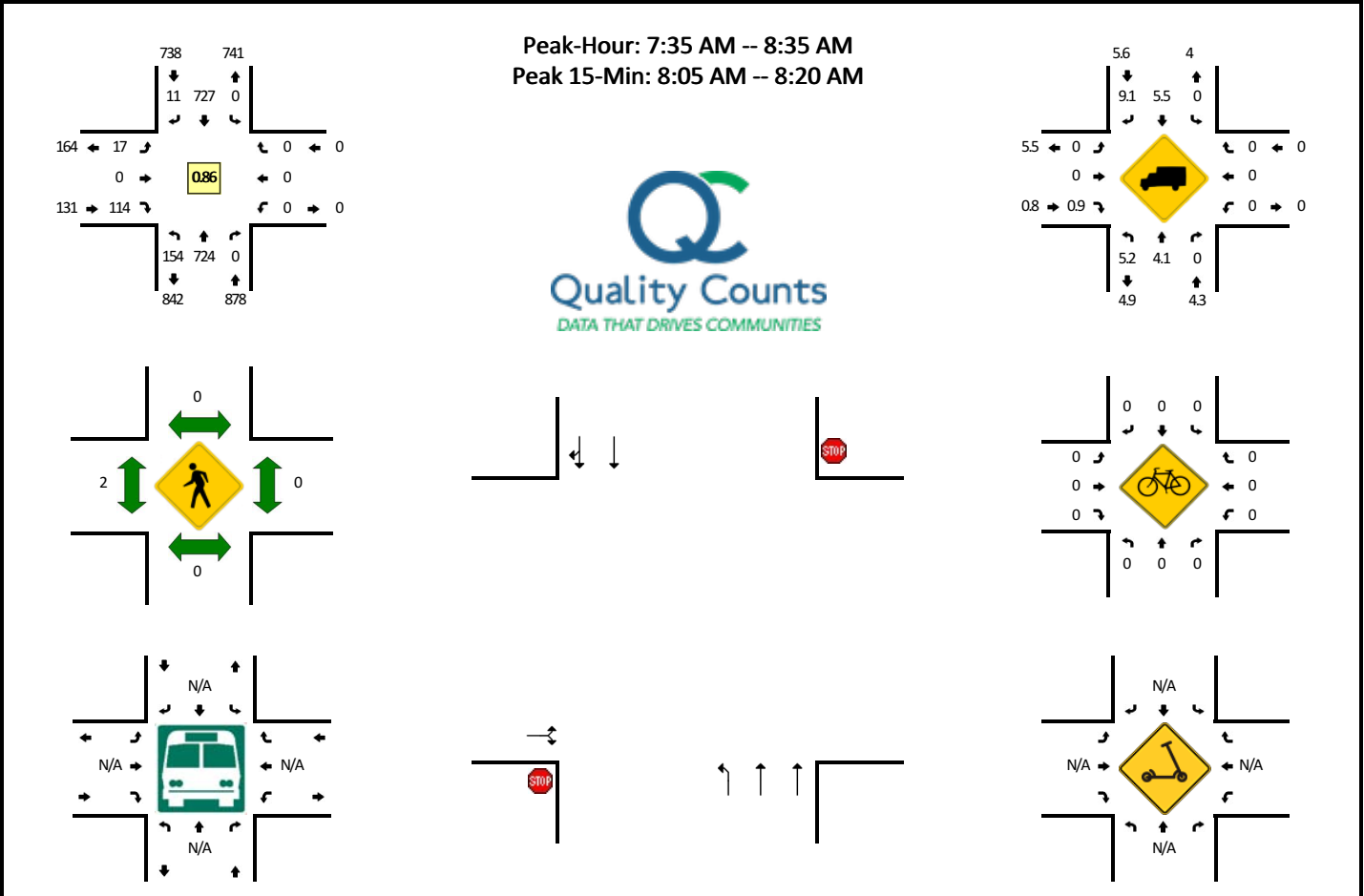


5-Min Count Period Beginning At	Argonaut Ln (Northbound)				Argonaut Ln (Southbound)				Stony Creek Rd/Hoffman St (Eastbound)				Stony Creek Rd/Hoffman St (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
2:00 PM	0	0	0	0	6	0	0	0	0	0	0	0	0	2	3	0	0	11	
2:05 PM	0	0	0	0	4	0	0	0	0	0	0	0	0	1	6	0	0	11	
2:10 PM	0	0	0	0	5	0	1	0	1	0	0	0	0	1	5	0	0	13	
2:15 PM	0	0	0	0	5	0	0	0	1	0	0	0	0	0	6	0	0	12	
2:20 PM	0	0	0	0	4	0	3	0	2	1	0	0	0	0	9	0	0	19	
2:25 PM	0	0	0	0	5	0	1	0	0	2	0	0	0	0	8	0	0	16	
2:30 PM	0	0	0	0	6	0	1	0	0	1	0	0	0	1	5	0	0	14	
2:35 PM	0	0	0	0	3	0	0	0	0	1	0	0	0	1	5	0	0	10	
2:40 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	3	0	0	7	
2:45 PM	0	0	0	0	3	0	0	0	2	1	0	0	0	0	2	0	0	8	
2:50 PM	0	0	0	0	4	0	4	0	1	0	0	0	0	1	5	0	0	15	
2:55 PM	0	0	0	0	5	0	2	0	3	1	0	0	0	1	7	0	0	19	155
3:00 PM	0	0	0	0	1	0	4	0	2	2	0	0	0	1	7	0	0	17	161
3:05 PM	0	0	0	0	7	0	2	0	2	1	0	0	0	4	15	0	0	31	181
3:10 PM	0	0	0	0	19	0	9	0	2	3	0	0	0	3	13	0	0	49	217
3:15 PM	0	0	0	0	26	0	3	0	17	7	0	0	0	3	6	0	0	62	267
3:20 PM	0	0	0	0	24	0	3	0	3	4	0	0	0	1	9	0	0	44	292
3:25 PM	0	0	0	0	12	0	4	0	4	1	0	0	0	4	10	0	0	35	311
3:30 PM	0	0	0	0	14	0	10	0	2	3	0	0	0	0	2	0	0	31	328
3:35 PM	0	0	0	0	9	0	5	0	1	1	0	0	0	1	5	0	0	22	340
3:40 PM	0	0	0	0	4	0	6	0	2	2	0	0	0	2	4	0	0	20	353
3:45 PM	0	0	0	0	0	0	6	0	4	2	0	0	0	2	3	0	0	17	362
3:50 PM	0	0	0	0	4	0	11	0	2	1	0	0	0	4	7	0	0	29	376
3:55 PM	0	0	0	0	6	0	8	0	0	2	0	0	0	1	6	0	0	23	380
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	0	0	0	276	0	60	0	88	56	0	0	0	28	112	0	0	620	
Heavy Trucks	0	0	0	0	24	0	8	0	4	8	0	0	0	0	24	0	0	68	
Buses																			
Pedestrians		0				4				0				0				4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0			0	
Scoters																			

Comments:

LOCATION: Sutter St -- Hoffman St
CITY/STATE: Jackson, CA

QC JOB #: 16221707
DATE: Wed, May 31 2023

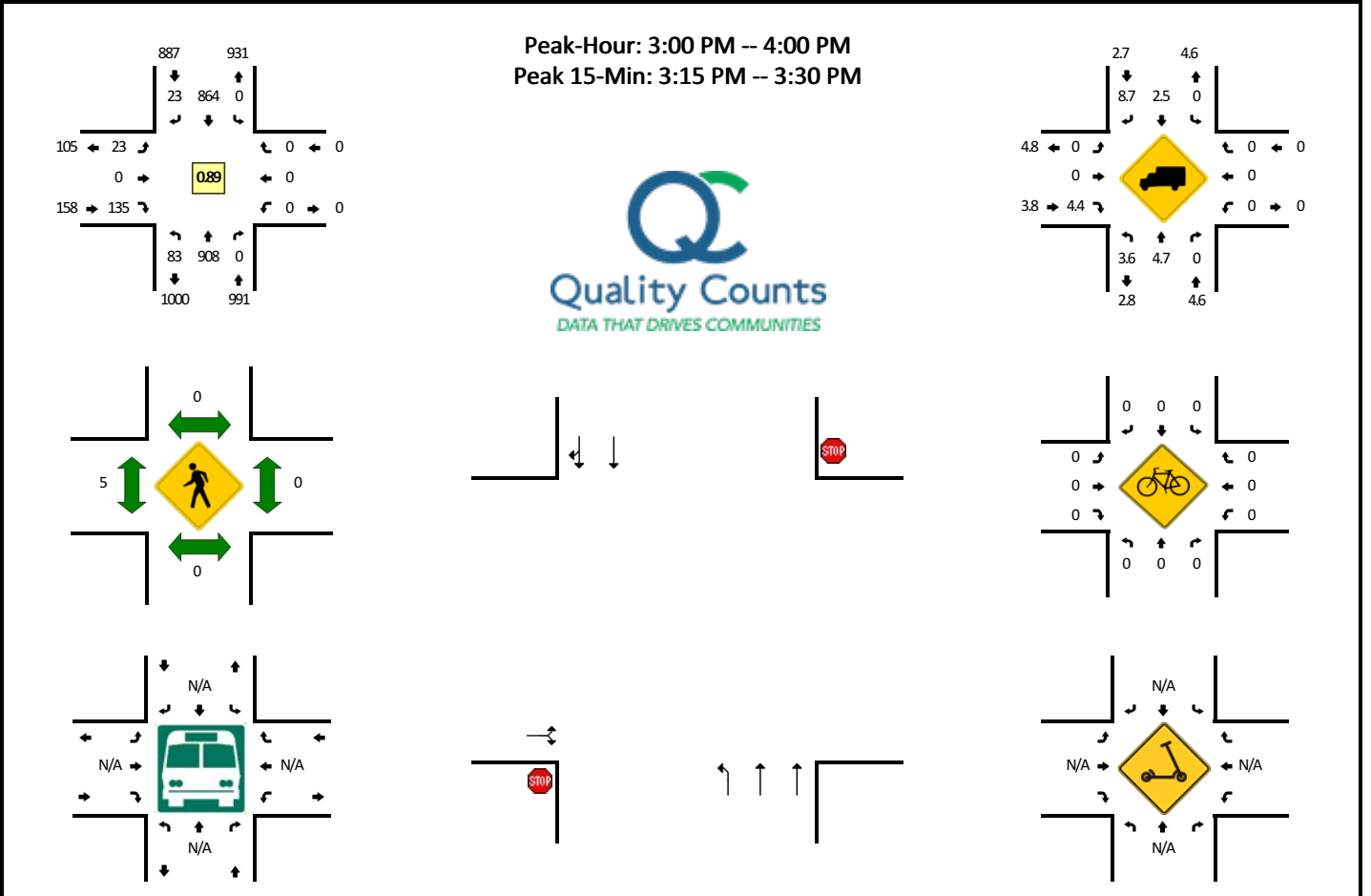


5-Min Count Period Beginning At	Sutter St (Northbound)				Sutter St (Southbound)				Hoffman St (Eastbound)				Hoffman St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	40	0	0	0	25	1	0	2	0	1	0	0	0	0	0	70	
7:05 AM	3	34	0	0	0	24	0	0	0	0	2	0	0	0	0	0	63	
7:10 AM	1	35	0	0	0	33	0	0	1	0	4	0	0	0	0	0	74	
7:15 AM	2	49	0	0	0	27	0	0	1	0	7	0	0	0	0	0	86	
7:20 AM	1	39	0	0	0	43	1	0	0	0	4	0	0	0	0	0	88	
7:25 AM	7	38	0	0	0	46	0	0	1	0	4	0	0	0	0	0	96	
7:30 AM	2	47	0	0	0	43	1	0	3	0	3	0	0	0	0	0	99	
7:35 AM	7	40	0	0	0	48	1	0	1	0	6	0	0	0	0	0	103	
7:40 AM	5	53	0	0	0	48	0	0	3	0	3	0	0	0	0	0	112	
7:45 AM	7	47	0	0	0	64	2	0	2	0	9	0	0	0	0	0	131	
7:50 AM	10	69	0	0	0	68	0	0	1	0	9	0	0	0	0	0	157	
7:55 AM	16	69	0	0	0	74	0	0	3	0	8	0	0	0	0	0	170	
8:00 AM	12	49	0	0	0	55	0	0	1	0	15	0	0	0	0	0	132	1249
8:05 AM	17	67	0	0	0	67	1	0	1	0	8	0	0	0	0	0	161	1409
8:10 AM	23	86	0	0	0	58	0	0	1	0	6	0	0	0	0	0	174	1509
8:15 AM	19	72	0	0	0	65	3	0	1	0	10	0	0	0	0	0	170	1593
8:20 AM	15	61	0	1	0	57	2	0	2	0	13	0	0	0	0	0	151	1656
8:25 AM	15	62	0	0	0	63	1	0	0	0	13	0	0	0	0	0	154	1714
8:30 AM	7	49	0	0	0	60	1	0	1	0	14	0	0	0	0	0	132	1747
8:35 AM	2	38	0	1	0	51	2	0	1	0	3	0	0	0	0	0	98	1742
8:40 AM	2	45	0	0	0	64	0	0	2	0	4	0	0	0	0	0	117	1747
8:45 AM	1	42	0	0	0	65	1	0	0	0	8	0	0	0	0	0	117	1733
8:50 AM	2	57	0	0	0	55	1	0	2	0	5	0	0	0	0	0	122	1698
8:55 AM	2	44	0	0	0	48	0	0	1	0	6	0	0	0	0	0	101	1629
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	236	900	0	0	0	760	16	0	12	0	96	0	0	0	0	0	2020	
Heavy Trucks	16	12	0	0	0	60	0	0	0	0	0	0	0	0	0	0	88	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Sutter St -- Hoffman St
CITY/STATE: Jackson, CA

