
APPENDIX I2

TRAFFIC STUDY

TRAFFIC STUDY

Proposed Hotel and Restaurant Development

236-300 East St. Charles Street

San Andreas, California

Prepared For:

UltraSystems
16431 Scientific Way
Irvine, California 92618

Date:

June 17, 2024

Job No.:

23-058.02



PETERS ENGINEERING GROUP

A CALIFORNIA CORPORATION



EXECUTIVE SUMMARY

This report presents the results of a traffic study for the proposed hotel and restaurant development (hereinafter referred to as the “Project”) in San Andreas, Calaveras County, California. This study focuses on the anticipated effect of vehicle traffic resulting from the Project and was performed in general conformance with the *County of Calaveras Traffic Impact Study Guidelines* dated December 2019.

The Project includes a four-story, 79-room hotel and a 2,527-square-foot restaurant (with no drive through). The project site (APN 042-030-014-000 and 042-031-017-000) covers approximately 4.156 gross acres on the west side of St. Charles Street with site access proposed via one driveway connecting to St. Charles Street (State Route 49) approximately 300 feet south of Treat Avenue.

This report includes analysis of the following intersections:

1. Pool Station Road / St. Charles Street
2. Russell Road / St. Charles Street
3. Church Hill Road – Main Street / St. Charles Street
4. Treat Avenue / St. Charles Street
5. Site Access / St. Charles Street
6. Mountain Ranch Road / St. Charles Street

The study time periods include the weekday a.m. and p.m. peak hours determined between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. The peak hours are analyzed for the following conditions:

1. Existing Conditions;
2. Existing-Plus-Project Conditions
3. Existing-Plus-Approved-Projects Conditions;
4. Existing-Plus-Approved-Projects Plus Project Conditions;
5. Cumulative 20-Year No-Project Conditions;
6. Cumulative 20-Year With-Project Conditions.

Generally-accepted traffic engineering principles and methods were employed to estimate the amount of traffic expected to be generated by the Project, to analyze the existing traffic conditions, and to analyze the traffic conditions projected to occur in the future. The conclusions of the study are summarized in the following sections.

Trip Generation

The Project is expected to generate approximately 890 vehicle trips per day (445 trips entering the site and 445 trips exiting the site). Peak-hour traffic volumes are expected to be on the order of 61 trips during the a.m. peak hour and 69 trips during the p.m. peak hour.

EXECUTIVE SUMMARY (Continued)

Existing Conditions

The results of the intersection analyses indicate that the study intersections are operating at acceptable LOS with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street operates at LOS E during the a.m. peak hour, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras Regional Transportation Plan (RTP) as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street operates at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

Existing-Plus-Project Conditions

The existing-plus-Project conditions analyses represent conditions that would occur after implementation of the Project in the absence of development of other projects and other increases in traffic volumes. This scenario isolates the specific effects of the Project.

The existing-plus-Project conditions analyses indicate the Project may exacerbate delays by more than 5.0 seconds per vehicle during the p.m. peak hour at the intersection of Mountain Ranch Road and St. Charles Street, which is already operating at LOS F in the existing condition.

The intersection of Pool Station Road and St. Charles Street is currently operating at LOS E during the a.m. peak hour, and the Project is not expected to increase delays by more than 5.0 seconds per vehicle. Therefore, a traffic issue is not triggered by the Project at this intersection.

All other study intersections and the proposed site access intersection are expected to operate at acceptable LOS. The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

Potential Existing-Plus-Project Improvements

The Project may be responsible for either improving the intersection of Mountain Ranch Road and St. Charles Street, paying an applicable road impact fee that includes the improvements, or contributing an equitable share of the cost of future improvements. In order to operate at acceptable LOS, the intersection is expected to require signalization with the existing lane configurations or installation of a single-lane roundabout. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. Signalization of the existing lane configuration is expected to be

EXECUTIVE SUMMARY (Continued)

substantially less costly in terms of both construction and right of way. The Project may be responsible for an equitable share of the cost of the future improvement. If the Project constructs improvements, it is recommended that a fee program be utilized to provide reimbursement of costs above the equitable share.

Existing-Plus-Approved-Projects Conditions

The existing-plus-approved-projects conditions analyses represent conditions that would occur after implementation of the approved projects in the absence of other increases in traffic volumes and without the proposed Project. In this scenario the study intersections are expected to operate at acceptable LOS with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS E during the a.m. peak hour, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour, specifically in the left-turn lane on the westbound approach.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

Existing-Plus-Approved-Projects-Plus-Project Conditions

The existing-plus-approved-projects plus Project conditions analyses represent conditions that would occur after implementation of the approved projects and the proposed Project in the absence of other increases in traffic volumes. The combination of the approved project and the proposed Project may exacerbate delays by more than 5.0 seconds per vehicle during the p.m. peak hour at the intersection of Mountain Ranch Road and St. Charles Street, which is already operating at LOS F in the existing condition.

The intersection of Pool Station Road and St. Charles Street is currently operating at LOS E during the a.m. peak hour, and the combination of the approved project and the proposed Project is not expected to increase delays by more than 5.0 seconds per vehicle. Therefore, a traffic issue is not triggered by the Project at this intersection.

All other study intersections and the proposed site access intersection are expected to operate at acceptable LOS. The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

Potential Existing-Plus-Approved-Projects-Plus-Project Improvements

The potential improvements for the existing-plus-approved-projects-plus-Project scenario are identical to those described above for the existing-plus-Project scenario.

EXECUTIVE SUMMARY (Continued)

Cumulative (20-Year) No-Project Conditions

The 20-year no-Project conditions analyses are based on the assumption that regional growth has occurred and the approved project has been developed. In this scenario, the study intersections are expected to continue to operate at acceptable LOS, with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied.

The calculated 95th-percentile queues are contained within the available storage lanes at all locations, with the following exception:

- At the intersection of Mountain Ranch Road and St. Charles Street (which is expected to operate at LOS F), the calculated 95th-percentile queue in the left-turn lane on the westbound approach during the p.m. peak hour is long enough to block access to the right-turn lane.

Cumulative (20-Year) With-Project Conditions

The 20-year with-Project conditions analyses are based on the assumption that regional growth has occurred, the approved project has been developed, and the Project is operational. In this scenario, the study intersections are expected to continue to operate at acceptable LOS, with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied.

The calculated 95th-percentile queues are contained within the available storage lanes at all locations, with the following exception:

- At the intersection of Mountain Ranch Road and St. Charles Street (which is expected to operate at LOS F), the calculated 95th-percentile queue in the left-turn lane on the westbound approach during the p.m. peak hour is long enough to block access to the right-turn lane.

Potential Cumulative (20-Year) With-Project Improvements

The intersection of Pool Station Road and St. Charles Street is expected to operate at acceptable LOS in the 20-year scenario if an acceleration lane is added to northbound St. Charles Street to receive left turns from Pool Station Road. Alternatively, a two-way left-turn lane would provide acceptable levels of service and essentially provide the acceleration lane recommended, although the additional widening south of Pool Station Road is not

EXECUTIVE SUMMARY (Continued)

necessary to achieve an acceptable LOS. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. The Project may be responsible for an equitable share of the cost of the future improvement if there are no applicable road impact fees that include the improvements.

In order for the intersection of Mountain Ranch Road and St. Charles Street to operate at acceptable LOS in the 20-year scenario, the intersection is expected to require signalization with the existing lane configurations or installation of a single-lane roundabout, which is the same configuration suggested for the existing-plus-Project and existing-plus-approved-projects plus Project scenarios. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. Signalization of the existing lane configuration is expected to be substantially less costly in terms of both construction and right of way. The Project may be responsible for an equitable share of the cost of the future improvement if there are no applicable road impact fees that include the improvements. If the Project constructs improvements, it is recommended that a fee program be utilized to provide reimbursement of costs above the equitable share.

TRAFFIC STUDY

Proposed Hotel and Restaurant Development

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San Andreas, California

Date:

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Ms. Betsy A. Lindsay
UltraSystems
16431 Scientific Way
Irvine, California 92618

June 17, 2024

Subject: Traffic Study
Proposed Hotel and Restaurant Development
236-300 East St. Charles Street
San Andreas, California

Dear Ms. Lindsay:

1.0 INTRODUCTION

This report presents the results of a traffic study for the proposed hotel and restaurant development (hereinafter referred to as the “Project”) in San Andreas, Calaveras County, California. This study focuses on the anticipated effect of vehicle traffic resulting from the Project and was performed in general conformance with the *County of Calaveras Traffic Impact Study Guidelines* dated December 2019 (County Guidelines).

2.0 PROJECT DESCRIPTION

The project includes a four-story, 79-room hotel and a 2,527-square-foot restaurant (with no drive through). The project site (APN 042-030-014-000 and 042-031-017-000) covers approximately 4.156 gross acres on the west side of St. Charles Street with site access proposed via one driveway connecting to St. Charles Street (State Route 49) approximately 300 feet south of Treat Avenue.