QC JOB #: 16221708
DATE: Wed, May 31 2023

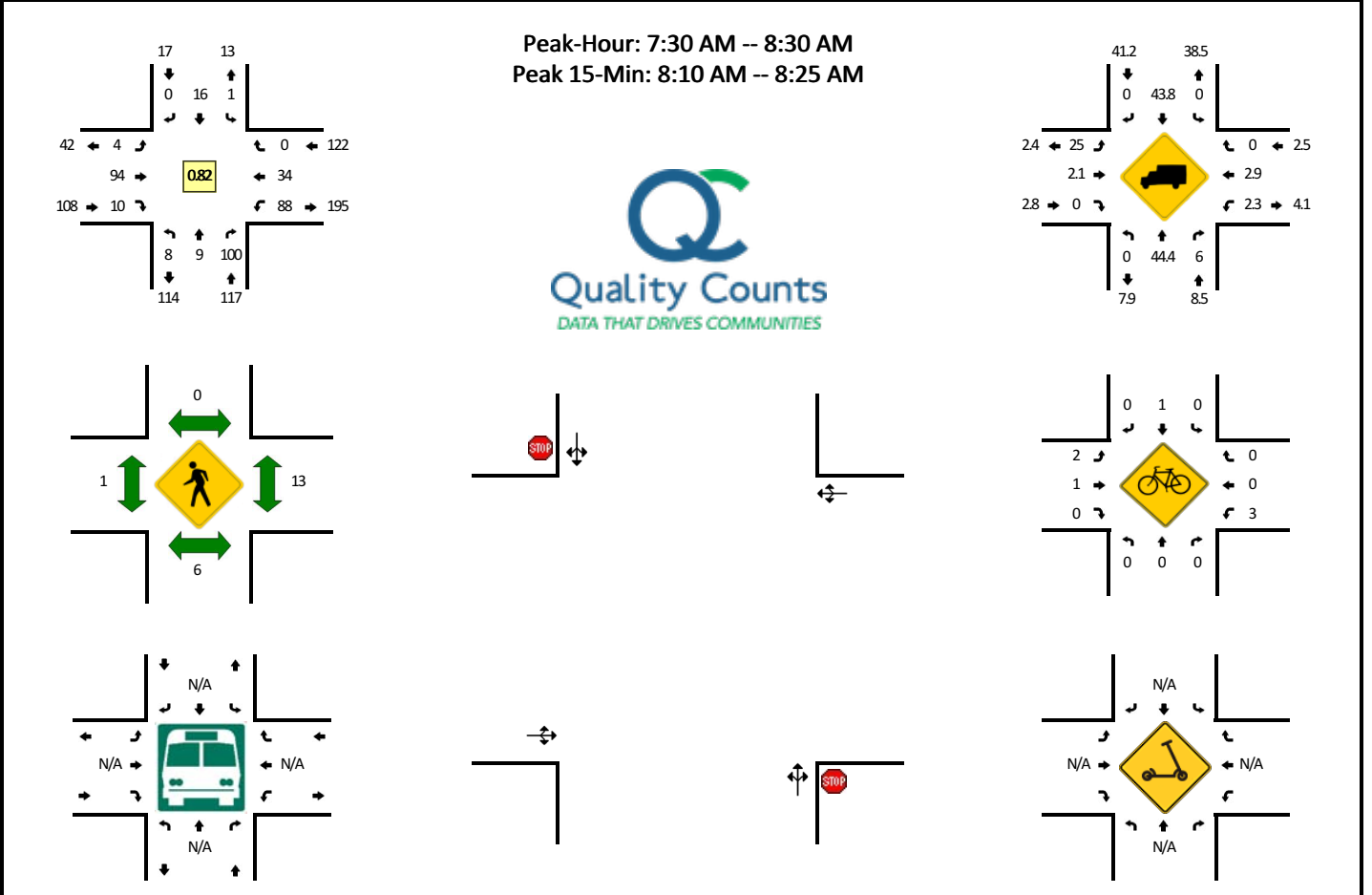


5-Min Count Period Beginning At	Sutter St (Northbound)				Sutter St (Southbound)				Hoffman St (Eastbound)				Hoffman St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	3	66	0	0	0	75	3	0	2	0	6	0	0	0	0	0	155	
2:05 PM	2	58	0	0	0	65	0	0	1	0	5	0	0	0	0	0	131	
2:10 PM	8	66	0	0	0	59	1	0	0	0	6	0	0	0	0	0	140	
2:15 PM	8	77	0	0	0	70	3	0	1	0	3	0	0	0	0	0	162	
2:20 PM	9	101	0	0	0	77	2	0	1	0	6	0	0	0	0	0	196	
2:25 PM	8	88	0	0	0	78	1	0	0	0	6	0	0	0	0	0	181	
2:30 PM	8	83	0	0	0	78	1	0	1	0	5	0	0	0	0	0	176	
2:35 PM	5	85	0	0	0	77	2	0	0	0	7	0	0	0	0	0	176	
2:40 PM	5	64	0	0	0	68	2	0	1	0	3	0	0	0	0	0	143	
2:45 PM	6	80	0	0	0	70	0	0	1	0	4	0	0	0	0	0	161	
2:50 PM	13	70	0	0	0	68	2	0	0	0	5	0	0	0	0	0	158	
2:55 PM	6	71	0	0	0	66	0	0	3	0	4	0	0	0	0	0	150	1929
3:00 PM	12	89	0	0	0	66	0	0	1	0	5	0	0	0	0	0	173	1947
3:05 PM	15	69	0	0	0	74	3	0	1	0	4	0	0	0	0	0	166	1982
3:10 PM	7	61	0	0	0	57	5	0	3	0	11	0	0	0	0	0	144	1986
3:15 PM	7	71	0	0	0	82	1	0	2	0	28	0	0	0	0	0	191	2015
3:20 PM	8	72	0	0	0	82	1	0	4	0	26	0	0	0	0	0	193	2012
3:25 PM	8	92	0	1	0	69	2	0	3	0	15	0	0	0	0	0	190	2021
3:30 PM	2	56	0	0	0	64	1	0	2	0	11	0	0	0	0	0	136	1981
3:35 PM	4	77	0	0	0	76	1	0	2	0	11	0	0	0	0	0	171	1976
3:40 PM	3	59	0	0	0	72	2	0	2	0	7	0	0	0	0	0	145	1978
3:45 PM	6	74	0	0	0	79	3	0	1	0	6	0	0	0	0	0	169	1986
3:50 PM	6	106	0	0	0	75	1	0	1	0	5	0	0	0	0	0	194	2022
3:55 PM	4	82	0	0	0	68	3	0	1	0	6	0	0	0	0	0	164	2036
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	92	940	0	4	0	932	16	0	36	0	276	0	0	0	0	0	2296	
Heavy Trucks	12	24	0		0	20	0		0	0	20		0	0	0		76	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Mills St -- Marlette St
CITY/STATE: Lone, CA

QC JOB #: 16221709
DATE: Wed, May 31 2023

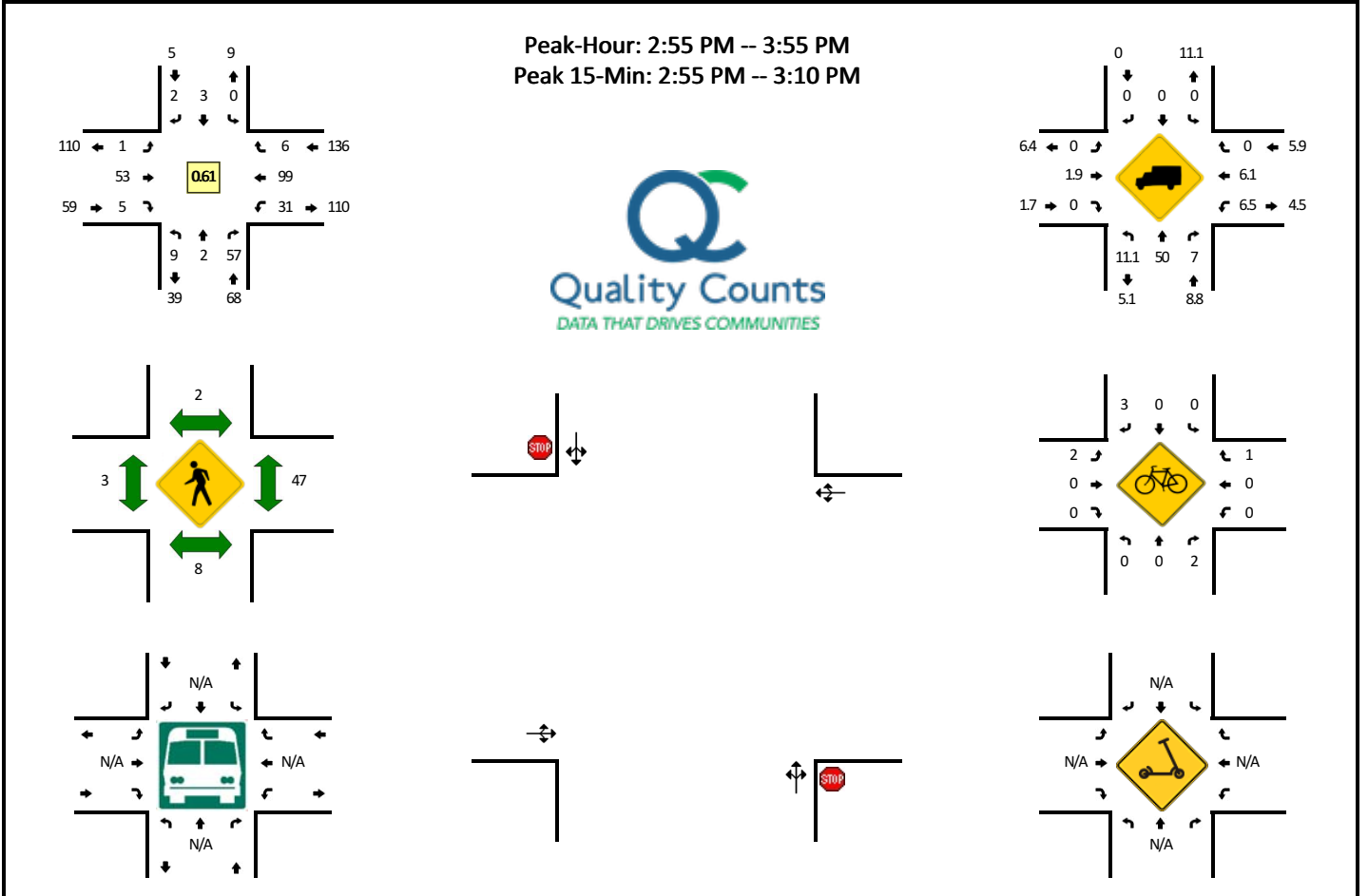


5-Min Count Period Beginning At	Mills St (Northbound)				Mills St (Southbound)				Marlette St (Eastbound)				Marlette St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	2	0	0	0	0	0	0	8	0	0	1	0	0	0	11	
7:05 AM	0	0	0	0	0	0	0	0	0	10	0	0	1	1	0	0	12	
7:10 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	3	0	0	10	
7:15 AM	0	0	1	0	0	0	0	0	0	8	0	0	2	1	0	0	12	
7:20 AM	0	0	1	0	0	1	1	0	0	9	1	0	1	1	0	0	15	
7:25 AM	1	0	2	0	0	0	0	0	0	6	0	0	3	0	0	0	12	
7:30 AM	1	1	4	0	0	3	0	0	2	10	1	0	1	2	0	0	25	
7:35 AM	2	1	6	0	0	0	0	0	0	12	2	0	8	2	0	0	33	
7:40 AM	0	0	9	0	0	2	0	0	1	11	0	0	7	1	0	0	31	
7:45 AM	1	0	5	0	0	1	0	0	0	7	1	0	3	3	0	0	21	
7:50 AM	0	0	5	0	0	0	0	0	0	7	0	0	4	2	0	0	18	
7:55 AM	0	1	6	0	0	1	0	0	0	11	1	0	7	3	0	0	30	230
8:00 AM	1	0	7	0	0	2	0	0	0	10	1	0	7	4	0	0	32	251
8:05 AM	1	1	11	0	0	3	0	0	0	6	1	0	8	3	0	0	34	273
8:10 AM	2	3	10	0	0	1	0	0	0	6	1	0	16	2	0	0	41	304
8:15 AM	0	1	11	0	0	0	0	0	0	8	0	0	10	3	0	0	33	325
8:20 AM	0	1	15	0	0	2	0	0	1	4	1	0	9	4	0	0	37	347
8:25 AM	0	0	11	0	1	1	0	0	0	2	1	0	8	5	0	0	29	364
8:30 AM	1	1	6	0	0	0	0	0	1	9	0	0	4	3	0	0	25	364
8:35 AM	2	1	2	0	0	0	0	0	0	5	0	0	3	1	0	0	14	345
8:40 AM	1	0	2	0	0	1	0	0	0	7	1	0	1	6	0	0	19	333
8:45 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	3	0	0	9	321
8:50 AM	0	0	0	0	0	0	0	0	0	3	0	0	1	3	1	0	8	311
8:55 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	4	1	0	12	293
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	20	144	0	0	12	0	0	4	72	8	0	140	36	0	0	444	
Heavy Trucks	0	8	8		0	0	0		4	0	0		0	0	0		20	
Buses																		
Pedestrians		4				0				0				4			8	
Bicycles	0	0	0		0	0	0		0	0	0		4	0	0		4	
Scoters																		

Comments:

LOCATION: Mills St -- Marlette St
CITY/STATE: Lone, CA

QC JOB #: 16221710
DATE: Wed, May 31 2023

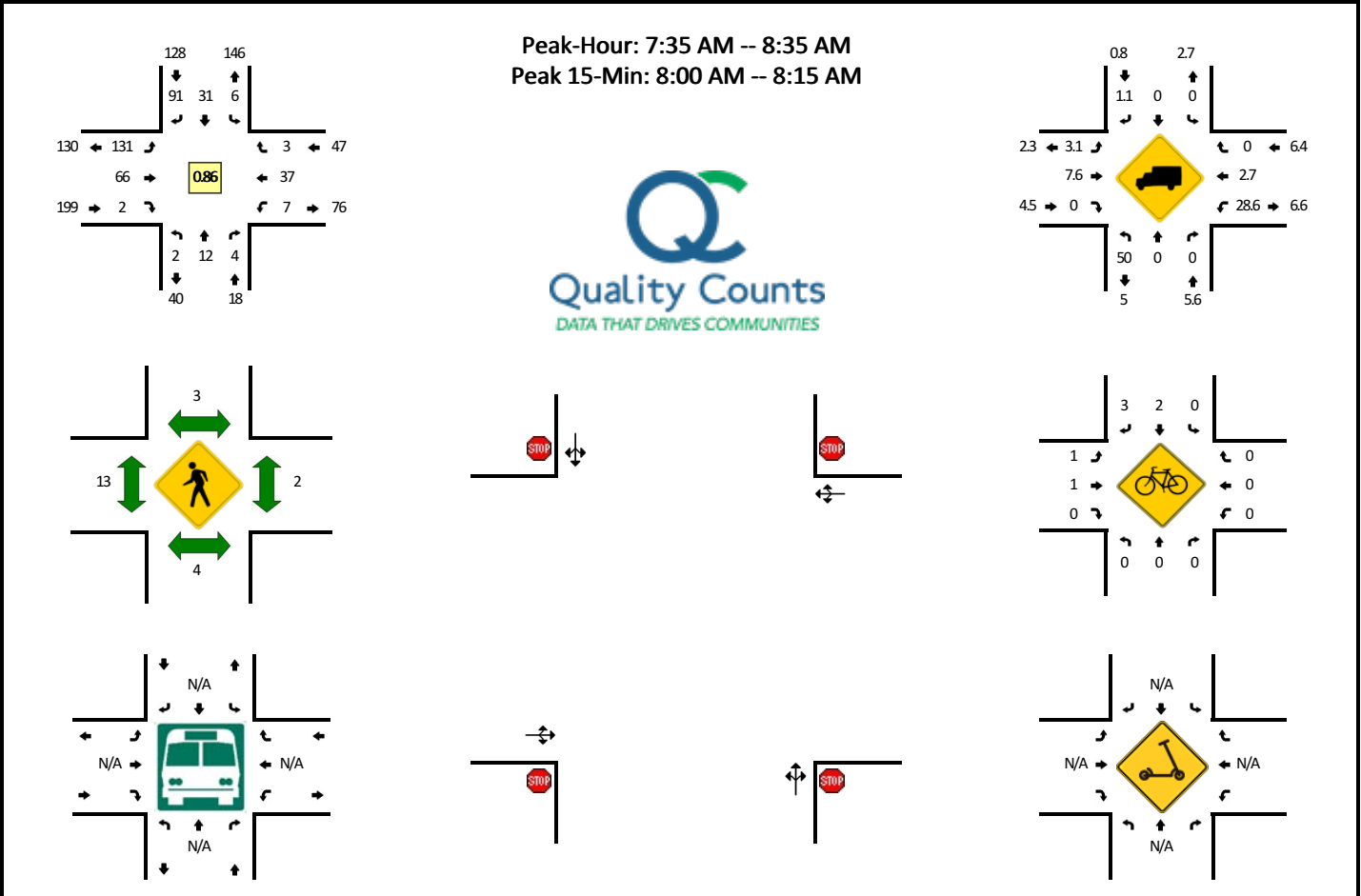


5-Min Count Period Beginning At	Mills St (Northbound)				Mills St (Southbound)				Marlette St (Eastbound)				Marlette St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	8	0	0	11	
2:05 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	12	0	0	16	
2:10 PM	0	0	1	0	0	0	1	0	1	5	0	0	0	8	0	0	16	
2:15 PM	0	0	2	0	0	0	0	0	0	4	0	0	0	6	0	0	13	
2:20 PM	0	0	0	0	0	0	0	0	0	6	1	0	0	5	0	0	13	
2:25 PM	1	1	1	0	0	0	0	0	0	5	0	0	0	7	0	0	18	
2:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	8	0	0	17	
2:35 PM	0	0	1	0	0	1	0	0	0	7	0	0	0	7	0	0	17	
2:40 PM	0	0	1	0	0	0	0	0	0	4	0	0	0	5	0	0	16	
2:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	7	0	0	15	
2:50 PM	0	1	0	0	0	1	0	0	0	5	1	0	0	6	0	0	18	
2:55 PM	1	0	0	0	0	0	0	0	0	4	0	0	0	10	5	1	21	191
3:00 PM	1	0	11	0	0	0	0	0	0	2	1	0	0	7	11	3	36	216
3:05 PM	2	2	27	0	0	1	2	0	1	6	1	0	0	4	7	0	53	253
3:10 PM	0	0	6	0	0	1	0	0	0	2	1	0	0	5	4	2	21	258
3:15 PM	2	0	5	0	0	0	0	0	0	1	0	0	0	3	0	0	12	257
3:20 PM	0	0	1	0	0	0	0	0	0	5	0	0	0	11	0	0	19	263
3:25 PM	0	0	1	0	0	0	0	0	0	4	0	0	0	8	0	0	13	258
3:30 PM	0	0	1	0	0	0	0	0	0	4	1	0	0	12	0	0	18	259
3:35 PM	1	0	1	0	0	0	0	0	0	4	0	0	0	9	0	0	16	258
3:40 PM	0	0	1	0	0	1	0	0	0	5	1	0	0	11	0	0	20	262
3:45 PM	1	0	1	0	0	0	0	0	0	8	0	0	0	8	0	0	18	265
3:50 PM	1	0	2	0	0	0	0	0	0	8	0	0	0	10	0	0	21	268
3:55 PM	0	0	0	0	0	0	0	0	1	6	1	0	0	10	0	0	20	267
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	8	152	0	0	4	8	0	4	48	8	0	84	92	16	0	440	
Heavy Trucks	0	4	4	0	0	0	0	0	0	0	0	0	4	0	0	0	12	
Buses																		
Pedestrians		32				0				0				144			176	
Bicycles	0	0	8		0	0	0		0	0	0		0	0	0		8	
Scoters																		

Comments:

LOCATION: Sacramento St -- Marlette St
CITY/STATE: Lone, CA

QC JOB #: 16221711
DATE: Wed, May 31 2023

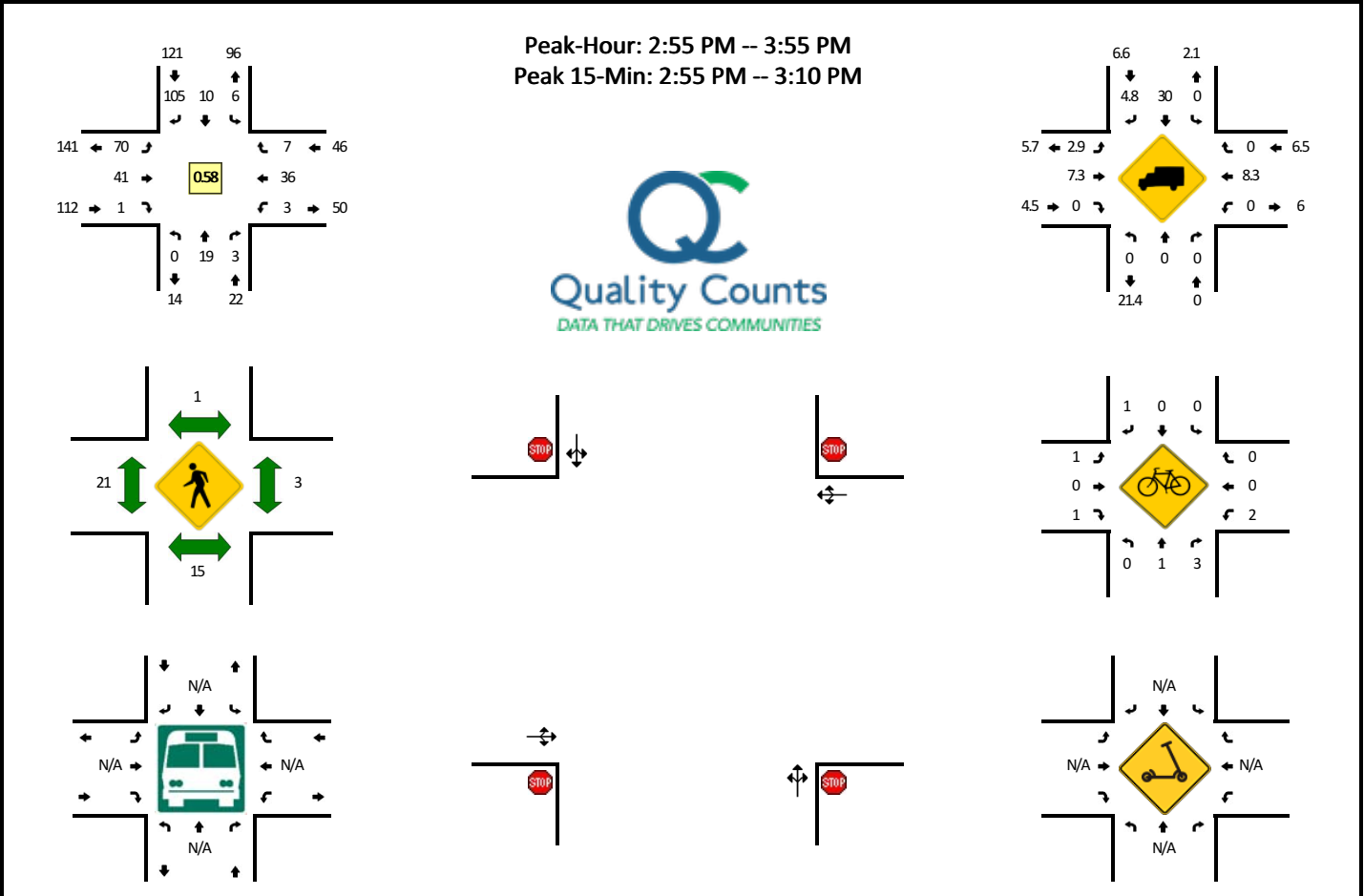


5-Min Count Period Beginning At	Sacramento St (Northbound)				Sacramento St (Southbound)				Marlette St (Eastbound)				Marlette St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	1	1	0	9	1	0	0	0	0	0	0	12	
7:05 AM	0	0	0	0	0	0	1	0	6	4	0	0	0	0	1	0	12	
7:10 AM	0	0	0	0	0	0	3	0	5	0	0	0	0	0	0	0	8	
7:15 AM	0	0	0	0	0	1	2	0	8	2	0	0	0	1	0	0	14	
7:20 AM	0	0	0	0	0	2	1	0	7	3	0	0	0	1	0	0	14	
7:25 AM	0	0	0	0	0	1	3	0	7	3	0	0	0	0	1	0	15	
7:30 AM	0	0	0	0	2	2	2	0	12	1	0	0	1	2	1	0	23	
7:35 AM	0	2	1	0	0	6	6	0	15	3	1	0	1	4	0	0	39	
7:40 AM	0	0	1	0	2	1	6	0	16	4	0	0	0	4	0	0	34	
7:45 AM	0	0	0	0	0	0	2	0	7	5	0	0	0	2	0	0	16	
7:50 AM	0	2	0	0	0	2	6	0	5	8	0	0	0	2	0	0	25	
7:55 AM	0	0	0	0	0	4	6	0	8	9	0	0	2	3	0	0	32	244
8:00 AM	0	1	0	0	1	4	12	0	13	5	0	0	1	1	2	0	40	272
8:05 AM	1	1	0	0	0	7	8	0	10	7	0	0	0	2	0	0	36	296
8:10 AM	0	1	0	0	1	1	12	0	13	3	1	0	0	6	0	0	38	326
8:15 AM	0	1	0	0	0	2	9	0	12	7	0	0	0	4	0	0	35	347
8:20 AM	0	1	1	0	0	2	11	0	11	9	0	0	2	3	1	0	41	374
8:25 AM	0	3	1	0	0	0	11	0	10	4	0	0	0	2	0	0	31	390
8:30 AM	1	0	0	0	2	2	2	0	11	2	0	0	1	4	0	0	25	392
8:35 AM	1	1	0	0	0	0	2	0	2	4	1	0	0	1	0	0	12	365
8:40 AM	0	0	0	0	1	1	7	0	5	4	0	0	0	0	0	0	18	349
8:45 AM	0	0	0	0	0	0	3	0	6	1	0	0	0	1	1	0	12	345
8:50 AM	0	0	0	0	4	1	2	0	2	1	0	0	0	2	0	0	12	332
8:55 AM	0	0	1	0	0	2	5	0	6	1	0	0	1	1	0	0	17	317
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	12	0	0	8	48	128	0	144	60	4	0	4	36	8	0	456	
Heavy Trucks	4	0	0	0	0	0	0	0	0	12	0	0	4	0	0	0	20	
Buses																		
Pedestrians		8				4				20				4			36	
Bicycles	0	0	0		0	4	8		0	0	0		0	0	0		12	
Scoters																		

Comments:

LOCATION: Sacramento St -- Marlette St
CITY/STATE: Lone, CA

QC JOB #: 16221712
DATE: Wed, May 31 2023

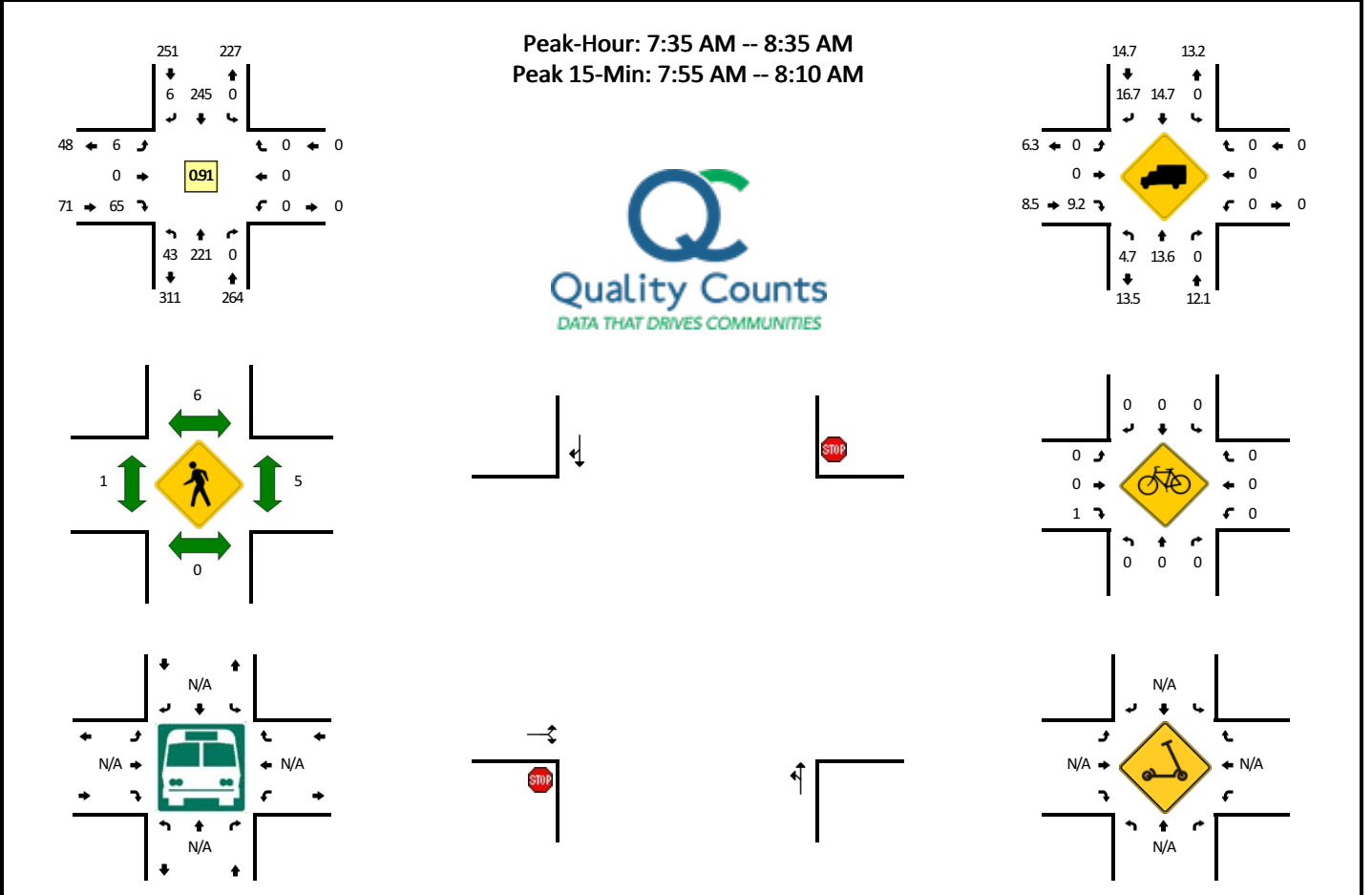


5-Min Count Period Beginning At	Sacramento St (Northbound)				Sacramento St (Southbound)				Marlette St (Eastbound)				Marlette St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	0	0	0	1	0	7	0	3	0	0	0	0	1	5	0	17	
2:05 PM	0	0	0	0	0	0	11	0	3	0	0	0	0	0	2	1	17	
2:10 PM	0	0	0	0	0	0	6	0	5	1	0	0	0	1	0	0	13	
2:15 PM	0	0	0	0	0	0	6	0	4	2	0	0	1	2	0	0	15	
2:20 PM	0	0	0	0	0	0	5	0	2	4	0	0	0	0	0	0	11	
2:25 PM	0	0	0	0	0	1	9	0	5	1	0	0	0	1	0	0	17	
2:30 PM	0	0	0	0	1	0	10	0	3	0	0	0	1	3	0	0	18	
2:35 PM	0	0	0	0	1	0	8	0	4	3	0	0	0	1	1	0	18	
2:40 PM	0	0	0	0	0	1	6	0	5	0	0	0	0	6	0	0	18	
2:45 PM	1	0	0	0	1	2	9	0	2	1	0	0	0	0	0	0	16	
2:50 PM	0	1	1	0	0	2	7	0	3	2	0	0	0	2	1	0	19	
2:55 PM	0	0	0	0	1	2	10	0	1	2	1	0	1	8	1	0	27	206
3:00 PM	0	7	2	0	1	0	13	0	6	6	0	0	0	8	0	0	43	232
3:05 PM	0	5	1	0	0	1	10	0	24	12	0	0	0	2	4	0	59	274
3:10 PM	0	0	0	0	1	0	7	0	5	3	0	0	0	4	0	0	20	281
3:15 PM	0	0	0	0	2	1	5	0	4	2	0	0	0	0	1	0	15	281
3:20 PM	0	0	0	0	0	1	11	0	3	3	0	0	1	2	0	0	21	291
3:25 PM	0	1	0	0	0	1	8	0	4	1	0	0	1	1	0	0	17	291
3:30 PM	0	1	0	0	0	0	11	0	3	2	0	0	0	0	0	0	17	290
3:35 PM	0	1	0	0	1	1	10	0	2	3	0	0	0	1	0	0	19	291
3:40 PM	0	0	0	0	0	1	8	0	5	1	0	0	0	4	0	0	19	292
3:45 PM	0	2	0	0	0	1	6	0	6	3	0	0	0	2	1	0	21	297
3:50 PM	0	2	0	0	0	1	6	0	7	3	0	0	0	4	0	0	23	301
3:55 PM	0	0	0	0	0	0	8	0	4	2	0	0	0	4	1	0	19	293
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	48	12	0	8	12	132	0	124	80	4	0	4	72	20	0	516	
Heavy Trucks	0	0	0	0	0	4	4	0	4	0	0	0	0	0	0	0	12	
Buses																		
Pedestrians		12				4				60				0			76	
Bicycles	0	4	0		0	0	0		4	0	4		0	0	0		12	
Scoters																		

Comments:

LOCATION: CA-124 -- Relihan Dr
CITY/STATE: Lone, CA

QC JOB #: 16221713
DATE: Wed, May 31 2023



Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

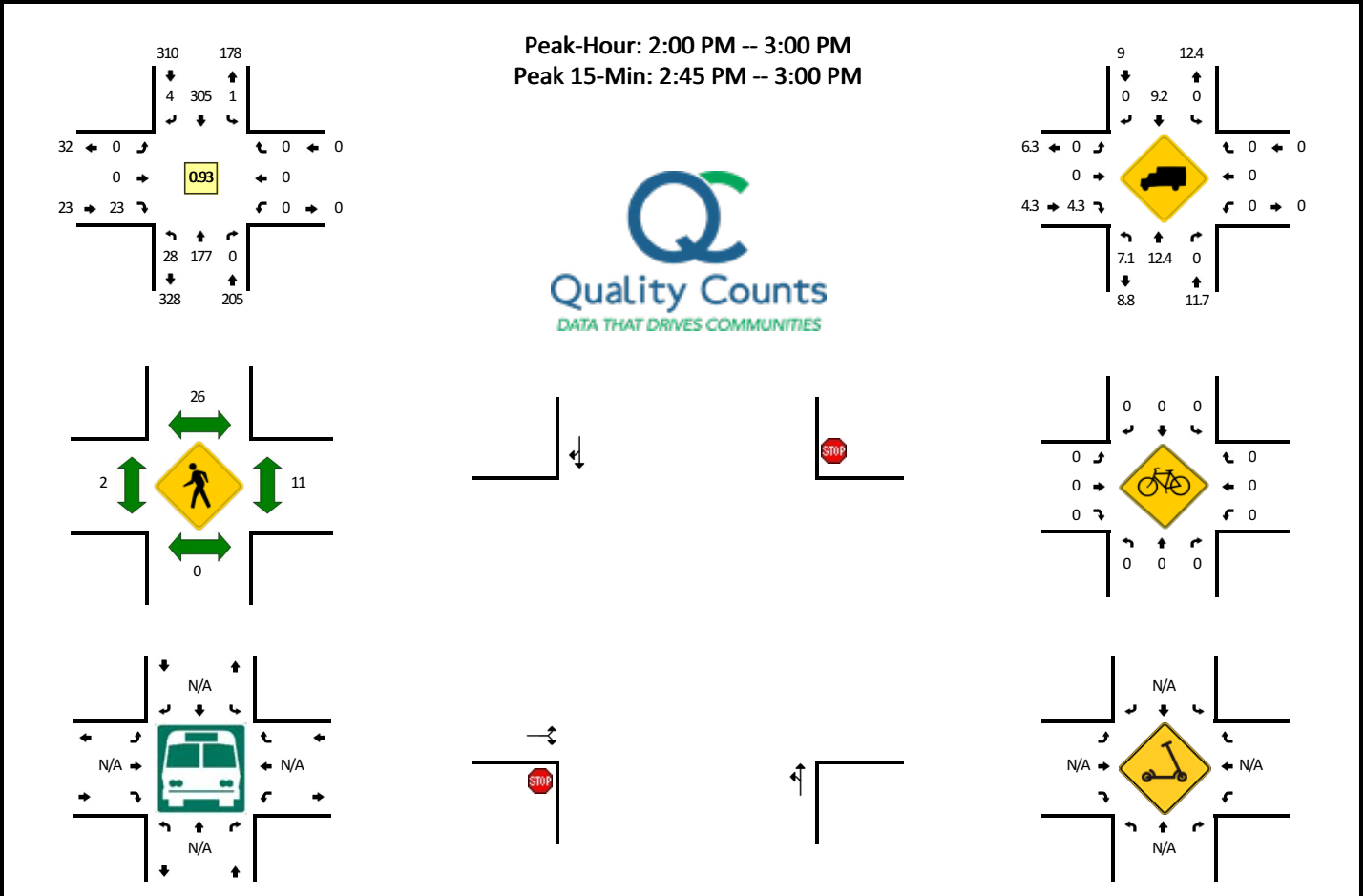


5-Min Count Period Beginning At	CA-124 (Northbound)				CA-124 (Southbound)				Relihan Dr (Eastbound)				Relihan Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	20	0	0	0	13	0	0	0	0	0	1	0	0	0	0	34	
7:05 AM	1	7	0	0	0	17	0	0	0	0	0	3	0	0	0	0	28	
7:10 AM	0	11	0	0	0	11	0	0	0	0	0	1	0	0	0	0	23	
7:15 AM	1	25	0	0	0	11	0	0	0	0	0	2	0	0	0	0	39	
7:20 AM	0	20	0	0	0	8	0	0	0	0	0	1	0	0	0	0	29	
7:25 AM	0	23	0	0	0	11	1	0	0	1	0	2	0	0	0	0	38	
7:30 AM	1	21	0	0	0	9	0	0	0	1	0	1	0	0	0	0	33	
7:35 AM	4	24	0	0	0	15	0	0	0	1	0	1	0	0	0	0	45	
7:40 AM	5	26	0	1	0	15	0	0	0	0	0	8	0	0	0	0	55	
7:45 AM	3	29	0	0	0	16	2	0	0	0	0	7	0	0	0	0	57	
7:50 AM	3	24	0	0	0	15	1	0	0	1	0	4	0	0	0	0	48	
7:55 AM	2	18	0	0	0	20	1	0	0	1	0	9	0	0	0	0	51	480
8:00 AM	6	26	0	0	0	22	0	0	0	1	0	5	0	0	0	0	60	506
8:05 AM	3	11	0	0	0	29	0	0	0	0	0	7	0	0	0	0	50	528
8:10 AM	5	15	0	0	0	22	0	0	0	0	0	3	0	0	0	0	45	550
8:15 AM	3	15	0	0	0	16	0	0	0	0	0	6	0	0	0	0	40	551
8:20 AM	3	12	0	0	0	27	0	0	0	0	0	7	0	0	0	0	49	571
8:25 AM	2	11	0	0	0	28	0	0	0	0	0	6	0	0	0	0	47	580
8:30 AM	3	10	0	0	0	20	2	0	0	2	0	2	0	0	0	0	39	586
8:35 AM	1	9	0	0	0	15	0	0	0	0	0	2	0	0	0	0	27	568
8:40 AM	0	14	0	0	0	19	0	0	0	0	0	2	0	0	0	0	35	548
8:45 AM	1	7	0	0	0	17	0	0	0	0	0	1	0	0	0	0	26	517
8:50 AM	1	14	0	0	0	7	1	0	0	0	0	1	0	0	0	0	24	493
8:55 AM	2	11	0	0	0	10	0	0	0	1	0	1	0	0	0	0	25	467
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	44	220	0	0	0	284	4	0	8	0	84	0	0	0	0	0	644	
Heavy Trucks	4	32	0	0	0	44	0	0	0	0	16	0	0	0	0	0	96	
Buses																		
Pedestrians		0				16				0				12			28	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: CA-124 -- Relihan Dr
CITY/STATE: Lone, CA