A site vicinity map is presented in Figure 1, Vicinity Map, and a site plan is presented in Figure 2, Site Plan.

3.0 STUDY AREA AND TIME PERIOD

The study locations were determined in coordination with Calaveras County and Caltrans staff. A scoping letter dated March 1, 2024 was provided to the County and Caltrans to discuss the scope of the traffic study. This report includes analysis of the following intersections:

1. Pool Station Road / St. Charles Street
2. Russell Road / St. Charles Street
3. Church Hill Road – Main Street / St. Charles Street
4. Treat Avenue / St. Charles Street
5. Site Access / St. Charles Street
6. Mountain Ranch Road / St. Charles Street

The following time periods are included in the study:

- Weekday a.m. peak hour between 7:00 and 9:00 a.m.;
- Weekday p.m. peak hour between 4:00 and 6:00 p.m.

The peak hours are analyzed for the following conditions:

1. Existing Conditions;
2. Existing-Plus-Project Conditions
3. Existing-Plus-Approved-Projects Conditions;
4. Existing-Plus-Approved-Projects Plus Project Conditions;
5. Cumulative 20-Year No-Project Conditions;
6. Cumulative 20-Year With-Project Conditions.

4.0 LEVEL OF SERVICE

4.1 General

The Transportation Research Board *Highway Capacity Manual*, 7th Edition, (HCM) defines level of service (LOS) as, “A quantitative stratification of a performance measure or measures that represent quality of service, measured on an A-F scale, with LOS A representing the best operating conditions from the traveler’s perspective and LOS F the worst.” Automobile mode LOS characteristics for both unsignalized and signalized intersections are presented in Tables 1 and 2.

Table 1
Level of Service Characteristics for Unsignalized Intersections

Level of Service	Average Vehicle Delay (seconds)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Table 2
Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Volume-to-capacity ratio is no greater than 1.0. Progression is exceptionally favorable or the cycle length is very short.	<10
B	Volume-to-capacity ratio is no greater than 1.0. Progression is highly favorable or the cycle length is very short.	>10-20
C	Volume-to-capacity ratio is no greater than 1.0. Progression is favorable or cycle length is moderate.	>20-35
D	Volume-to-capacity ratio is high but no greater than 1.0. Progression is ineffective or cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35-55
E	Volume-to-capacity ratio is high but no greater than 1.0. Progression is unfavorable and cycle length is long. Individual cycle failures are frequent.	>55-80
F	Volume-to-capacity ratio is greater than 1.0. Progression is very poor and cycle length is long. Most cycles fail to clear the queue.	>80

Reference for Tables 1 and 2: *Highway Capacity Manual, 7th Edition*, Transportation Research Board, 2022

4.2 Calaveras County Requirements

The State of California does not recognize traffic congestion and delay as an environmental impact per the California Environmental Quality Act (CEQA). However, the Calaveras County General Plan requires certain minimum levels of service. The Calaveras County General Plan Circulation Element dated July 31, 2019 includes Policy C 2.2, which states:

“Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) and in the City of Angels Camp or below LOS C on County-maintained roadway outside of Community Areas, except as specified below where LOS D is acceptable, assuming that roadway safety is addressed consistent with Policy CIR 2.1.

- *SR26 from the San Joaquin County line to Silver Rapids Road*

“Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, for roadways outside of the City of Angels Camp, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:

- *Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource or adversely impact areas of historic significance,*
- *Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area, or*
- *Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County’s implementation of bicycle and pedestrian facilities. (IM C-2A and C-2B)”*

4.3 State of California Requirements

Caltrans has traditionally endeavored to maintain a target LOS at the transition between LOS C and LOS D, but does not currently identify a specific LOS goal.

4.4 Level of Service and Queuing Criteria

The Project site and the anticipated study locations are located within the San Andreas Community Area. Therefore, for purposes of the traffic study, a traffic issue may be identified if the addition of the traffic generated by the Project results in any one of the following:

- Triggers an intersection operating at acceptable LOS (A, B, C, or D) to operate at unacceptable levels of service (E or F);
- Increases the average delay for a study intersection that is already operating at unacceptable LOS (E or F) by 5.0 seconds per vehicle or more.

A queuing issue would be identified if the calculated 95th-percentile queues:

1. substantially exceed the available storage capacity and extend through the adjacent street intersection,
2. substantially extend through a right-turn or left-turn pocket,
3. substantially extend into the through lane, blocking a right-turn or left-turn pocket, or
4. cause an insufficient sight distance condition.

5.0 PROJECT TRIPS

5.1 Project Trip Generation

Data provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, was used to estimate the number of trips anticipated to be generated by the Project.

Data presented in the ITE *Trip Generation Handbook, 3rd Edition* dated September 2017 (TGH) contains information suggesting that the Project would generate internal trips (sometimes referred to as “internally-captured trips”). Estimation of the number of internal trips accounts for the interaction between the individual land uses assumed for the trip generation calculations. A more complete description of internal trips is presented in the TGH. An example of an internal trip for the proposed Project is a person who stays at the hotel and eats in the restaurant without exiting the site. A maximum internal capture rate of five percent was assumed for the use generating fewer trips (the restaurant). The trips generated by the restaurant were multiplied by five percent to estimate the internal capture.

Table 3 presents the vehicle trip generation estimates for the Project utilizing ITE Land Use 310 (Hotel) and ITE Land Use 932 (High-Turnover (Sit-Down) Restaurant).

Table 3
Project Trip Generation Estimate

Land Use	Units	Daily		A.M. Peak Hour					P.M. Peak Hour				
		Rate	Total	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
310	79 rooms	7.99	632	0.46	56:44	21	16	37	0.59	51:49	24	23	47
932	2,527 sq. ft.	107.20	271	9.57	55:45	14	11	25	9.05	61:39	14	9	23
Internal Capture			-13			-1	0	-1			-1	0	-1
TOTALS:			890			34	27	61			37	32	69

Reference: *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers 2021

Rates are reported in trips per room for the hotel and trips per 1,000 square feet of building area for the restaurant.

5.2 Project Trip Distribution and Assignment

The Project trips were distributed to the adjacent road network using engineering judgment considering the distribution of existing traffic volumes, complementary land uses, and available routes in the Project vicinity. The estimated percentage distribution of Project traffic volumes is presented in Figure 3, Project Trip Distribution Percentages. Project trips are presented in Figure 4, Project Peak-Hour Traffic Volumes.

6.0 LANE CONFIGURATIONS AND INTERSECTION CONTROL

The existing lane configurations and intersection control at the study intersection are presented in Figure 5, Existing Lane Configurations and Intersection Control. For purposes of this study, it is assumed that the existing lane configurations and intersection control will remain the same through the year 2045. To maintain consistency in the analyses, St. Charles Street is assumed to be the north-south street at each study intersection.

7.0 EXISTING TRAFFIC VOLUMES

Existing peak-hour traffic volumes at the study intersections were determined by performing manual turning-movement counts between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. on a weekday. The counts included a determination of the number of trucks, bicycles, and pedestrians. The traffic count data sheets are presented in Appendix A. The existing peak-hour turning movement volumes are presented in Figure 6, Existing Peak-Hour Traffic Volumes.

8.0 EXISTING-PLUS-PROJECT TRAFFIC VOLUMES

The existing-plus-Project peak-hour turning movement volumes are presented in Figure 7, Existing-Plus-Project Peak-Hour Traffic Volumes.

9.0 APPROVED PROJECTS

County staff has indicated that the Foothill Terrace Subdivision (FTS) should be included in the analyses. The FTS site is located at the end of Foothill Court with access from Lewis Avenue. The site covers a total of 6.72 acres with an allowable density of 6 to 12 dwelling units per acre. For purposes of these analyses, it is assumed that the FTS site could be

feasibly developed at 9 units per acre for a total of 60 multifamily units. The number of trips estimated to be generated by the FTS is presented in Table 4 utilizing ITE Land Use 220 (Multifamily Housing (Low-Rise)).

Table 4
Foothill Terrace Subdivision Trip Generation Estimate

Land Use	Units	Daily		A.M. Peak Hour					P.M. Peak Hour				
		Rate	Total	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
220	60	6.74	406	0.40	24:76	6	18	24	0.51	63:37	20	11	31

Reference: *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers 2021

Rates are reported in trips per unit.

The trips expected to be generated by the FTS are presented in Figure 8, Approved Projects Peak-Hour Traffic Volumes.

The SR 49 San Andreas Complete Streets Project between Gold Oaks Road and Mountain Ranch Road is scheduled for project completion in the fall of 2025 (according to the Caltrans web site). The complete streets project is expected to install/upgrade curb ramps, sidewalks, and driveways to current Americans with Disabilities Act (ADA) standards, but is not expected to substantially change vehicle lane configurations.