QC JOB #: 16221714
DATE: Wed, May 31 2023

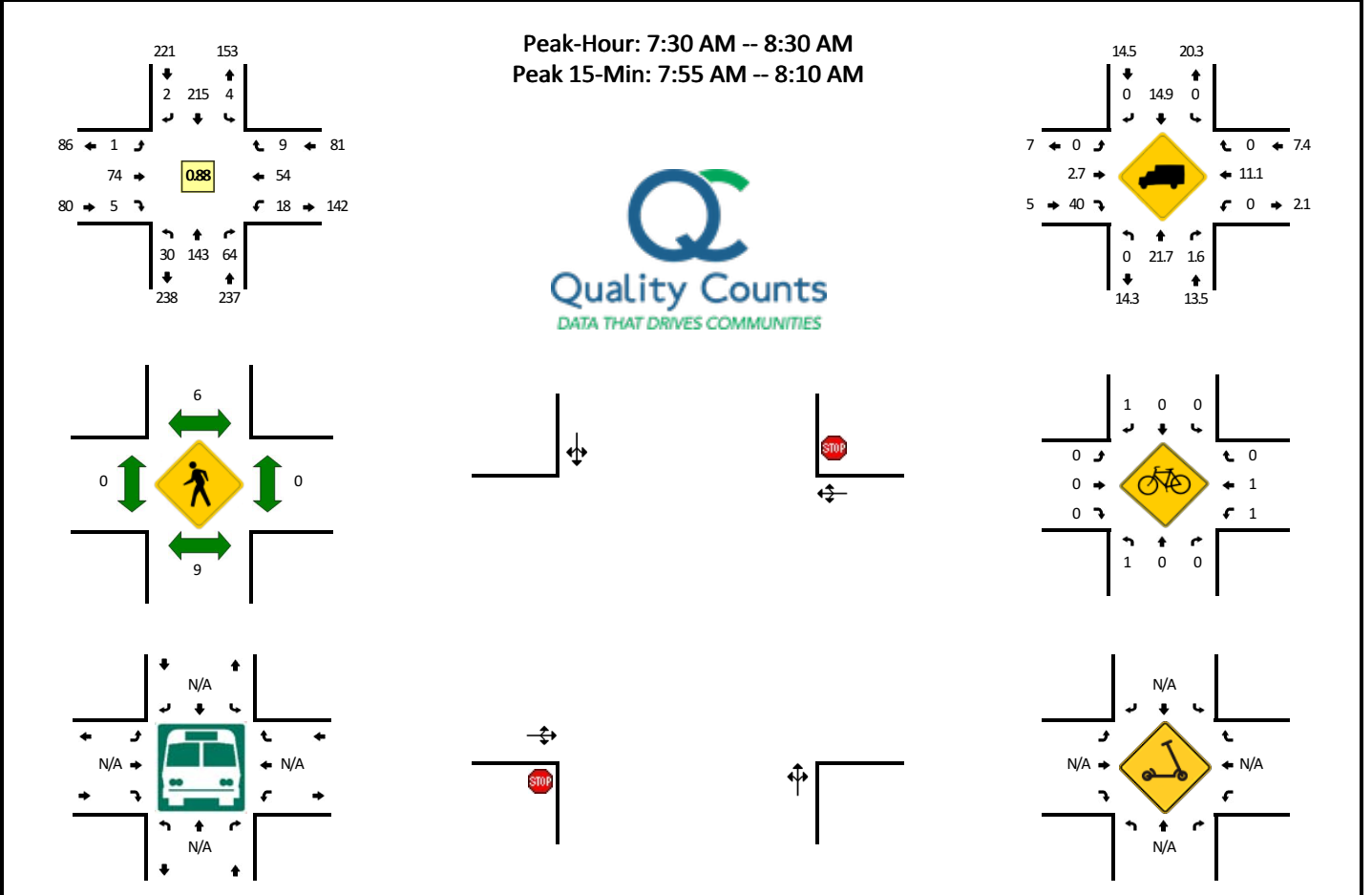


5-Min Count Period Beginning At	CA-124 (Northbound)				CA-124 (Southbound)				Relihan Dr (Eastbound)				Relihan Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	1	19	0	0	0	27	1	1	0	0	6	0	0	0	0	0	55	
2:05 PM	1	16	0	0	0	26	0	0	0	0	1	0	0	0	0	0	44	
2:10 PM	0	20	0	0	0	22	0	0	0	0	2	0	0	0	0	0	44	
2:15 PM	0	17	0	0	0	24	1	0	0	0	2	0	0	0	0	0	44	
2:20 PM	0	19	0	0	0	23	0	0	0	0	2	0	0	0	0	0	44	
2:25 PM	1	9	0	0	0	28	0	0	0	0	1	0	0	0	0	0	39	
2:30 PM	3	12	0	0	0	26	1	0	0	0	1	0	0	0	0	0	43	
2:35 PM	0	10	0	0	0	29	0	0	0	0	3	0	0	0	0	0	42	
2:40 PM	7	10	0	0	0	21	0	0	0	0	1	0	0	0	0	0	39	
2:45 PM	1	18	0	0	0	20	0	0	0	0	0	0	0	0	0	0	39	
2:50 PM	5	14	0	0	0	23	0	0	0	0	2	0	0	0	0	0	44	
2:55 PM	9	13	0	0	0	36	1	0	0	0	2	0	0	0	0	0	61	538
3:00 PM	5	15	0	0	0	18	1	0	0	0	4	0	0	0	0	0	43	526
3:05 PM	2	17	0	0	0	10	2	0	0	0	12	0	0	0	0	0	43	525
3:10 PM	4	11	0	0	0	24	0	0	0	0	13	0	0	0	0	0	52	533
3:15 PM	2	11	0	0	0	23	0	0	1	0	2	0	0	0	0	0	39	528
3:20 PM	1	19	0	0	0	25	1	0	0	0	2	0	0	0	0	0	48	532
3:25 PM	2	11	0	0	0	17	0	0	0	0	2	0	0	0	0	0	32	525
3:30 PM	0	12	0	0	0	23	0	0	0	0	0	0	0	0	0	0	35	517
3:35 PM	2	10	0	0	0	17	0	0	0	0	4	0	0	0	0	0	33	508
3:40 PM	2	24	0	0	0	22	0	0	0	0	3	0	0	0	0	0	51	520
3:45 PM	2	15	0	0	0	25	0	0	0	0	2	0	0	0	0	0	44	525
3:50 PM	4	12	0	0	0	13	1	0	0	0	3	0	0	0	0	0	33	514
3:55 PM	4	17	0	0	0	24	0	0	1	0	2	0	0	0	0	0	48	501
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	60	180	0	0	0	316	4	0	0	0	16	0	0	0	0	0	576	
Heavy Trucks	0	8	0	0	0	52	0	0	0	0	0	0	0	0	0	0	60	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

LOCATION: Church St -- Market St
CITY/STATE: Lone, CA

QC JOB #: 16221715
DATE: Wed, May 31 2023

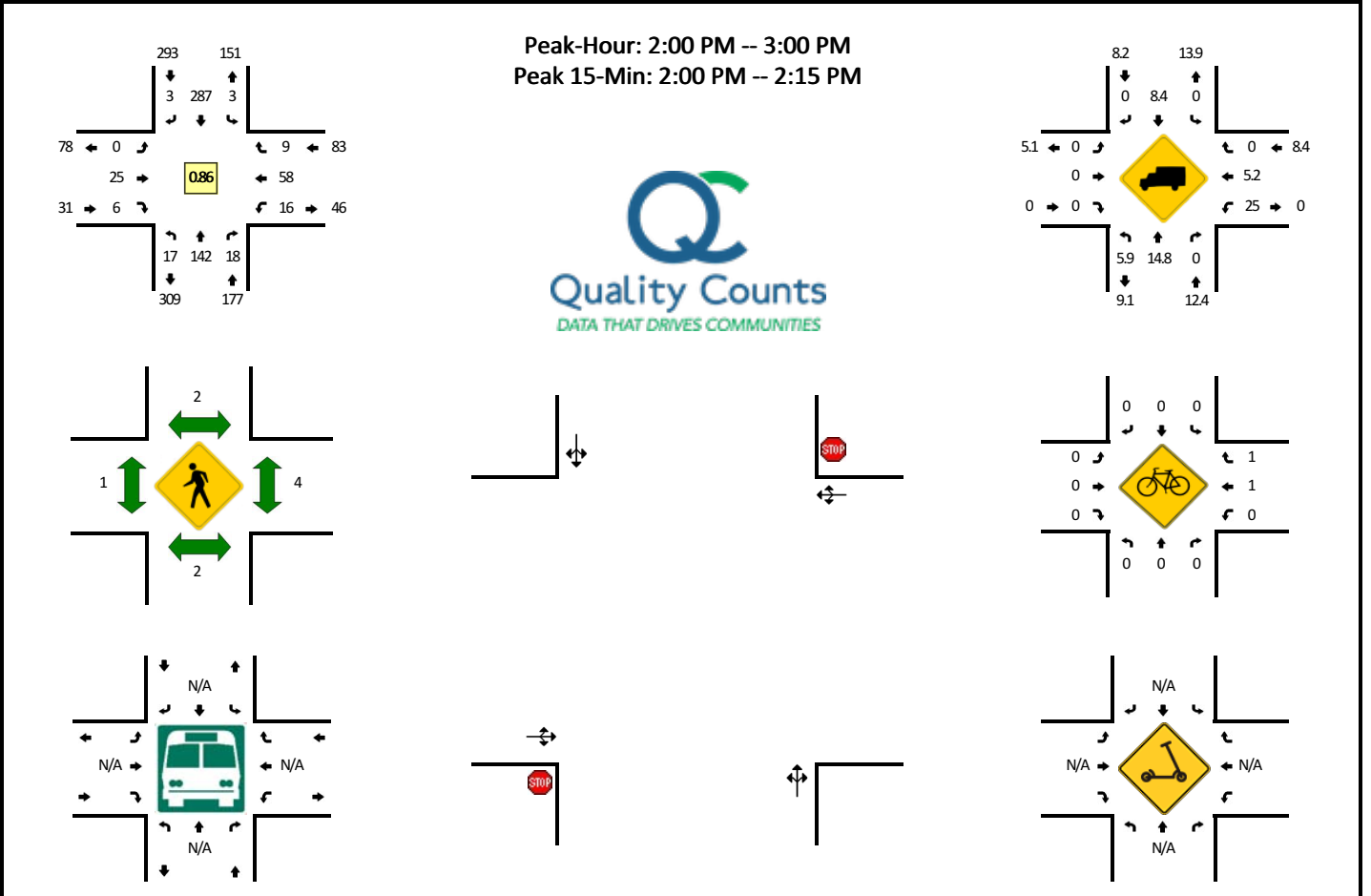


5-Min Count Period Beginning At	Church St (Northbound)				Church St (Southbound)				Market St (Eastbound)				Market St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	17	3	0	0	13	0	0	0	5	0	0	0	0	0	0	38	
7:05 AM	0	6	1	0	1	16	0	0	0	4	1	0	0	1	0	0	30	
7:10 AM	0	9	2	0	0	11	0	0	0	2	0	0	0	3	0	0	27	
7:15 AM	3	21	1	0	1	8	1	0	0	2	0	0	0	3	0	0	40	
7:20 AM	0	17	3	0	0	7	0	0	0	4	1	0	0	0	1	0	33	
7:25 AM	2	16	6	0	0	11	0	0	0	4	0	0	0	1	2	0	42	
7:30 AM	4	12	6	0	0	9	0	0	0	7	0	0	0	0	4	1	43	
7:35 AM	5	15	5	0	1	14	0	0	0	10	1	0	0	0	4	0	55	
7:40 AM	2	15	9	0	0	14	0	0	0	8	0	0	0	1	3	1	53	
7:45 AM	2	18	9	0	0	16	0	0	0	6	1	0	0	1	1	1	55	
7:50 AM	3	14	8	0	0	11	0	0	0	4	0	0	0	5	3	2	50	
7:55 AM	5	9	5	0	0	15	1	0	1	4	1	0	0	5	5	2	53	519
8:00 AM	2	14	11	0	1	18	1	0	0	4	0	0	0	4	11	0	66	547
8:05 AM	2	8	1	0	0	29	0	0	0	7	0	0	0	0	9	1	57	574
8:10 AM	1	10	4	0	0	21	0	0	0	8	1	0	0	0	0	0	45	592
8:15 AM	1	12	2	0	1	16	0	0	0	10	0	0	0	0	6	0	48	600
8:20 AM	0	10	2	0	0	25	0	0	0	1	1	0	0	1	7	1	48	615
8:25 AM	3	6	2	0	1	27	0	0	0	5	0	0	0	1	1	0	46	619
8:30 AM	1	11	0	0	0	20	0	0	0	5	1	0	0	1	2	0	41	617
8:35 AM	0	7	2	0	0	14	0	0	0	3	0	0	0	1	3	1	31	593
8:40 AM	2	12	0	0	0	17	1	0	0	2	1	0	0	1	5	1	42	582
8:45 AM	1	4	2	0	1	16	0	0	0	1	0	0	0	1	2	0	28	555
8:50 AM	1	12	1	0	0	6	0	0	0	0	0	0	0	2	3	0	25	530
8:55 AM	1	10	1	0	0	9	1	0	0	3	0	0	0	1	4	0	30	507
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	36	124	68	0	4	248	8	0	4	60	4	0	36	100	12	0	704	
Heavy Trucks	0	32	0		0	44	0		0	4	0		0	8	0		88	
Buses																		
Pedestrians		16				4				0				0			20	
Bicycles	0	0	0		0	0	4		0	0	0		0	4	0		8	
Scoters																		

Comments:

LOCATION: Church St -- Market St
CITY/STATE: Lone, CA

QC JOB #: 16221716
DATE: Wed, May 31 2023



5-Min Count Period Beginning At	Church St (Northbound)				Church St (Southbound)				Market St (Eastbound)				Market St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	8	9	2	0	1	22	0	0	0	3	2	0	4	7	4	0	62	
2:05 PM	1	11	4	0	0	19	0	0	0	1	1	0	6	14	2	0	59	
2:10 PM	1	15	4	0	0	21	0	0	0	1	0	0	1	4	1	0	48	
2:15 PM	0	15	2	0	0	23	0	0	0	1	1	0	1	2	0	0	45	
2:20 PM	1	16	2	0	0	23	1	0	0	3	0	0	0	1	0	0	47	
2:25 PM	2	5	2	0	0	28	0	0	0	4	0	0	0	1	1	0	43	
2:30 PM	1	11	0	0	1	26	0	0	0	1	0	0	1	6	0	0	47	
2:35 PM	1	9	0	0	0	28	1	0	0	2	0	0	1	5	0	0	47	
2:40 PM	1	9	0	0	1	20	0	0	0	2	0	0	1	5	0	0	39	
2:45 PM	0	17	1	0	0	20	0	0	0	2	0	0	0	6	0	0	46	
2:50 PM	0	14	0	0	0	22	1	0	0	4	1	0	0	5	1	0	48	
2:55 PM	1	11	1	0	0	35	0	0	0	1	1	0	1	2	0	0	53	584
3:00 PM	0	14	1	0	0	18	1	0	0	5	1	0	0	4	1	0	45	567
3:05 PM	0	17	0	0	0	9	0	0	0	15	3	0	0	3	0	0	47	555
3:10 PM	0	10	1	0	0	22	1	0	0	3	1	0	1	1	0	0	40	547
3:15 PM	1	11	0	0	0	22	0	0	0	1	1	0	0	4	0	0	40	542
3:20 PM	1	18	0	0	1	24	1	0	0	2	0	0	2	5	0	0	54	549
3:25 PM	0	11	0	0	0	17	1	0	0	3	0	0	0	3	0	0	35	541
3:30 PM	1	10	1	0	2	21	0	0	0	0	2	0	0	4	0	0	41	535
3:35 PM	1	9	0	0	0	16	0	0	0	0	0	0	1	5	1	0	33	521
3:40 PM	1	21	2	0	0	19	1	0	0	3	0	0	3	4	0	0	54	536
3:45 PM	1	13	1	0	0	24	1	0	1	4	1	0	0	3	0	0	49	539
3:50 PM	1	9	2	0	0	12	0	0	0	2	2	0	0	5	0	0	33	524
3:55 PM	1	16	1	0	0	23	0	0	0	0	0	0	1	4	0	0	46	517
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	40	140	40	0	4	248	0	0	0	20	12	0	44	100	28	0	676	
Heavy Trucks	0	32	0	0	0	12	0	0	0	0	0	0	16	4	0	0	64	
Buses																		
Pedestrians		8				8				4				12			32	
Bicycles	0	0	0		0	0	0		0	0	0		0	4	4		8	
Scoters																		

Comments:

APPENDIX B: DETAILED CALCULATION WORKSHEETS FOR EXISTING CONDITIONS

Intersection Level Of Service Report
Intersection 1: Argonaut Lane/CA-88

Control Type:	Two-way stop	Delay (sec / veh):	25.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

Intersection Setup

Name	Argonaut Ln		CA49		CA49-88	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	←		→		↖ ↗	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Argonaut Ln		CA49		CA49-88	
Base Volume Input [veh/h]	66	36	596	143	29	583
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.60	2.80	7.90	5.60	0.00	5.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	36	596	143	29	583
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	10	164	39	8	160
Total Analysis Volume [veh/h]	73	40	655	157	32	641
Pedestrian Volume [ped/h]	2		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.10	0.01	0.00	0.04	0.01
d_M, Delay for Movement [s/veh]	25.26	20.38	0.00	0.00	9.57	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.65	1.65	0.00	0.00	0.12	0.00
95th-Percentile Queue Length [ft/ln]	41.18	41.18	0.00	0.00	3.04	0.00
d_A, Approach Delay [s/veh]	23.53		0.00		0.45	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.86					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 2: Argonaut Lane/Westview Drive