10.0 EXISTING-PLUS-APPROVED-PROJECTS TRAFFIC VOLUMES

The existing-plus-approved-projects traffic volumes are presented in Figure 9, Existing-Plus-Approved-Projects Peak-Hour Traffic Volumes. The values in Figure 9 were determined by adding the existing traffic volumes in Figure 6 and the approved projects traffic volumes in Figure 8.

11.0 EXISTING-PLUS-APPROVED-PROJECTS PLUS PROJECT TRAFFIC VOLUMES

The existing-plus-approved-projects plus Project traffic volumes are presented in Figure 10, Existing-Plus-Approved-Projects Plus Project Peak-Hour Traffic Volumes. The values in Figure 10 were determined by adding the Project traffic volumes in Figure 4 and the volumes in Figure 9.

12.0 CUMULATIVE 20-YEAR NO-PROJECT TRAFFIC VOLUMES

As indicated in the County Guidelines, “For more modest projects that do not require the use of the travel demand model, the County may approve a multiplier or inflator to conservatively account for traffic increases between the existing and cumulative scenarios. The multiplier shall be 1% per annum.” For purposes of this traffic study, a one-percent per annum multiplier was applied to the existing traffic volumes and the approved projects traffic volumes were added to the result. Cumulative 20-year no-Project traffic volumes are presented in Figure 11, Cumulative 20-Year No-Project Peak-Hour Traffic Volumes.

13.0 CUMULATIVE 20-YEAR WITH-PROJECT TRAFFIC VOLUMES

Cumulative 20-year with-Project traffic volumes are presented in Figure 12, Cumulative 20-Year With-Project Peak-Hour Traffic Volumes. The values in Figure 12 were determined by adding the Project traffic volumes in Figure 4 and the volumes in Figure 11.

14.0 OPERATIONAL ANALYSES

14.1 Intersection Level of Service and Peak-Hour Signal Warrants

The intersection levels of service were determined using the computer program Synchro 12, which incorporates HCM procedures for calculating levels of service. The intersection analysis sheets are presented in Appendix B. It should be noted that, for purposes of these analyses, St. Charles Street is considered the north-west street at each study intersection.

The California State Transportation Agency and California Department of Transportation *California Manual on Uniform Traffic Control Devices, 2014 Edition (Revision 8 dated January 11, 2024)* (CMUTCD) presents various criteria (warrants) for determining the need for traffic signals. The CMUTCD states that an engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location.

The installation of a traffic signal can serve as a feasible improvement at an unsignalized intersection if traffic signal warrants are satisfied. If warrants are not satisfied, traffic signals may not be considered as an acceptable improvement. For this study, where the calculated LOS is worse than the target LOS, Warrant 3, Peak Hour, was analyzed to determine whether traffic signals could be a feasible improvement.

Tables 5 through 10 present the results of the intersection analyses and, where necessary, the tables also present the results of the peak-hour traffic signal warrant analyses. For one-way and two-way stop-controlled intersections, the HCM does not define an overall intersection LOS; therefore, the average delay and LOS for the approach with the greatest delay is presented. Delays and LOS worse than the target LOS are presented in bold type and are underlined.

Table 5
LOS Summary – Existing Conditions

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		Delay (sec)	LOS	Warrant 3	Delay (sec)	LOS	Warrant 3
1. Pool Station / St. Charles	One-way stop	<u>38.7</u>	<u>E</u>	Met	29.2	D	Met
2. Russell / St. Charles	One-way stop	19.5	C	n/a	14.7	B	n/a
3. Church Hill-Main / St. Charles	Two-way stop	18.4	C	n/a	15.0	B	n/a
4. Treat / St. Charles	Two-way stop	14.8	B	n/a	17.4	C	n/a
5. Site Access / St. Charles	Two-way stop						
6. Mountain Ranch / St. Charles	One-way stop	<u>43.3</u>	<u>E</u>	Met	<u>65.0</u>	<u>F</u>	Met

Table 6
LOS Summary – Existing-Plus-Project Conditions

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		Delay (sec)	LOS	Warrant 3	Delay (sec)	LOS	Warrant 3
1. Pool Station / St. Charles	One-way stop	<u>40.5</u>	<u>E</u>	Met	30.7	D	Met
2. Russell / St. Charles	One-way stop	19.9	C	n/a	14.9	B	n/a
3. Church Hill-Main / St. Charles	Two-way stop	18.5	C	n/a	15.2	C	n/a
4. Treat / St. Charles	Two-way stop	15.1	C	n/a	17.9	C	n/a
5. Site Access / St. Charles	Two-way stop	15.2	C	n/a	15.3	C	n/a
6. Mountain Ranch / St. Charles	One-way stop	<u>46.3</u>	<u>E</u>	Met	<u>74.2</u>	<u>F</u>	Met

Table 7
LOS Summary – Existing-Plus-Approved-Project Conditions

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		Delay (sec)	LOS	Warrant 3	Delay (sec)	LOS	Warrant 3
1. Pool Station / St. Charles	One-way stop	<u>39.3</u>	<u>E</u>	Met	29.7	D	Met
2. Russell / St. Charles	One-way stop	19.6	C	n/a	14.8	B	n/a
3. Church Hill-Main / St. Charles	Two-way stop	18.4	C	n/a	15.1	C	n/a
4. Treat / St. Charles	Two-way stop	15.1	C	n/a	17.9	C	n/a
5. Site Access / St. Charles	Two-way stop						
6. Mountain Ranch / St. Charles	One-way stop	<u>43.7</u>	<u>E</u>	Met	<u>66.9</u>	<u>F</u>	Met

Table 8
LOS Summary – Existing-Plus-Approved-Project Plus Project Conditions

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		Delay (sec)	LOS	Warrant 3	Delay (sec)	LOS	Warrant 3
1. Pool Station / St. Charles	One-way stop	<u>41.1</u>	<u>E</u>	Met	31.2	D	Met
2. Russell / St. Charles	One-way stop	20.0	C	n/a	15.0	C	n/a
3. Church Hill-Main / St. Charles	Two-way stop	18.6	C	n/a	15.3	C	n/a
4. Treat / St. Charles	Two-way stop	15.5	C	n/a	18.4	C	n/a
5. Site Access / St. Charles	Two-way stop	15.2	C	n/a	15.4	C	n/a
6. Mountain Ranch / St. Charles	One-way stop	<u>46.8</u>	<u>E</u>	Met	<u>76.5</u>	<u>F</u>	Met

Table 9
LOS Summary – Cumulative 20-Year No-Project Conditions

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		Delay (sec)	LOS	Warrant 3	Delay (sec)	LOS	Warrant 3
1. Pool Station / St. Charles	One-way stop	<u>92.1</u>	<u>F</u>	Met	<u>66.9</u>	<u>F</u>	Met
2. Russell / St. Charles	One-way stop	27.1	D	n/a	17.9	C	n/a
3. Church Hill-Main / St. Charles	Two-way stop	24.9	C	n/a	19.0	C	n/a
4. Treat / St. Charles	Two-way stop	18.0	C	n/a	23.2	C	n/a
5. Site Access / St. Charles	Two-way stop						
6. Mountain Ranch / St. Charles	One-way stop	<u>121.5</u>	<u>F</u>	Met	<u>291.1</u>	<u>F</u>	Met

Table 10
LOS Summary – Cumulative 20-Year With-Project Conditions

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		Delay (sec)	LOS	Warrant 3	Delay (sec)	LOS	Warrant 3
1. Pool Station / St. Charles	One-way stop	<u>98.7</u>	<u>F</u>		<u>72.7</u>	<u>F</u>	
2. Russell / St. Charles	One-way stop	27.9	D	n/a	18.2	C	n/a
3. Church Hill-Main / St. Charles	Two-way stop	25.3	D	n/a	19.4	C	n/a
4. Treat / St. Charles	Two-way stop	18.5	C	n/a	24.1	C	n/a
5. Site Access / St. Charles	Two-way stop	17.7	C	n/a	18.0	C	n/a
6. Mountain Ranch / St. Charles	One-way stop	<u>135.2</u>	<u>F</u>		<u>>300</u>	<u>F</u>	

14.2 Intersection Queuing

The results of the intersection operational analyses include an estimate of the 95th-percentile queue lengths. The existing storage capacity (where applicable) and the calculated 95th-percentile queue lengths are presented in Tables 11 through 16. The storage capacities reported in Tables 11 through 16 are based on measurements from available aerial photographs. Calculated 95th-percentile queue lengths that exceed the storage capacity by more than 25 (approximate average space required for storage of each vehicle) are indicated in bold type and are underlined. It should be noted that, for purposes of these analyses, St. Charles Street is considered the north-west street at each study intersection.

Table 11
Queuing Summary – Existing Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1. Pool Station / St. Charles	Lanes	1	0	S	0	0	0	S	1	0	0	1	S
	Storage	*							*			*	
	A.M.	40							5			DNS	
	P.M.	43							3			DNS	
2. Russell / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	*						300+	*			*	
	A.M.	15						5	DNS			DNS	
	P.M.	15						3	DNS			DNS	
3. Church Hill-Main / St. Charles	Lanes	S	1	S	0	0	0	1	1	S	1	1	S
	Storage		*					400+	*		360	360	
	A.M.		8					3	DNS		5	DNS	
	P.M.		8					3	DNS		3	DNS	
4. Treat / St. Charles	Lanes	0	0	0	1	0	S	0	1	S	1	1	S
	Storage				*				*		500+	*	
	A.M.				13				DNS		3	DNS	
	P.M.				20				DNS		5	DNS	
5. Site Access / St. Charles	Lanes	0	0	0	0	0	0	0	1	0	0	1	0
	Storage								*			250	
	A.M.								DNS			DNS	
	P.M.								DNS			DNS	
6. Mountain Ranch / St. Charles	Lanes	0	0	0	1	0	1	0	1	S	1	1	0
	Storage				160+		160		*		125	*	
	A.M.				40		33		DNS		23	DNS	
	P.M.				103		53		DNS		18	DNS	

S: shared movement

DNS: does not stop

* Storage capacity exceeds 1,000 feet to next major intersection.

+ Connects a two-way left-turn lane or through lane that provides additional storage.

Table 12
Queuing Summary – Existing-Plus-Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1. Pool Station / St. Charles	Lanes	1	0	S	0	0	0	S	1	0	0	1	S
	Storage	*							*			*	
	A.M.	43							5			DNS	
	P.M.	45							3			DNS	
2. Russell / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	*						300+	*			*	
	A.M.	18						5	DNS			DNS	
	P.M.	15						3	DNS			DNS	
3. Church Hill-Main / St. Charles	Lanes	S	1	S	0	0	0	1	1	S	1	1	S
	Storage		*					400+	*		360	360	
	A.M.		8					3	DNS		5	DNS	
	P.M.		8					3	DNS		3	DNS	
4. Treat / St. Charles	Lanes	0	0	0	1	0	S	0	1	S	1	1	S
	Storage				*				*		500+	*	
	A.M.				15				DNS		3	DNS	
	P.M.				23				DNS		5	DNS	
5. Site Access / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	Site						300+	*			250	
	A.M.	5						3	DNS			DNS	
	P.M.	8						3	DNS			DNS	
6. Mountain Ranch / St. Charles	Lanes	0	0	0	1	0	1	0	1	S	1	1	0
	Storage				160+		160		*		125	*	
	A.M.				43		33		DNS		23	DNS	
	P.M.				110		55		DNS		18	DNS	

S: shared movement DNS: does not stop
 * Storage capacity exceeds 1,000 feet to next major intersection.
 + Connects a two-way left-turn lane or through lane that provides additional storage.

Table 13
Queuing Summary – Existing-Plus-Approved-Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1. Pool Station / St. Charles	Lanes	1	0	S	0	0	0	S	1	0	0	1	S
	Storage	*							*			*	
	A.M.	40							5			DNS	
	P.M.	45							3			DNS	
2. Russell / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	*						300+	*			*	
	A.M.	15						5	DNS			DNS	
	P.M.	15						3	DNS			DNS	
3. Church Hill-Main / St. Charles	Lanes	S	1	S	0	0	0	1	1	S	1	1	S
	Storage		*					400+	*		360	360	
	A.M.		8					3	DNS		5	DNS	
	P.M.		8					3	DNS		3	DNS	
4. Treat / St. Charles	Lanes	0	0	0	1	0	S	0	1	S	1	1	S
	Storage				*				*		500+	*	
	A.M.				15				DNS		3	DNS	
	P.M.				23				DNS		5	DNS	
5. Site Access / St. Charles	Lanes	0	0	0	0	0	0	0	1	0	0	1	0
	Storage								*			250	
	A.M.								DNS			DNS	
	P.M.								DNS			DNS	
6. Mountain Ranch / St. Charles	Lanes	0	0	0	1	0	1	0	1	S	1	1	0
	Storage				160+		160		*		125	*	
	A.M.				40		33		DNS		23	DNS	
	P.M.				103		53		DNS		18	DNS	

S: shared movement

DNS: does not stop

* Storage capacity exceeds 1,000 feet to next major intersection.

+ Connects a two-way left-turn lane or through lane that provides additional storage.

Table 14
Queuing Summary – Existing-Plus-Approved-Project Plus Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1. Pool Station / St. Charles	Lanes	1	0	S	0	0	0	S	1	0	0	1	S
	Storage	*							*			*	
	A.M.	43							5			DNS	
	P.M.	48							3			DNS	
2. Russell / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	*						300+	*			*	
	A.M.	18						5	DNS			DNS	
	P.M.	15						3	DNS			DNS	
3. Church Hill-Main / St. Charles	Lanes	S	1	S	0	0	0	1	1	S	1	1	S
	Storage		*					400+	*		360	360	
	A.M.		8					3	DNS		5	DNS	
	P.M.		10					3	DNS		3	DNS	
4. Treat / St. Charles	Lanes	0	0	0	1	0	S	0	1	S	1	1	S
	Storage				*				*		500+	*	
	A.M.				15				DNS		3	DNS	
	P.M.				23				DNS		5	DNS	
5. Site Access / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	Site						300+	*			250	
	A.M.	5						3	DNS			DNS	
	P.M.	8						3	DNS			DNS	
6. Mountain Ranch / St. Charles	Lanes	0	0	0	1	0	1	0	1	S	1	1	0
	Storage				160+		160		*		125	*	
	A.M.				43		33		DNS		23	DNS	
	P.M.				113		55		DNS		18	DNS	

S: shared movement

DNS: does not stop

* Storage capacity exceeds 1,000 feet to next major intersection.

+ Connects a two-way left-turn lane or through lane that provides additional storage.

Table 15
Queuing Summary – Cumulative 20-Year No-Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1. Pool Station / St. Charles	Lanes	1	0	S	0	0	0	S	1	0	0	1	S
	Storage	*							*			*	
	A.M.	93							5			DNS	
	P.M.	105							3			DNS	
2. Russell / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	*						300+	*			*	
	A.M.	30						8	DNS			DNS	
	P.M.	23						5	DNS			DNS	
3. Church Hill-Main / St. Charles	Lanes	S	1	S	0	0	0	1	1	S	1	1	S
	Storage		*					400+	*		360	360	
	A.M.		13					5	DNS		8	DNS	
	P.M.		13					3	DNS		5	DNS	
4. Treat / St. Charles	Lanes	0	0	0	1	0	S	0	1	S	1	1	S
	Storage				*				*		500+	*	
	A.M.				23				DNS		3	DNS	
	P.M.				35				DNS		8	DNS	
5. Site Access / St. Charles	Lanes	0	0	0	0	0	0	0	1	0	0	1	0
	Storage								*			250	
	A.M.								DNS			DNS	
	P.M.								DNS			DNS	
6. Mountain Ranch / St. Charles	Lanes	0	0	0	1	0	1	0	1	S	1	1	0
	Storage				160+		160		*		125	*	
	A.M.				98		50		DNS		35	DNS	
	P.M.				250		93		DNS		25	DNS	

S: shared movement

DNS: does not stop

* Storage capacity exceeds 1,000 feet to next major intersection.

+ Connects a two-way left-turn lane or through lane that provides additional storage.

Table 16
Queuing Summary – Cumulative 20-Year With-Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1. Pool Station / St. Charles	Lanes	1	0	S	0	0	0	S	1	0	0	1	S
	Storage	*							*			*	
	A.M.	98							5			DNS	
	P.M.	110							3			DNS	
2. Russell / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	*						300+	*			*	
	A.M.	30						8	DNS			DNS	
	P.M.	23						5	DNS			DNS	
3. Church Hill-Main / St. Charles	Lanes	S	1	S	0	0	0	1	1	S	1	1	S
	Storage		*					400+	*		360	360	
	A.M.		15					5	DNS		8	DNS	
	P.M.		15					3	DNS		5	DNS	
4. Treat / St. Charles	Lanes	0	0	0	1	0	S	0	1	S	1	1	S
	Storage				*				*		500+	*	
	A.M.				23				DNS		3	DNS	
	P.M.				38				DNS		8	DNS	
5. Site Access / St. Charles	Lanes	1	0	S	0	0	0	1	1	0	0	1	S
	Storage	Site						300+	*			250	
	A.M.	8						3	DNS			DNS	
	P.M.	10						3	DNS			DNS	
6. Mountain Ranch / St. Charles	Lanes	0	0	0	1	0	1	0	1	S	1	1	0
	Storage				160+		160		*		125	*	
	A.M.				103		53		DNS		35	DNS	
	P.M.				263		100		DNS		28	DNS	

S: shared movement DNS: does not stop

* Storage capacity exceeds 1,000 feet to next major intersection.