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Argonaut Ln		Argonaut Ln		Wesview Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Argonaut Ln		Argonaut Ln		Wesview Dr	
Base Volume Input [veh/h]	3	47	59	6	18	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	33.30	38.30	22.00	0.00	11.10	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	47	59	6	18	25
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	14	17	2	5	7
Total Analysis Volume [veh/h]	3	55	69	7	21	29
Pedestrian Volume [ped/h]	0		0		5	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.03
d_M, Delay for Movement [s/veh]	7.70	0.00	0.00	0.00	9.58	8.93
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.13	0.13	0.00	0.00	4.37	4.37
d_A, Approach Delay [s/veh]	0.40		0.00		9.20	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.63					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Argonaut Lane/Stony Creek Road/Hoffman Street

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.191

Intersection Setup

Name	Argonaut Ln		Stony Creek Rd		Hoffman St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↔		↔		↔	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Argonaut Ln		Stony Creek Rd		Hoffman St	
Base Volume Input [veh/h]	99	28	21	10	23	147
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.10	0.00	19.00	0.00	13.00	16.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	28	21	10	23	147
Peak Hour Factor	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	10	8	4	8	53
Total Analysis Volume [veh/h]	141	40	30	14	33	210
Pedestrian Volume [ped/h]	2		0		0	

Intersection Settings

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




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.04	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.32	10.38	7.97	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.91	0.91	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	22.80	22.80	1.28	1.28	0.00	0.00
d_A, Approach Delay [s/veh]	11.12		5.44		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Sutter Street/Hoffman Street

Control Type:	Two-way stop	Delay (sec / veh):	27.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	Sutter-S		Sutter-S		Hoffman	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Sutter-S		Sutter-S		Hoffman	
Base Volume Input [veh/h]	154	724	727	11	17	114
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.20	4.10	5.50	9.10	0.00	0.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	154	724	727	11	17	114
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	210	211	3	5	33
Total Analysis Volume [veh/h]	179	842	845	13	20	133
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.01	0.01	0.00	0.10	0.23
d_M, Delay for Movement [s/veh]	11.24	0.00	0.00	0.00	27.80	15.22
Movement LOS	B	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.92	0.00	0.00	0.00	1.46	1.46
95th-Percentile Queue Length [ft/ln]	22.99	0.00	0.00	0.00	36.57	36.57
d_A, Approach Delay [s/veh]	1.97		0.00		16.87	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.26					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 5: Mills Street/Marlette Street

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Marlette-W						Mils-N			W Marlette		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Marlette-W						Mils-N			W Marlette		
Base Volume Input [veh/h]	8	9	100	1	16	0	4	94	10	88	34	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	44.40	6.00	0.00	43.80	0.00	25.00	2.10	0.00	2.30	2.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	9	100	1	16	0	4	94	10	88	34	0
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	3	30	0	5	0	1	29	3	27	10	0
Total Analysis Volume [veh/h]	10	11	122	1	20	0	5	115	12	107	41	0
Pedestrian Volume [ped/h]	0			0			1			13		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.14	0.00	0.04	0.00	0.00	0.00	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	13.00	14.01	10.03	14.36	13.47	8.89	7.52	0.00	0.00	7.67	0.00	0.00
Movement LOS	B	B	B	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.66	0.66	0.66	0.15	0.15	0.15	0.01	0.01	0.01	0.24	0.24	0.24
95th-Percentile Queue Length [ft/ln]	16.39	16.39	16.39	3.71	3.71	3.71	0.26	0.26	0.26	5.93	5.93	5.93
d_A, Approach Delay [s/veh]	10.54			13.51			0.28			5.54		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	5.97											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 6: Sacramento Street/Marlette Street

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.106

Intersection Setup

Name	S Sac St			S Sac St			W Marlette			Mils-S		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Sac St			S Sac St			W Marlette			Mils-S		
Base Volume Input [veh/h]	2	12	4	6	31	91	131	66	2	7	37	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	50.00	0.00	0.00	0.00	0.00	1.10	3.10	7.60	0.00	28.60	2.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	12	4	6	31	91	131	66	2	7	37	3
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	1	2	9	26	38	19	1	2	11	1
Total Analysis Volume [veh/h]	2	14	5	7	36	106	152	77	2	8	43	3
Pedestrian Volume [ped/h]	4			3			13			2		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.11	0.00	0.01	0.06	0.00
d_M, Delay for Movement [s/veh]	8.09	0.00	0.00	7.25	0.00	0.00	12.18	12.23	11.10	10.96	10.67	8.84
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	1.36	1.36	1.36	0.25	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.09	0.34	0.34	0.34	33.92	33.92	33.92	6.29	6.29	6.29
d_A, Approach Delay [s/veh]	0.77			0.34			12.19			10.61		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	7.59											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 7: CA-124/Relihan Drive**

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.016

Intersection Setup

Name	Church-S		Church-N		Relihan	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Church-S		Church-N		Relihan	
Base Volume Input [veh/h]	43	221	245	6	6	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.70	13.60	14.70	16.70	0.00	9.20
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	221	245	6	6	65
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	61	67	2	2	18
Total Analysis Volume [veh/h]	47	243	269	7	7	71
Pedestrian Volume [ped/h]	0		6		1	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.02	0.09
d_M, Delay for Movement [s/veh]	7.89	0.00	0.00	0.00	13.92	10.46
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.37	0.37
95th-Percentile Queue Length [ft/ln]	2.01	2.01	0.00	0.00	9.33	9.33
d_A, Approach Delay [s/veh]	1.28		0.00		10.77	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.88					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Church Street/Market Street

Control Type:	Two-way stop	Delay (sec / veh):	18.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name	Church-S			Church-N			Market-W			Market-E		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	14.00	14.00	14.00	14.00	14.00	14.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	Church-S			Church-N			Market-W			Market-E		
Base Volume Input [veh/h]	30	143	64	4	215	2	1	74	5	18	54	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	21.70	1.60	0.00	14.90	0.00	0.00	2.70	40.00	0.00	11.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	143	64	4	215	2	1	74	5	18	54	9
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	41	18	1	61	1	0	21	1	5	15	3
Total Analysis Volume [veh/h]	34	163	73	5	244	2	1	84	6	20	61	10
Pedestrian Volume [ped/h]	9			6			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.01	0.06	0.14	0.01
d_M, Delay for Movement [s/veh]	7.75	0.00	0.00	7.69	0.00	0.00	17.22	15.74	12.39	18.20	15.66	11.61
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.79	0.79	0.79	0.80	0.80	0.80
95th-Percentile Queue Length [ft/ln]	1.53	1.53	1.53	0.21	0.21	0.21	19.64	19.64	19.64	20.06	20.06	20.06
d_A, Approach Delay [s/veh]	0.98			0.15			15.54			15.77		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.48											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Argonaut Lane/CA-88

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 43.0
 Level Of Service: E
 Volume to Capacity (v/c): 0.459

Intersection Setup

Name	Argonaut Ln		CA49		CA49-88	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	←		→		↖ ↗	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Argonaut Ln		CA49		CA49-88	
Base Volume Input [veh/h]	91	47	780	165	43	826
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.50	0.00	2.90	7.30	4.50	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	47	780	165	43	826
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	12	201	43	11	213
Total Analysis Volume [veh/h]	94	48	804	170	44	852
Pedestrian Volume [ped/h]	1		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.46	0.14	0.01	0.00	0.06	0.01
d_M, Delay for Movement [s/veh]	42.97	35.83	0.00	0.00	10.51	0.00
Movement LOS	E	E	A	A	B	A
95th-Percentile Queue Length [veh/ln]	3.47	3.47	0.00	0.00	0.20	0.00
95th-Percentile Queue Length [ft/ln]	86.69	86.69	0.00	0.00	5.04	0.00
d_A, Approach Delay [s/veh]	40.55		0.00		0.52	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	3.09					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 2: Argonaut Lane/Westview Drive

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Argonaut Ln		Argonaut Ln		Wesview Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Argonaut Ln		Argonaut Ln		Wesview Dr	
Base Volume Input [veh/h]	18	56	42	28	16	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	26.80	16.70	0.00	6.30	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	56	42	28	16	15
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	16	12	8	4	4
Total Analysis Volume [veh/h]	20	63	47	31	18	17
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	7.38	0.00	0.00	0.00	9.66	8.75
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.84	0.84	0.00	0.00	3.07	3.07
d_A, Approach Delay [s/veh]	1.78		0.00		9.22	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.40					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Argonaut Lane/Stony Creek Road/Hoffman Street

Control Type:	Two-way stop	Delay (sec / veh):	14.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.321

Intersection Setup

Name	Argonaut Ln		Stony Creek Rd		Hoffman St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Argonaut Ln		Stony Creek Rd		Hoffman St	
Base Volume Input [veh/h]	126	71	41	29	26	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	9.50	5.60	2.40	6.90	15.40	16.10
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	71	41	29	26	87
Peak Hour Factor	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	29	17	12	11	36
Total Analysis Volume [veh/h]	207	116	67	48	43	143
Pedestrian Volume [ped/h]	1		0		0	

Intersection Settings

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




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.13	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.55	12.84	7.68	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.31	2.31	0.12	0.12	0.00	0.00
95th-Percentile Queue Length [ft/ln]	57.87	57.87	2.90	2.90	0.00	0.00
d_A, Approach Delay [s/veh]	13.94		4.47		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	8.04					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Sutter Street/Hoffman Street

Control Type:	Two-way stop	Delay (sec / veh):	29.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.132

Intersection Setup

Name	Sutter-S		Sutter-S		Hoffman	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Sutter-S		Sutter-S		Hoffman	
Base Volume Input [veh/h]	83	908	864	23	23	135
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.60	4.70	2.50	8.70	0.00	4.40
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	908	864	23	23	135
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	255	243	6	6	38
Total Analysis Volume [veh/h]	93	1020	971	26	26	152
Pedestrian Volume [ped/h]	0		0		5	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.01	0.01	0.00	0.13	0.30
d_M, Delay for Movement [s/veh]	11.20	0.00	0.00	0.00	29.87	18.67
Movement LOS	B	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.48	0.00	0.00	0.00	2.14	2.14
95th-Percentile Queue Length [ft/ln]	11.93	0.00	0.00	0.00	53.46	53.46
d_A, Approach Delay [s/veh]	0.94		0.00		20.31	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 5: Mills Street/Marlette Street

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Marlette-W						Mils-N			W Marlette		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕			⊕			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marlette-W						Mils-N			W Marlette		
Base Volume Input [veh/h]	9	2	57	0	3	2	1	53	5	31	99	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.10	50.00	7.00	0.00	0.00	0.00	0.00	1.90	0.00	6.50	6.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	2	57	0	3	2	1	53	5	31	99	6
Peak Hour Factor	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	23	0	1	1	0	22	2	13	41	2
Total Analysis Volume [veh/h]	15	3	93	0	5	3	2	87	8	51	162	10
Pedestrian Volume [ped/h]	8			2			3			47		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.11	0.00	0.01	0.00	0.00	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	12.54	13.61	10.08	13.64	11.88	9.20	7.55	0.00	0.00	7.57	0.00	0.00
Movement LOS	B	B	B	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.51	0.04	0.04	0.04	0.00	0.00	0.00	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	12.65	12.65	12.65	0.98	0.98	0.98	0.11	0.11	0.11	2.73	2.73	2.73
d_A, Approach Delay [s/veh]	10.50			10.87			0.16			1.73		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	3.77											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 6: Sacramento Street/Marlette Street

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.192

Intersection Setup

Name	S Sac St			S Sac St			W Marlette			Mils-S		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Sac St			S Sac St			W Marlette			Mils-S		
Base Volume Input [veh/h]	0	19	3	6	10	105	70	41	1	3	36	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	30.00	4.80	2.90	7.30	0.00	0.00	8.30	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	19	3	6	10	105	70	41	1	3	36	7
Peak Hour Factor	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	1	3	4	45	30	18	0	1	16	3
Total Analysis Volume [veh/h]	0	33	5	10	17	181	121	71	2	5	62	12
Pedestrian Volume [ped/h]	15			1			21			3		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.19	0.11	0.00	0.01	0.10	0.01
d_M, Delay for Movement [s/veh]	7.70	0.00	0.00	7.30	0.00	0.00	13.06	12.69	11.45	11.33	11.76	9.26
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	1.25	1.25	1.25	0.42	0.42	0.42
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.50	0.50	0.50	31.33	31.33	31.33	10.40	10.40	10.40
d_A, Approach Delay [s/veh]	0.00			0.35			12.91			11.36		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	6.69											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 7: CA-124/Relihan Drive**

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.036

Intersection Setup

Name	Church-S		Church-N		Relihan	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Church-S		Church-N		Relihan	
Base Volume Input [veh/h]	28	177	305	4	0	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.10	12.40	9.20	0.00	0.00	4.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	177	305	4	0	23
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	48	82	1	0	6
Total Analysis Volume [veh/h]	30	190	328	4	0	25
Pedestrian Volume [ped/h]	0		26		2	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	8.05	0.00	0.00	0.00	13.42	10.31
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.11	0.11
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	2.76	2.76
d_A, Approach Delay [s/veh]	1.10		0.00		10.31	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.87					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Church Street/Market Street

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name	Church-S			Church-N			Market-W			Market-E		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	14.00	14.00	14.00	14.00	14.00	14.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Church-S			Church-N			Market-W			Market-E		
Base Volume Input [veh/h]	17	142	18	3	287	3	0	25	6	16	58	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.90	14.80	0.00	0.00	8.40	0.00	0.00	0.00	0.00	25.00	5.20	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	142	18	3	287	3	0	25	6	16	58	9
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	41	5	1	83	1	0	7	2	5	17	3
Total Analysis Volume [veh/h]	20	165	21	3	334	3	0	29	7	19	67	10
Pedestrian Volume [ped/h]	2			2			1			4		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.05	0.16	0.01
d_M, Delay for Movement [s/veh]	8.03	0.00	0.00	7.59	0.00	0.00	16.29	14.21	10.77	17.64	16.02	11.62
Movement LOS	A	A	A	A	A	A	C	B	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.01	0.01	0.01	0.26	0.26	0.26	0.85	0.85	0.85
95th-Percentile Queue Length [ft/ln]	0.86	0.86	0.86	0.13	0.13	0.13	6.38	6.38	6.38	21.36	21.36	21.36
d_A, Approach Delay [s/veh]	0.78			0.07			13.54			15.88		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	3.24											
Intersection LOS	C											