+ Connects a two-way left-turn lane or through lane that provides additional storage.

15.0 DISCUSSION OF ANALYSES

A discussion of each analysis scenario is presented below. It should be noted that at each study intersection, St. Charles Street is considered to be the north-south street.

15.1 Existing Conditions

The results of the intersection analyses indicate that the study intersections are operating at acceptable LOS with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street operates at LOS E during the a.m. peak hour, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras Regional Transportation Plan (RTP) as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street operates at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied.

This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

15.2 Existing-Plus-Project Conditions

The existing-plus-Project conditions analyses represent conditions that would occur after implementation of the Project in the absence of development of other projects and other increases in traffic volumes. This scenario isolates the specific effects of the Project.

The existing-plus-Project conditions analyses indicate the Project may exacerbate delays by more than 5.0 seconds per vehicle during the p.m. peak hour at the intersection of Mountain Ranch Road and St. Charles Street, which is already operating at LOS F in the existing condition. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The intersection of Pool Station Road and St. Charles Street is currently operating at LOS E during the a.m. peak hour, and the Project is not expected to increase delays by more than 5.0 seconds per vehicle. Therefore, a traffic issue is not triggered by the Project at this intersection. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.

All other study intersections and the proposed site access intersection are expected to operate at acceptable LOS.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

15.2.a Potential Existing-Plus-Project Improvements

The Project may be responsible for either improving the intersection of Mountain Ranch Road and St. Charles Street, paying an applicable road impact fee that includes the improvements, or contributing an equitable share of the cost of future improvements. In order to operate at acceptable LOS, the intersection is expected to require signalization with the existing lane configurations or installation of a single-lane roundabout. With the improvements, the intersection is expected to operate at LOS B or better with acceptable queuing conditions. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. Signalization of the existing lane configuration is expected to be substantially less costly in terms of both construction and right of way. The Project may be responsible for an equitable share of the cost of the future improvement. If the Project constructs improvements, it is recommended that a fee program be utilized to provide reimbursement of costs above the equitable share. Traffic analysis sheets for potential improved conditions are presented in Appendix C.

15.3 Existing-Plus-Approved-Projects Conditions

The existing-plus-approved-projects conditions analyses represent conditions that would occur after implementation of the approved projects in the absence of other increases in traffic volumes and without the proposed Project. The results of the intersection analyses indicate that the study intersections are expected to operate at acceptable LOS with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS E during the a.m. peak hour, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

15.4 Existing-Plus-Approved-Projects-Plus-Project Conditions

The existing-plus-approved-projects plus Project conditions analyses represent conditions that would occur after implementation of the approved projects and the proposed Project in the absence of other increases in traffic volumes. The analyses indicate the combination of the approved project and the proposed Project may exacerbate delays by more than 5.0 seconds per vehicle during the p.m. peak hour at the intersection of Mountain Ranch Road and St. Charles Street, which is already operating at LOS F in the existing condition. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The intersection of Pool Station Road and St. Charles Street is currently operating at LOS E during the a.m. peak hour, and the combination of the approved project and the proposed Project is not expected to increase delays by more than 5.0 seconds per vehicle. Therefore, a traffic issue is not triggered by the Project at this intersection. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.

All other study intersections and the proposed site access intersection are expected to operate at acceptable LOS.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

15.4.a Potential Existing-Plus-Approved-Projects-Plus-Project Improvements

The Project may be responsible for either improving the intersection of Mountain Ranch Road and St. Charles Street, paying an applicable road impact fee that includes the improvements, or contributing an equitable share of the cost of future improvements. In order to operate at acceptable LOS, the intersection is expected to require signalization with the existing lane configurations or installation of a single-lane roundabout, which is the same configuration suggested for the existing-plus-Project scenario. With the improvements, the intersection is expected to operate at LOS B or better with acceptable queuing conditions. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. Signalization of the existing lane configuration is expected to be substantially less costly in terms of both construction and right of way. The Project may be responsible for an equitable share of the cost of the future improvement. If the Project constructs improvements, it is recommended that a fee program be utilized to provide reimbursement of costs above the equitable share. Traffic analysis sheets for potential improved conditions are presented in Appendix C.

15.5 Cumulative (20-Year) No-Project Conditions

The 20-year no-Project conditions analyses are based on the assumption that regional growth has occurred and the approved project has been developed. The analyses indicate that the study intersections are expected to continue to operate at acceptable LOS, with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all locations, with the following exception:

- At the intersection of Mountain Ranch Road and St. Charles Street (which is expected to operate at LOS F), the calculated 95th-percentile queue in the left-turn lane on the westbound approach during the p.m. peak hour is long enough to block access to the right-turn lane.

15.6 Cumulative (20-Year) With-Project Conditions

The 20-year with-Project conditions analyses are based on the assumption that regional growth has occurred, the approved project has been developed, and the proposed Project is operational. The analyses indicate that the study intersections are expected to continue to operate at acceptable LOS, with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all locations, with the following exception:

- At the intersection of Mountain Ranch Road and St. Charles Street (which is expected to operate at LOS F), the calculated 95th-percentile queue in the left-turn lane on the westbound approach during the p.m. peak hour is long enough to block access to the right-turn lane.

15.6.a Potential Cumulative (20-Year) With-Project Improvements

The intersection of Pool Station Road and St. Charles Street is expected to operate at acceptable LOS in the 20-year scenario if an acceleration lane is added to northbound St. Charles Street to receive left turns from Pool Station Road. Alternatively, a two-way left-turn lane would provide acceptable levels of service and essentially provide the acceleration lane recommended, although the additional widening south of Pool Station Road to construct a two-way left-turn lane is not necessary to achieve an acceptable LOS. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. The Project may be responsible for an equitable share of the cost of the future improvement if there are no applicable road impact fees that include the improvements. Traffic analysis sheets for potential improved conditions are presented in Appendix C.

In order for the intersection of Mountain Ranch Road and St. Charles Street to operate at acceptable LOS in the 20-year scenario, the intersection is expected to require signalization with the existing lane configurations or installation of a single-lane roundabout, which is the same configuration suggested for the existing-plus-Project and existing-plus-approved-projects plus Project scenarios. With the improvements, the intersection is expected to operate at LOS B or better with acceptable queuing conditions. The actual improvements

required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. Signalization of the existing lane configuration is expected to be substantially less costly in terms of both construction and right of way. The Project may be responsible for an equitable share of the cost of the future improvement if there are no applicable road impact fees that include the improvements. If the Project constructs improvements, it is recommended that a fee program be utilized to provide reimbursement of costs above the equitable share. Traffic analysis sheets for potential improved conditions are presented in Appendix C.

16.0 EQUITABLE SHARE CALCULATIONS

Where required future improvements are not included in established development fees and are not the sole responsibility of a particular project, but rather a cumulative result of regional growth, the responsibility for the improvement may be determined based on equitable share calculations as presented in the Caltrans *Guide for the Preparation of Traffic Impact Studies* dated December 2002. The following equation was used to determine the project's equitable share of the cost of improvements:

$$P = \frac{T}{T_B - T_E}$$

where:

P = The equitable share of the project's traffic responsibility;

T = The project trips generated during the peak hour of the facility;

T_B = The forecasted (future with project) traffic volume on the affected facility;

T_E = The existing traffic on the facility.

Table 17 presents equitable share responsibility calculations for the Project's share of improvements at the study intersections based on weekday p.m. peak hour traffic volumes. The values in Table 17 may be applicable if the Project does not pay into a fee program.

Table 17
Equitable Share Responsibility – P.M. Peak Hour

Location	Improvement	T	T_E	T_B	P
Pool Station / St. Charles	Acceleration lane	24	1,152	1,444	8.2%
Mountain Ranch / St. Charles	Signal or Roundabout	35	1,266	1,595	10.6%

17.0 CONCLUSIONS

17.1 General

Generally-accepted traffic engineering principles and methods were employed to estimate the amount of traffic expected to be generated by the Project, to analyze the existing traffic conditions, and to analyze the traffic conditions projected to occur in the future.

17.2 Existing Conditions

The study intersections are operating at acceptable LOS with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street operates at LOS E during the a.m. peak hour, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street operates at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

17.3 Existing-Plus-Project Conditions

The existing-plus-Project conditions analyses represent conditions that would occur after implementation of the Project in the absence of development of other projects and other increases in traffic volumes. This scenario isolates the specific effects of the Project. The Project may exacerbate delays by more than 5.0 seconds per vehicle during the p.m. peak hour at the intersection of Mountain Ranch Road and St. Charles Street, which is already operating at LOS F in the existing condition. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The intersection of Pool Station Road and St. Charles Street is currently operating at LOS E during the a.m. peak hour, and the Project is not expected to increase delays by more than 5.0 seconds per vehicle. Therefore, a traffic issue is not triggered by the Project at this intersection. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.

All other study intersections and the proposed site access intersection are expected to operate at acceptable LOS.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

17.3.a Potential Existing-Plus-Project Improvements

The Project may be responsible for either improving the intersection of Mountain Ranch Road and St. Charles Street, paying an applicable road impact fee that includes the improvements, or contributing an equitable share of the cost of future improvements. In order to operate at acceptable LOS, the intersection is expected to require signalization with the existing lane configurations or installation of a single-lane roundabout. The actual

improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. Signalization of the existing lane configuration is expected to be substantially less costly in terms of both construction and right of way. The Project may be responsible for an equitable share of the cost of the future improvement. If the Project constructs improvements, it is recommended that a fee program be utilized to provide reimbursement of costs above the equitable share.

17.4 Existing-Plus-Approved-Projects Conditions

The existing-plus-approved-projects conditions analyses represent conditions that would occur after implementation of the approved projects in the absence of other increases in traffic volumes and without the proposed Project. In this scenario the study intersections are expected to operate at acceptable LOS with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS E during the a.m. peak hour, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

17.5 Existing-Plus-Approved-Projects-Plus-Project Conditions

The existing-plus-approved-projects plus Project conditions analyses represent conditions that would occur after implementation of the approved projects and the proposed Project in the absence of other increases in traffic volumes. The combination of the approved project and the proposed Project may exacerbate delays by more than 5.0 seconds per vehicle during the p.m. peak hour at the intersection of Mountain Ranch Road and St. Charles Street, which is already operating at LOS F in the existing condition. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The intersection of Pool Station Road and St. Charles Street is currently operating at LOS E during the a.m. peak hour, and the combination of the approved project and the proposed Project is not expected to increase delays by more than 5.0 seconds per vehicle. Therefore, a traffic issue is not triggered by the Project at this intersection. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.

All other study intersections and the proposed site access intersection are expected to operate at acceptable LOS.

The calculated 95th-percentile queues are contained within the available storage lanes at all of the study locations.

17.5.a Potential Existing-Plus-Approved-Projects-Plus-Project Improvements

The Project may be responsible for either improving the intersection of Mountain Ranch Road and St. Charles Street, paying an applicable road impact fee that includes the improvements, or contributing an equitable share of the cost of future improvements. In order to operate at acceptable LOS, the intersection is expected to require signalization with the existing lane configurations or installation of a single-lane roundabout, which is the same configuration suggested for the existing-plus-Project scenario. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. Signalization of the existing lane configuration is expected to be substantially less costly in terms of both construction and right of way. The Project may be responsible for an equitable share of the cost of the future improvement. If the Project constructs improvements, it is recommended that a fee program be utilized to provide reimbursement of costs above the equitable share.

17.6 Cumulative (20-Year) No-Project Conditions

The 20-year no-Project conditions analyses are based on the assumption that regional growth has occurred and the approved project has been developed. In this scenario, the study intersections are expected to continue to operate at acceptable LOS, with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all locations, with the following exception:

- At the intersection of Mountain Ranch Road and St. Charles Street (which is expected to operate at LOS F), the calculated 95th-percentile queue in the left-turn lane on the westbound approach during the p.m. peak hour is long enough to block access to the right-turn lane.

17.7 Cumulative (20-Year) With-Project Conditions

The 20-year with-Project conditions analyses are based on the assumption that regional growth has occurred, the approved project has been developed, and the Project is operational. In this scenario, the study intersections are expected to continue to operate at acceptable LOS, with the following exceptions:

- The intersection of Pool Station Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically on the eastbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with gateway features, an estimated cost of \$3,950,000, and a construction year of 2030 or beyond.
- The intersection of Mountain Ranch Road and St. Charles Street is expected to operate at LOS F during both the a.m. and p.m. peak hours, specifically in the left-turn lane on the westbound approach. Peak-hour traffic signal warrants are satisfied. This intersection is listed in the 2021 Calaveras RTP as a County Unfunded Project for traffic signals or a roundabout with an estimated cost of \$987,000, and a construction year of 2030 or beyond.

The calculated 95th-percentile queues are contained within the available storage lanes at all locations, with the following exception:

- At the intersection of Mountain Ranch Road and St. Charles Street (which is expected to operate at LOS F), the calculated 95th-percentile queue in the left-turn lane on the westbound approach during the p.m. peak hour is long enough to block access to the right-turn lane.

17.7.a Potential Cumulative (20-Year) With-Project Improvements

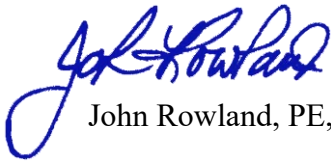
The intersection of Pool Station Road and St. Charles Street is expected to operate at acceptable LOS in the 20-year scenario if an acceleration lane is added to northbound St. Charles Street to receive left turns from Pool Station Road. Alternatively, a two-way left-turn lane would provide acceptable levels of service and essentially provide the acceleration lane recommended, although the additional widening south of Pool Station Road is not necessary to achieve an acceptable LOS. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. The Project may be responsible for an equitable share of the cost of the future improvement if there are no applicable road impact fees that include the improvements.

In order for the intersection of Mountain Ranch Road and St. Charles Street to operate at acceptable LOS in the 20-year scenario, the intersection is expected to require signalization with the existing lane configurations or installation of a single-lane roundabout, which is the same configuration suggested for the existing-plus-Project and existing-plus-approved-projects plus Project scenarios. The actual improvements required would be identified through coordination with Caltrans and preparation of an Intersection Control Evaluation in accordance with Caltrans Policy Directive 13-02. Signalization of the existing lane configuration is expected to be substantially less costly in terms of both construction and

right of way. The Project may be responsible for an equitable share of the cost of the future improvement if there are no applicable road impact fees that include the improvements. If the Project constructs improvements, it is recommended that a fee program be utilized to provide reimbursement of costs above the equitable share.

Thank you for the opportunity to perform this traffic study. Please feel free to contact our office if you have any questions.