APPENDIX C: DETAILED CALCULATION WORKSHEETS FOR EXISTING PLUS PROJECT CONDITIONS

Intersection Level Of Service Report
Intersection 1: Argonaut Lane/CA-88

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 53.9
 Level Of Service: F
 Volume to Capacity (v/c): 0.575

Intersection Setup

Name	Argonaut Ln		CA49		CA49-88	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	↔		↗		↖	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Argonaut Ln		CA49		CA49-88	
Base Volume Input [veh/h]	66	36	596	143	29	583
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.60	2.80	7.90	5.60	0.00	5.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	58	32	0	128	25	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	68	596	271	54	583
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	19	164	74	15	160
Total Analysis Volume [veh/h]	136	75	655	298	59	641
Pedestrian Volume [ped/h]	2		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.57	0.20	0.01	0.00	0.08	0.01
d_M, Delay for Movement [s/veh]	53.87	48.12	0.00	0.00	10.39	0.00
Movement LOS	F	E	A	A	B	A
95th-Percentile Queue Length [veh/ln]	5.82	5.82	0.00	0.00	0.26	0.00
95th-Percentile Queue Length [ft/ln]	145.50	145.50	0.00	0.00	6.61	0.00
d_A, Approach Delay [s/veh]	51.83		0.00		0.88	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	6.20					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: Argonaut Lane/Westview Drive

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.047

Intersection Setup

Name	Argonaut Ln		Argonaut Ln		Wesview Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Argonaut Ln		Argonaut Ln		Wesview Dr	
Base Volume Input [veh/h]	3	47	59	6	18	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	33.30	38.30	22.00	0.00	11.10	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	89	0	153	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	47	212	6	18	25
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	14	62	2	5	7
Total Analysis Volume [veh/h]	107	55	247	7	21	29
Pedestrian Volume [ped/h]	0		0		5	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.05	0.04
d_M, Delay for Movement [s/veh]	8.31	0.00	0.00	0.00	13.61	10.21
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.21	0.21	0.00	0.00	0.28	0.28
95th-Percentile Queue Length [ft/ln]	5.13	5.13	0.00	0.00	6.88	6.88
d_A, Approach Delay [s/veh]	5.49		0.00		11.64	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.16					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 3: Argonaut Lane/Stony Creek Road/Hoffman Street

Control Type:	Two-way stop	Delay (sec / veh):	21.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Argonaut Ln		Stony Creek Rd		Hoffman St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↔		↔		↔	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Argonaut Ln		Stony Creek Rd		Hoffman St	
Base Volume Input [veh/h]	99	28	21	10	23	147
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.10	0.00	19.00	0.00	13.00	16.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	89	42	0	126
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	28	110	52	23	273
Peak Hour Factor	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	10	39	19	8	98
Total Analysis Volume [veh/h]	141	40	157	74	33	390
Pedestrian Volume [ped/h]	2		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.38	0.05	0.15	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	21.01	15.72	8.73	0.00	0.00	0.00
Movement LOS	C	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.11	2.11	0.36	0.36	0.00	0.00
95th-Percentile Queue Length [ft/ln]	52.82	52.82	8.90	8.90	0.00	0.00
d_A, Approach Delay [s/veh]	19.84		5.93		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	5.94					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Sutter Street/Hoffman Street

Control Type:	Two-way stop	Delay (sec / veh):	43.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.211

Intersection Setup

Name	Sutter-S		Sutter-S		Hoffman	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Sutter-S		Sutter-S		Hoffman	
Base Volume Input [veh/h]	154	724	727	11	17	114
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.20	4.10	5.50	9.10	0.00	0.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	117	0	0	8	5	37
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	271	724	727	19	22	151
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	210	211	6	6	44
Total Analysis Volume [veh/h]	315	842	845	22	26	176
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.42	0.01	0.01	0.00	0.21	0.31
d_M, Delay for Movement [s/veh]	13.24	0.00	0.00	0.00	43.83	20.90
Movement LOS	B	A	A	A	E	C
95th-Percentile Queue Length [veh/ln]	2.09	0.00	0.00	0.00	2.89	2.89
95th-Percentile Queue Length [ft/ln]	52.33	0.00	0.00	0.00	72.20	72.20
d_A, Approach Delay [s/veh]	3.60		0.00		23.85	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	4.04					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 5: Mills Street/Marlette Street

Control Type:	Two-way stop	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Marlette-W						Mils-N			W Marlette		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Marlette-W						Mils-N			W Marlette		
Base Volume Input [veh/h]	8	9	100	1	16	0	4	94	10	88	34	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	44.40	6.00	0.00	43.80	0.00	25.00	2.10	0.00	2.30	2.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	10	11	113	0	23	0	0	0	14	128	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	20	213	1	39	0	4	94	24	216	34	0
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	6	65	0	12	0	1	29	7	66	10	0
Total Analysis Volume [veh/h]	22	24	260	1	48	0	5	115	29	263	41	0
Pedestrian Volume [ped/h]	0			0			1			13		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.09	0.29	0.01	0.19	0.00	0.00	0.00	0.00	0.18	0.00	0.00
d_M, Delay for Movement [s/veh]	24.56	24.26	14.11	32.06	23.11	12.11	7.52	0.00	0.00	8.07	0.00	0.00
Movement LOS	C	C	B	D	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.59	2.59	2.59	0.73	0.73	0.73	0.01	0.01	0.01	0.67	0.67	0.67
95th-Percentile Queue Length [ft/ln]	64.63	64.63	64.63	18.17	18.17	18.17	0.26	0.26	0.26	16.73	16.73	16.73
d_A, Approach Delay [s/veh]	15.66			23.29			0.25			6.98		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	10.01											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 6: Sacramento Street/Marlette Street

Control Type:	Two-way stop	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name	S Sac St			S Sac St			W Marlette			Mils-S		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Sac St			S Sac St			W Marlette			Mils-S		
Base Volume Input [veh/h]	2	12	4	6	31	91	131	66	2	7	37	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	50.00	0.00	0.00	0.00	0.00	1.10	3.10	7.60	0.00	28.60	2.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	7	0	0	0	91	73	39	0	0	37	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	19	4	6	31	182	204	105	2	7	74	3
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	6	1	2	9	53	59	31	1	2	22	1
Total Analysis Volume [veh/h]	2	22	5	7	36	212	237	122	2	8	86	3
Pedestrian Volume [ped/h]	4			3			13			2		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.18	0.00	0.02	0.14	0.00
d_M, Delay for Movement [s/veh]	8.41	0.00	0.00	7.27	0.00	0.00	19.06	18.33	17.05	13.05	12.23	9.62
Movement LOS	A	A	A	A	A	A	C	C	C	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	3.80	3.80	3.80	0.58	0.58	0.58
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.09	0.34	0.34	0.34	94.98	94.98	94.98	14.46	14.46	14.46
d_A, Approach Delay [s/veh]	0.58			0.20			18.80			12.22		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	10.83											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 7: CA-124/Relihan Drive**

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 15.7
 Level Of Service: C
 Volume to Capacity (v/c): 0.019

Intersection Setup

Name	Church-S		Church-N		Relihan	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Church-S		Church-N		Relihan	
Base Volume Input [veh/h]	43	221	245	6	6	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.70	13.60	14.70	16.70	0.00	9.20
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	37	0	0	0	0	39
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	221	245	6	6	104
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	61	67	2	2	29
Total Analysis Volume [veh/h]	88	243	269	7	7	114
Pedestrian Volume [ped/h]	0		6		1	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.00	0.00	0.02	0.15
d_M, Delay for Movement [s/veh]	7.94	0.00	0.00	0.00	15.67	10.87
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.00	0.00	0.61	0.61
95th-Percentile Queue Length [ft/ln]	3.85	3.85	0.00	0.00	15.37	15.37
d_A, Approach Delay [s/veh]	2.11		0.00		11.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.81					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Church Street/Market Street

Control Type:	Two-way stop	Delay (sec / veh):	28.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.085

Intersection Setup

Name	Church-S			Church-N			Market-W			Market-E		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	14.00	14.00	14.00	14.00	14.00	14.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	Church-S			Church-N			Market-W			Market-E		
Base Volume Input [veh/h]	30	143	64	4	215	2	1	74	5	18	54	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	21.70	1.60	0.00	14.90	0.00	0.00	2.70	40.00	0.00	11.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	3	1	72	0	0	87	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	143	64	4	215	5	2	146	5	18	141	9
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	41	18	1	61	1	1	41	1	5	40	3
Total Analysis Volume [veh/h]	34	163	73	5	244	6	2	166	6	20	160	10
Pedestrian Volume [ped/h]	9			6			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.39	0.01	0.09	0.37	0.01
d_M, Delay for Movement [s/veh]	7.76	0.00	0.00	7.69	0.00	0.00	25.55	19.38	16.02	27.99	21.08	16.99
Movement LOS	A	A	A	A	A	A	D	C	C	D	C	C
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	1.97	1.97	1.97	2.44	2.44	2.44
95th-Percentile Queue Length [ft/ln]	1.53	1.53	1.53	0.21	0.21	0.21	49.30	49.30	49.30	61.08	61.08	61.08
d_A, Approach Delay [s/veh]	0.98			0.15			19.33			21.60		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.74											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 1: Argonaut Lane/CA-88

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 134.3
 Level Of Service: F
 Volume to Capacity (v/c): 0.838

Intersection Setup

Name	Argonaut Ln		CA49		CA49-88	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	←		→		↖ ↗	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Argonaut Ln		CA49		CA49-88	
Base Volume Input [veh/h]	91	47	780	165	43	826
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.50	0.00	2.90	7.30	4.50	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	67	34	0	47	12	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	158	81	780	212	55	826
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	21	201	55	14	213
Total Analysis Volume [veh/h]	163	84	804	219	57	852
Pedestrian Volume [ped/h]	1		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.84	0.25	0.01	0.00	0.09	0.01
d_M, Delay for Movement [s/veh]	134.29	126.59	0.00	0.00	10.89	0.00
Movement LOS	F	F	A	A	B	A
95th-Percentile Queue Length [veh/ln]	10.98	10.98	0.00	0.00	0.28	0.00
95th-Percentile Queue Length [ft/ln]	274.54	274.54	0.00	0.00	6.97	0.00
d_A, Approach Delay [s/veh]	131.67		0.00		0.68	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	15.21					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: Argonaut Lane/Westview Drive

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	Argonaut Ln		Argonaut Ln		Wesview Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	←		→		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Argonaut Ln		Argonaut Ln		Wesview Dr	
Base Volume Input [veh/h]	18	56	42	28	16	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	26.80	16.70	0.00	6.30	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	101	59	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	157	101	28	16	15
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	44	28	8	4	4
Total Analysis Volume [veh/h]	20	176	113	31	18	17
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.03	0.02
d_M, Delay for Movement [s/veh]	7.51	0.00	0.00	0.00	10.95	9.14
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.84	0.84	0.00	0.00	3.69	3.69
d_A, Approach Delay [s/veh]	0.77		0.00		10.07	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.34					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 3: Argonaut Lane/Stony Creek Road/Hoffman Street

Control Type:	Two-way stop	Delay (sec / veh):	49.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

Intersection Setup

Name	Argonaut Ln		Stony Creek Rd		Hoffman St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	➔		⬅		➔	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Argonaut Ln		Stony Creek Rd		Hoffman St	
Base Volume Input [veh/h]	126	71	41	29	26	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	9.50	5.60	2.40	6.90	15.40	16.10
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	101	70	0	22
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	71	142	99	26	109
Peak Hour Factor	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	29	58	41	11	45
Total Analysis Volume [veh/h]	207	116	233	162	43	179
Pedestrian Volume [ped/h]	1		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.71	0.13	0.17	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	49.86	41.56	7.98	0.00	0.00	0.00
Movement LOS	E	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	7.70	7.70	0.45	0.45	0.00	0.00
95th-Percentile Queue Length [ft/ln]	192.59	192.59	11.13	11.13	0.00	0.00
d_A, Approach Delay [s/veh]	46.88		4.71		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	18.09					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 4: Sutter Street/Hoffman Street

Control Type:	Two-way stop	Delay (sec / veh):	38.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.192

Intersection Setup

Name	Sutter-S		Sutter-S		Hoffman	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Sutter-S		Sutter-S		Hoffman	
Base Volume Input [veh/h]	83	908	864	23	23	135
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.60	4.70	2.50	8.70	0.00	4.40
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	17	0	0	5	9	62
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	908	864	28	32	197
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	255	243	8	9	55
Total Analysis Volume [veh/h]	112	1020	971	31	36	221
Pedestrian Volume [ped/h]	0		0		5	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.01	0.01	0.00	0.19	0.44
d_M, Delay for Movement [s/veh]	11.44	0.00	0.00	0.00	38.17	26.13
Movement LOS	B	A	A	A	E	D
95th-Percentile Queue Length [veh/ln]	0.60	0.00	0.00	0.00	4.20	4.20
95th-Percentile Queue Length [ft/ln]	14.90	0.00	0.00	0.00	104.97	104.97
d_A, Approach Delay [s/veh]	1.13		0.00		27.82	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.53					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 5: Mills Street/Marlette Street

Control Type:	Two-way stop	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Marlette-W						Mils-N			W Marlette		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marlette-W						Mils-N			W Marlette		
Base Volume Input [veh/h]	9	2	57	0	3	2	1	53	5	31	99	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.10	50.00	7.00	0.00	0.00	0.00	0.00	1.90	0.00	6.50	6.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	13	3	79	0	6	0	0	0	11	67	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	5	136	0	9	2	1	53	16	98	99	6
Peak Hour Factor	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	2	56	0	4	1	0	22	7	40	41	2
Total Analysis Volume [veh/h]	36	8	223	0	15	3	2	87	26	161	162	10
Pedestrian Volume [ped/h]	8			2			3			47		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.03	0.27	0.00	0.04	0.00	0.00	0.00	0.00	0.11	0.00	0.00
d_M, Delay for Movement [s/veh]	19.22	20.36	12.90	23.30	15.62	9.57	7.55	0.00	0.00	7.84	0.00	0.00
Movement LOS	C	C	B	C	C	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.93	1.93	1.93	0.14	0.14	0.14	0.00	0.00	0.00	0.38	0.38	0.38
95th-Percentile Queue Length [ft/ln]	48.30	48.30	48.30	3.59	3.59	3.59	0.11	0.11	0.11	9.51	9.51	9.51
d_A, Approach Delay [s/veh]	13.97			14.61			0.13			3.79		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	7.19											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: Sacramento Street/Marlette Street