PETERS ENGINEERING GROUP



John Rowland, PE, TE



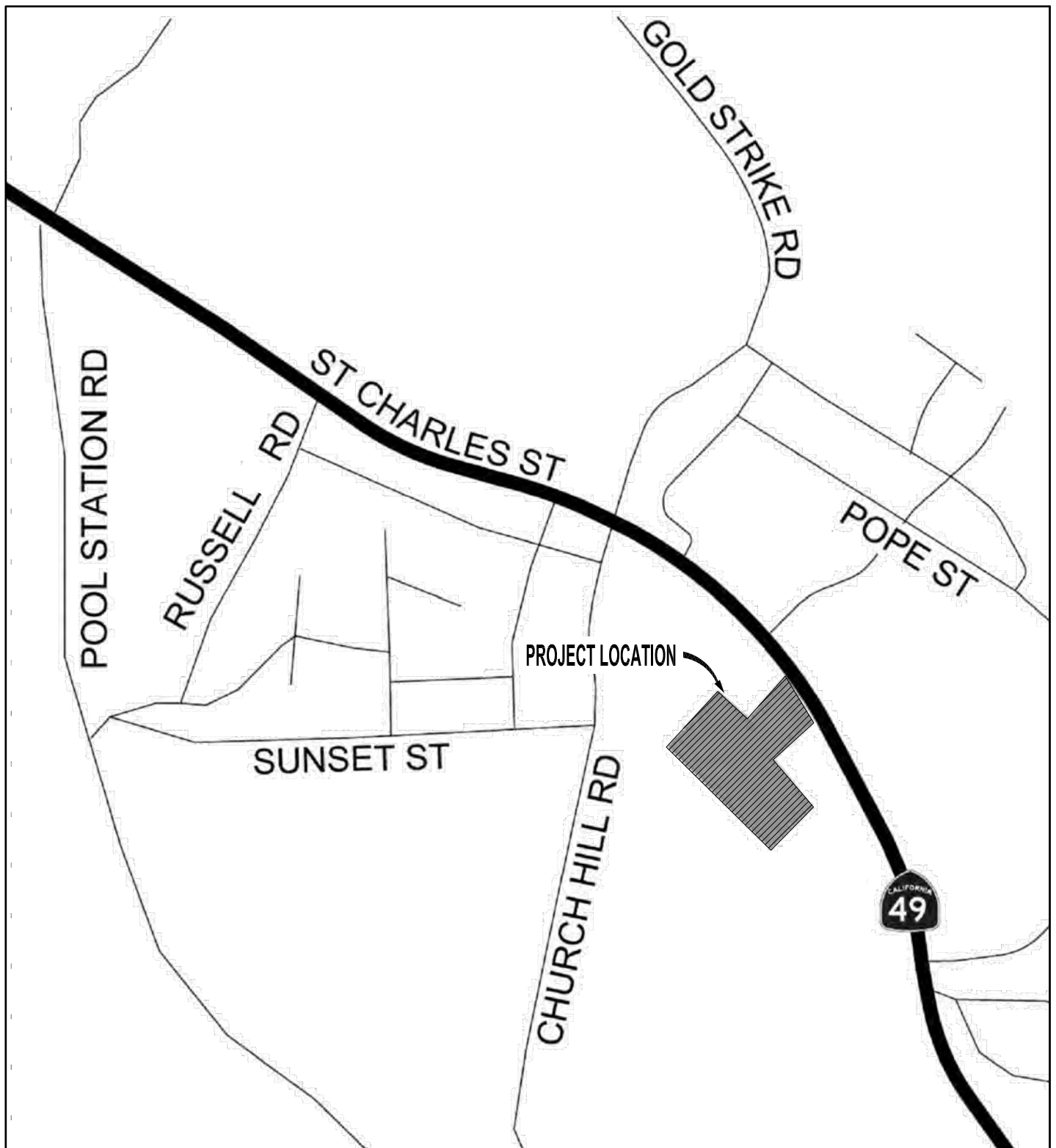
Attachments: Figures

Appendix A – Traffic Count Data Sheets

Appendix B – Intersection Analysis Sheets

Appendix C – Improved Intersection Analysis Sheets

FIGURES



Proposed Hotel and Restaurant Development
San Andreas, California

LEGEND

 PROJECT SITE

VICINITY MAP

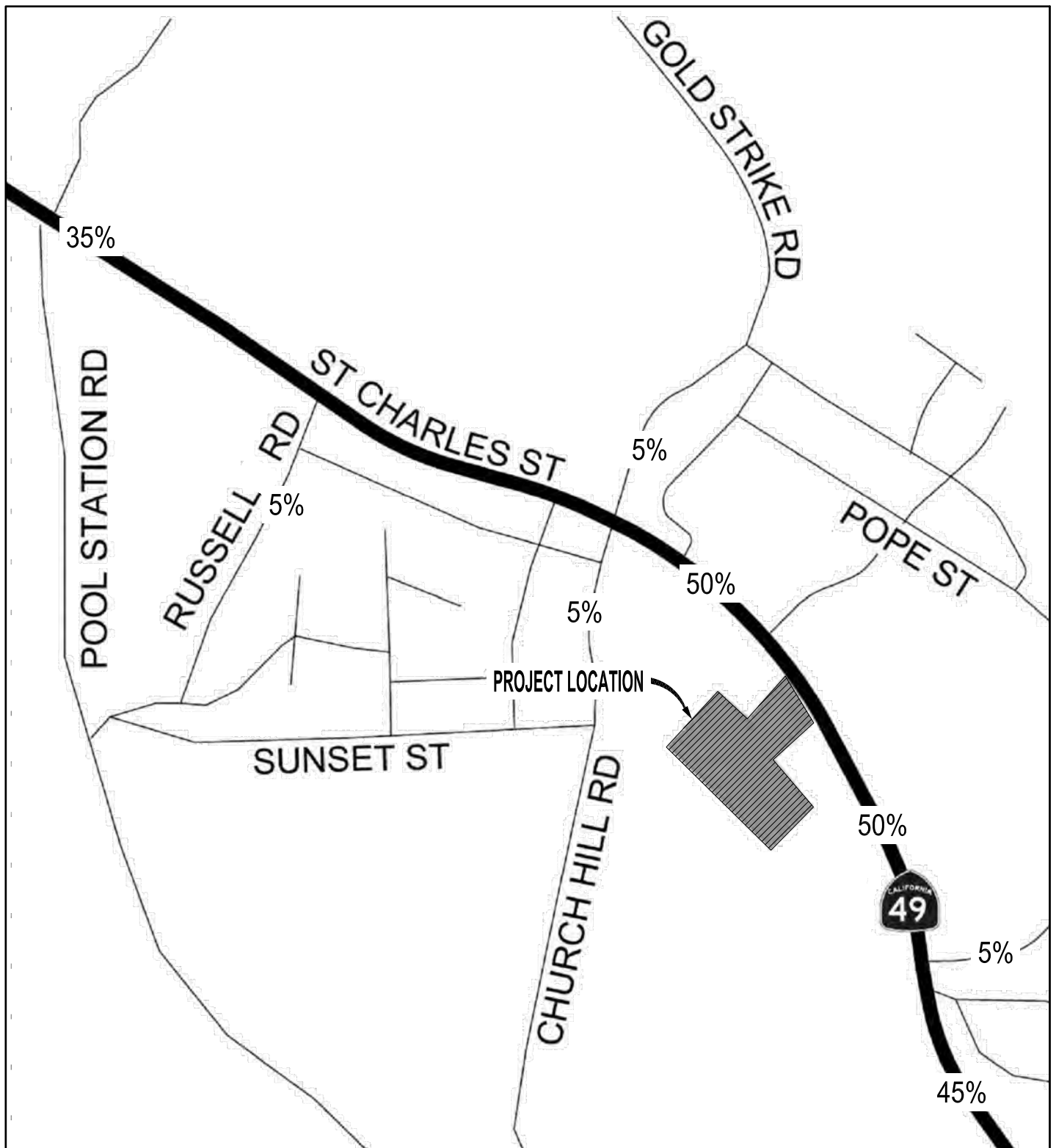


Not to Scale



PETERS ENGINEERING GROUP

Figure 1

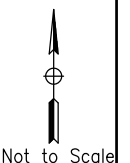


Proposed Hotel and Restaurant Development