Control Type:	Two-way stop	Delay (sec / veh):	20.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.391

Intersection Setup

Name	S Sac St			S Sac St			W Marlette			Mils-S		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Sac St			S Sac St			W Marlette			Mils-S		
Base Volume Input [veh/h]	0	19	3	6	10	105	70	41	1	3	36	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	30.00	4.80	2.90	7.30	0.00	0.00	8.30	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	4	0	0	0	50	50	30	0	0	17	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	23	3	6	10	155	120	71	1	3	53	7
Peak Hour Factor	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800	0.5800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	1	3	4	67	52	31	0	1	23	3
Total Analysis Volume [veh/h]	0	40	5	10	17	267	207	122	2	5	91	12
Pedestrian Volume [ped/h]	15			1			21			3		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.39	0.19	0.00	0.01	0.17	0.01
d_M, Delay for Movement [s/veh]	7.90	0.00	0.00	7.31	0.00	0.00	20.44	19.33	17.97	13.42	13.28	10.03
Movement LOS	A	A	A	A	A	A	C	C	C	B	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	3.77	3.77	3.77	0.70	0.70	0.70
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.50	0.50	0.50	94.18	94.18	94.18	17.62	17.62	17.62
d_A, Approach Delay [s/veh]	0.00			0.25			20.02			12.92		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	10.41											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 7: CA-124/Relihan Drive**

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.081

Intersection Setup

Name	Church-S		Church-N		Relihan	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Church-S		Church-N		Relihan	
Base Volume Input [veh/h]	28	177	305	4	0	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.10	12.40	9.20	0.00	0.00	4.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	17	0	0	0	0	30
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	177	305	4	0	53
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	48	82	1	0	14
Total Analysis Volume [veh/h]	48	190	328	4	0	57
Pedestrian Volume [ped/h]	0		26		2	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	8.07	0.00	0.00	0.00	14.24	10.57
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft/ln]	2.05	2.05	0.00	0.00	6.60	6.60
d_A, Approach Delay [s/veh]	1.63		0.00		10.57	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.58					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Church Street/Market Street

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Church-S			Church-N			Market-W			Market-E		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	14.00	14.00	14.00	14.00	14.00	14.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Church-S			Church-N			Market-W			Market-E		
Base Volume Input [veh/h]	17	142	18	3	287	3	0	25	6	16	58	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.90	14.80	0.00	0.00	8.40	0.00	0.00	0.00	0.00	25.00	5.20	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	3	0	50	0	0	47	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	142	18	3	287	6	0	75	6	16	105	9
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	41	5	1	83	2	0	22	2	5	31	3
Total Analysis Volume [veh/h]	20	165	21	3	334	7	0	87	7	19	122	10
Pedestrian Volume [ped/h]	2			2			1			4		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.01	0.07	0.29	0.01
d_M, Delay for Movement [s/veh]	8.04	0.00	0.00	7.59	0.00	0.00	20.45	15.85	12.40	22.64	18.73	14.28
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.01	0.01	0.01	0.82	0.82	0.82	1.68	1.68	1.68
95th-Percentile Queue Length [ft/ln]	0.86	0.86	0.86	0.13	0.13	0.13	20.38	20.38	20.38	41.90	41.90	41.90
d_A, Approach Delay [s/veh]	0.78			0.07			15.59			18.92		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.67											
Intersection LOS	C											

APPENDIX D: PEAK HOUR SIGNAL WARRANT ANALYSIS

Signal Warrants Report For Intersection 1: Argonaut Lane/CA-88

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	Yes
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	637	867	192
2	618	841	186
3	605	824	182
4	567	772	171
5	503	685	152
6	497	676	150
7	490	668	148
8	446	607	134
9	440	598	132
10	433	590	131
11	376	512	113
12	350	477	106
13	344	468	104
14	255	347	77
15	255	347	77
16	178	243	54
17	102	139	31
18	102	139	31
19	57	78	17
20	32	43	10
21	19	26	6
22	6	9	2
23	6	9	2
24	6	9	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	3	1504	1	192	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1459	1	186	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1429	1	182	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	1339	1	171	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	1188	1	152	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	1173	1	150	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	1158	1	148	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	1053	1	134	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	1038	1	132	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	1023	1	131	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	888	1	113	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	3	827	1	106	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	3	812	1	104	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
14	3	602	1	77	No	No	No	No	No	No	No	Yes	No	No
15	3	602	1	77	No	No	No	No	No	No	No	Yes	No	No
16	3	421	1	54	No	No	No	No	No	No	No	No	No	No
17	3	241	1	31	No	No	No	No	No	No	No	No	No	No
18	3	241	1	31	No	No	No	No	No	No	No	No	No	No
19	3	135	1	17	No	No	No	No	No	No	No	No	No	No
20	3	75	1	10	No	No	No	No	No	No	No	No	No	No
21	3	45	1	6	No	No	No	No	No	No	No	No	No	No
22	3	15	1	2	No	No	No	No	No	No	No	No	No	No
23	3	15	1	2	No	No	No	No	No	No	No	No	No	No
24	3	15	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					6	10	12	13	10	13	13	15	13	10

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	51.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	2:45
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	192
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1696
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 3: Argonaut Lane/Stony Creek Road/Hoffman Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	Yes
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	296	162	127
2	287	157	123
3	281	154	121
4	263	144	113
5	234	128	100
6	231	126	99
7	228	125	98
8	207	113	89
9	204	112	88
10	201	110	86
11	175	96	75
12	163	89	70
13	160	87	69
14	118	65	51
15	118	65	51
16	83	45	36
17	47	26	20
18	47	26	20
19	27	15	11
20	15	8	6
21	9	5	4
22	3	2	1
23	3	2	1
24	3	2	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	1	458	1	127	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	1	444	1	123	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	1	435	1	121	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	1	407	1	113	No	No	Yes	Yes	No	No	No	No	No	No
5	1	362	1	100	No	No	No	Yes	No	No	No	No	No	No
6	1	357	1	99	No	No	No	Yes	No	No	No	No	No	No
7	1	353	1	98	No	No	No	Yes	No	No	No	No	No	No
8	1	320	1	89	No	No	No	Yes	No	No	No	No	No	No
9	1	316	1	88	No	No	No	Yes	No	No	No	No	No	No
10	1	311	1	86	No	No	No	Yes	No	No	No	No	No	No
11	1	271	1	75	No	No	No	No	No	No	No	No	No	No
12	1	252	1	70	No	No	No	No	No	No	No	No	No	No
13	1	247	1	69	No	No	No	No	No	No	No	No	No	No
14	1	183	1	51	No	No	No	No	No	No	No	No	No	No
15	1	183	1	51	No	No	No	No	No	No	No	No	No	No
16	1	128	1	36	No	No	No	No	No	No	No	No	No	No
17	1	73	1	20	No	No	No	No	No	No	No	No	No	No
18	1	73	1	20	No	No	No	No	No	No	No	No	No	No
19	1	42	1	11	No	No	No	No	No	No	No	No	No	No
20	1	23	1	6	No	No	No	No	No	No	No	No	No	No
21	1	14	1	4	No	No	No	No	No	No	No	No	No	No
22	1	5	1	1	No	No	No	No	No	No	No	No	No	No
23	1	5	1	1	No	No	No	No	No	No	No	No	No	No
24	1	5	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	3	4	10	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	0:41
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	127
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	585
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 4: Sutter Street/Hoffman Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	Yes
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	995	746	173
2	965	724	168
3	945	709	164
4	886	664	154
5	786	589	137
6	776	582	135
7	766	574	133
8	697	522	121
9	687	515	119
10	677	507	118
11	587	440	102
12	547	410	95
13	537	403	93
14	398	298	69
15	398	298	69
16	279	209	48
17	159	119	28
18	159	119	28
19	90	67	16
20	50	37	9
21	30	22	5
22	10	7	2
23	10	7	2
24	10	7	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	3	1741	1	173	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1689	1	168	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1654	1	164	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	1550	1	154	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	1375	1	137	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	1358	1	135	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	1340	1	133	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	1219	1	121	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	1202	1	119	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	1184	1	118	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	1027	1	102	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
12	3	957	1	95	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
13	3	940	1	93	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
14	3	696	1	69	No	No	No	No	No	No	Yes	Yes	No	No
15	3	696	1	69	No	No	No	No	No	No	Yes	Yes	No	No
16	3	488	1	48	No	No	No	No	No	No	No	No	No	No
17	3	278	1	28	No	No	No	No	No	No	No	No	No	No
18	3	278	1	28	No	No	No	No	No	No	No	No	No	No
19	3	157	1	16	No	No	No	No	No	No	No	No	No	No
20	3	87	1	9	No	No	No	No	No	No	No	No	No	No
21	3	52	1	5	No	No	No	No	No	No	No	No	No	No
22	3	17	1	2	No	No	No	No	No	No	No	No	No	No
23	3	17	1	2	No	No	No	No	No	No	No	No	No	No
24	3	17	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	8	10	13	13	13	15	15	13	10

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	23.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:08
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	173
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1914
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 1: Argonaut Lane/CA-88

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	Yes
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	881	992	239
2	855	962	232
3	837	942	227
4	784	883	213
5	696	784	189
6	687	774	186
7	678	764	184
8	617	694	167
9	608	684	165
10	599	675	163
11	520	585	141
12	485	546	131
13	476	536	129
14	352	397	96
15	352	397	96
16	247	278	67
17	141	159	38
18	141	159	38
19	79	89	22
20	44	50	12
21	26	30	7
22	9	10	2
23	9	10	2
24	9	10	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	3	1873	1	239	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1817	1	232	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1779	1	227	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	1667	1	213	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	1480	1	189	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	1461	1	186	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	1442	1	184	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	1311	1	167	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	1292	1	165	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	1274	1	163	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	1105	1	141	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	1031	1	131	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	1012	1	129	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	749	1	96	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
15	3	749	1	96	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
16	3	525	1	67	No	No	No	No	No	No	No	Yes	No	No
17	3	300	1	38	No	No	No	No	No	No	No	No	No	No
18	3	300	1	38	No	No	No	No	No	No	No	No	No	No
19	3	168	1	22	No	No	No	No	No	No	No	No	No	No
20	3	94	1	12	No	No	No	No	No	No	No	No	No	No
21	3	56	1	7	No	No	No	No	No	No	No	No	No	No
22	3	19	1	2	No	No	No	No	No	No	No	No	No	No
23	3	19	1	2	No	No	No	No	No	No	No	No	No	No
24	3	19	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	13	15	15	16	15	13

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	131.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	8:44
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	239
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2112
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	Yes

Signal Warrants Report For Intersection 3: Argonaut Lane/Stony Creek Road/Hoffman Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	Yes
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	135	241	197
2	131	234	191
3	128	229	187
4	120	214	175
5	107	190	156
6	105	188	154
7	104	186	152
8	95	169	138
9	93	166	136
10	92	164	134
11	80	142	116
12	74	133	108
13	73	130	106
14	54	96	79
15	54	96	79
16	38	67	55
17	22	39	32
18	22	39	32
19	12	22	18
20	7	12	10
21	4	7	6
22	1	2	2
23	1	2	2
24	1	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	1	376	1	197	No	No	Yes	Yes	No	No	No	No	Yes	No
2	1	365	1	191	No	No	Yes	Yes	No	No	No	No	Yes	No
3	1	357	1	187	No	No	Yes	Yes	No	No	No	No	Yes	No
4	1	334	1	175	No	No	No	Yes	No	No	No	No	No	No
5	1	297	1	156	No	No	No	Yes	No	No	No	No	No	No
6	1	293	1	154	No	No	No	Yes	No	No	No	No	No	No
7	1	290	1	152	No	No	No	Yes	No	No	No	No	No	No
8	1	264	1	138	No	No	No	No	No	No	No	No	No	No
9	1	259	1	136	No	No	No	No	No	No	No	No	No	No
10	1	256	1	134	No	No	No	No	No	No	No	No	No	No
11	1	222	1	116	No	No	No	No	No	No	No	No	No	No
12	1	207	1	108	No	No	No	No	No	No	No	No	No	No
13	1	203	1	106	No	No	No	No	No	No	No	No	No	No
14	1	150	1	79	No	No	No	No	No	No	No	No	No	No
15	1	150	1	79	No	No	No	No	No	No	No	No	No	No
16	1	105	1	55	No	No	No	No	No	No	No	No	No	No
17	1	61	1	32	No	No	No	No	No	No	No	No	No	No
18	1	61	1	32	No	No	No	No	No	No	No	No	No	No
19	1	34	1	18	No	No	No	No	No	No	No	No	No	No
20	1	19	1	10	No	No	No	No	No	No	No	No	No	No
21	1	11	1	6	No	No	No	No	No	No	No	No	No	No
22	1	3	1	2	No	No	No	No	No	No	No	No	No	No
23	1	3	1	2	No	No	No	No	No	No	No	No	No	No
24	1	3	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	0	0	0	0	3	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	46.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	2:33
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	197
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	573
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 4: Sutter Street/Hoffman Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	Yes
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	1008	892	229
2	978	865	222
3	958	847	218
4	897	794	204
5	796	705	181
6	786	696	179
7	776	687	176
8	706	624	160
9	696	615	158
10	685	607	156
11	595	526	135
12	554	491	126
13	544	482	124
14	403	357	92
15	403	357	92
16	282	250	64
17	161	143	37
18	161	143	37
19	91	80	21
20	50	45	11
21	30	27	7
22	10	9	2
23	10	9	2
24	10	9	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	3	1900	1	229	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1843	1	222	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1805	1	218	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	1691	1	204	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	1501	1	181	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	1482	1	179	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	1463	1	176	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	1330	1	160	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	1311	1	158	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	1292	1	156	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	1121	1	135	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	1045	1	126	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	1026	1	124	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	760	1	92	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
15	3	760	1	92	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
16	3	532	1	64	No	No	No	No	No	No	No	Yes	No	No
17	3	304	1	37	No	No	No	No	No	No	No	No	No	No
18	3	304	1	37	No	No	No	No	No	No	No	No	No	No
19	3	171	1	21	No	No	No	No	No	No	No	No	No	No
20	3	95	1	11	No	No	No	No	No	No	No	No	No	No
21	3	57	1	7	No	No	No	No	No	No	No	No	No	No
22	3	19	1	2	No	No	No	No	No	No	No	No	No	No
23	3	19	1	2	No	No	No	No	No	No	No	No	No	No
24	3	19	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	13	15	15	16	15	13

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	27.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:46
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	229
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2129
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Appendices

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