San Andreas, California

LEGEND

▨ PROJECT SITE

PROJECT TRIP DISTRIBUTION PERCENTAGES

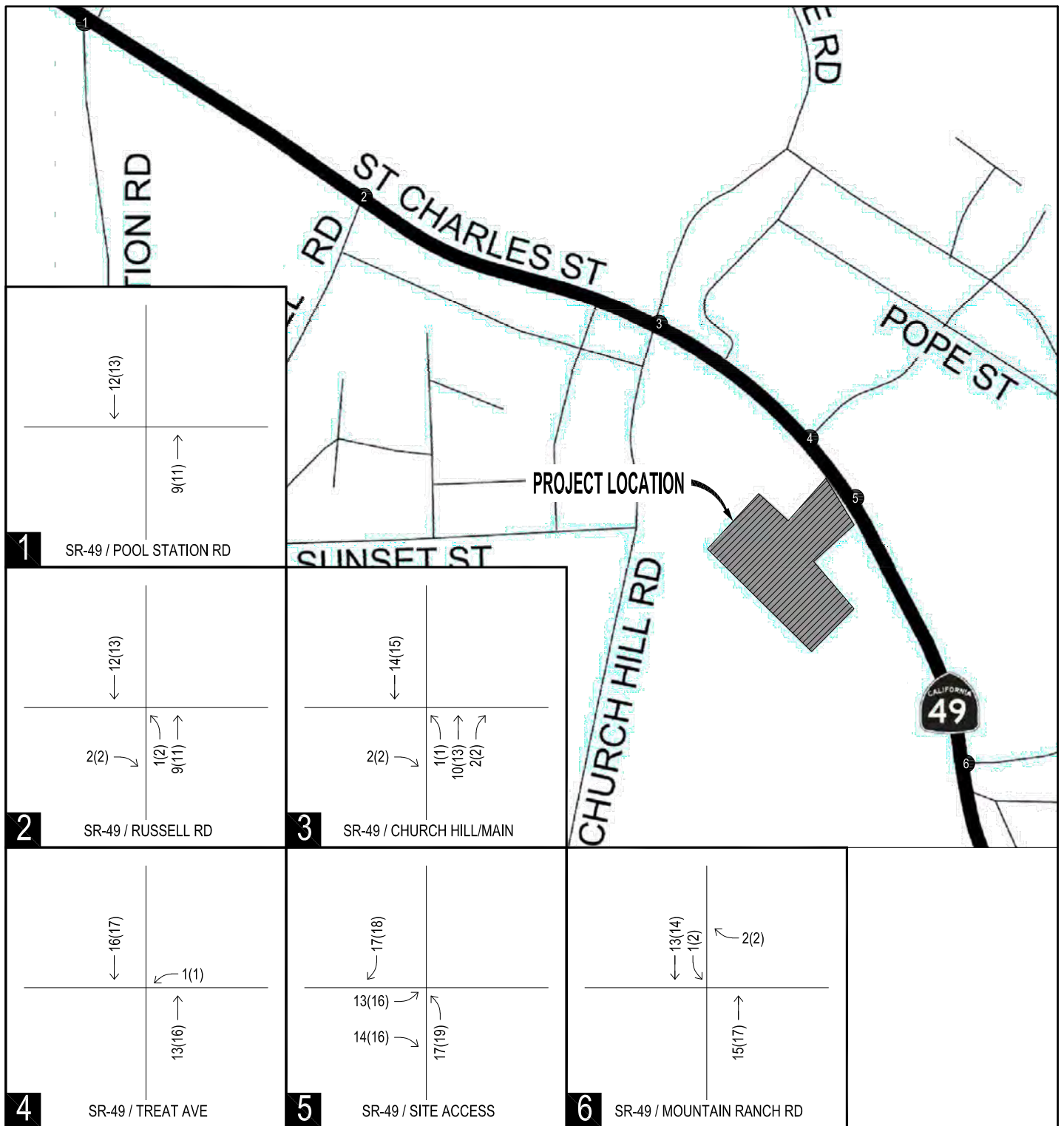


Not to Scale



PETERS ENGINEERING GROUP

Figure 3

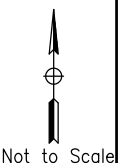


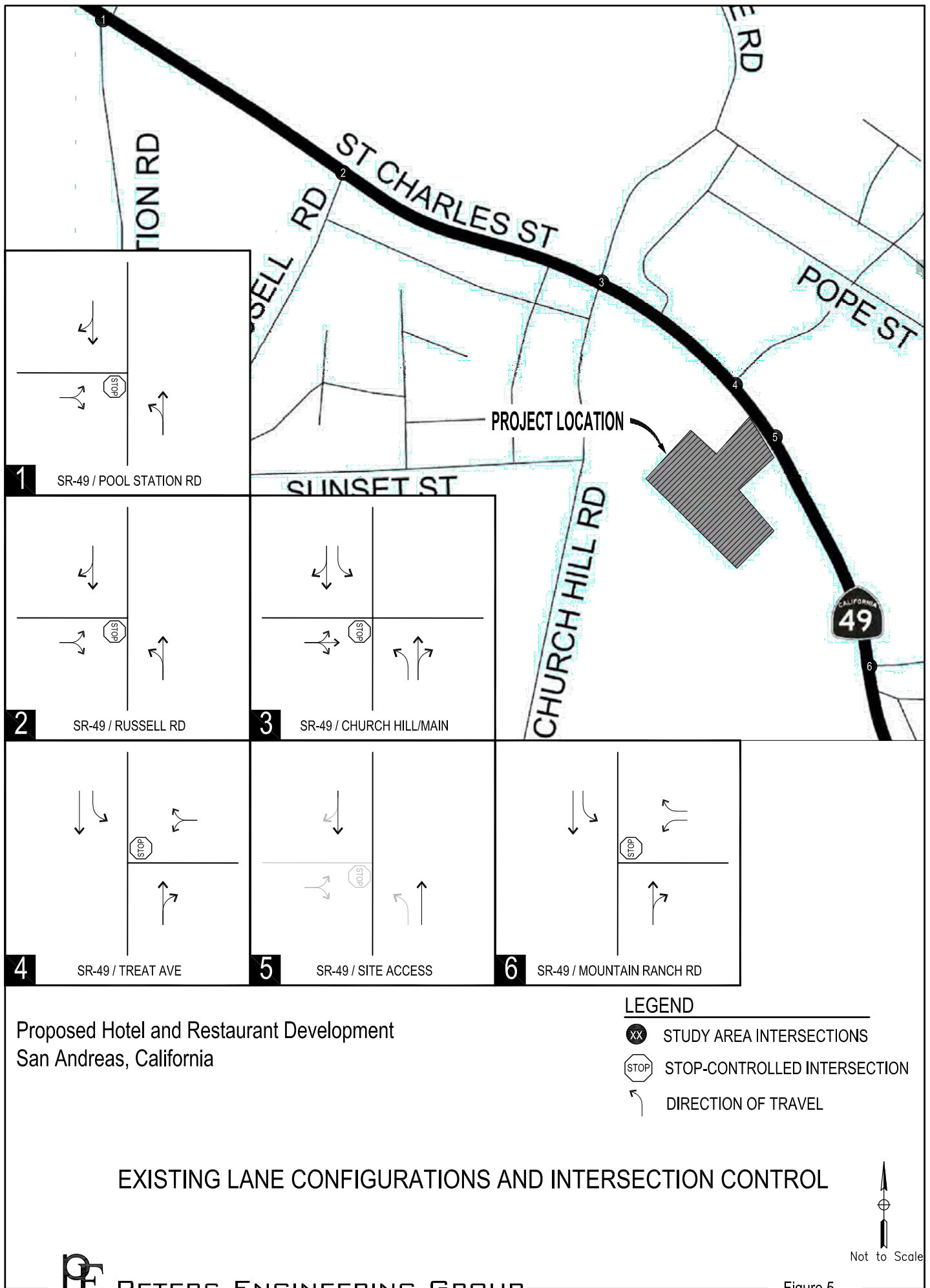
Proposed Hotel and Restaurant Development
San Andreas, California

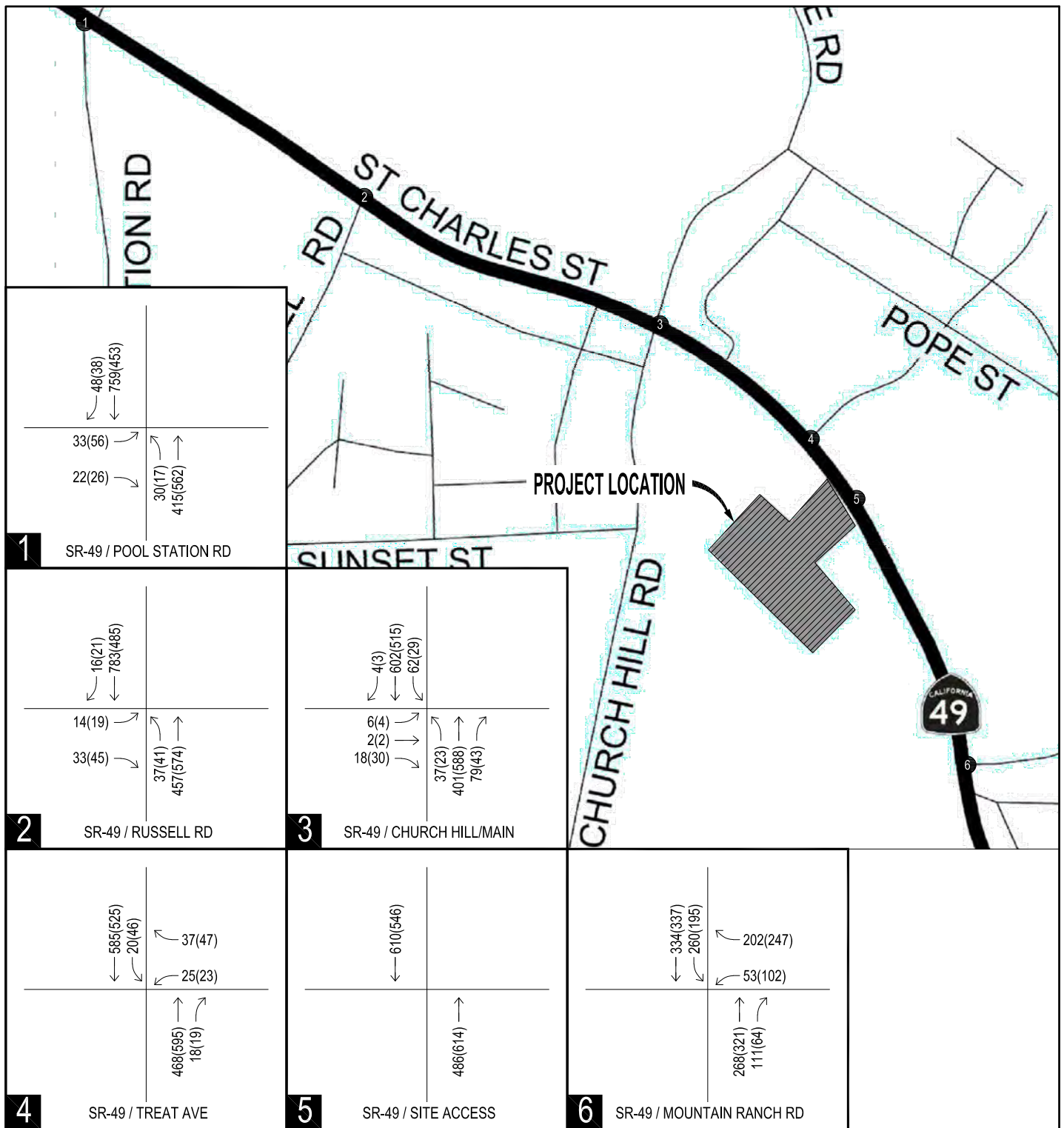


PETERS ENGINEERING GROUP

Figure 4







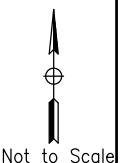
Proposed Hotel and Restaurant Development
San Andreas, California

LEGEND

PROJECT SITE

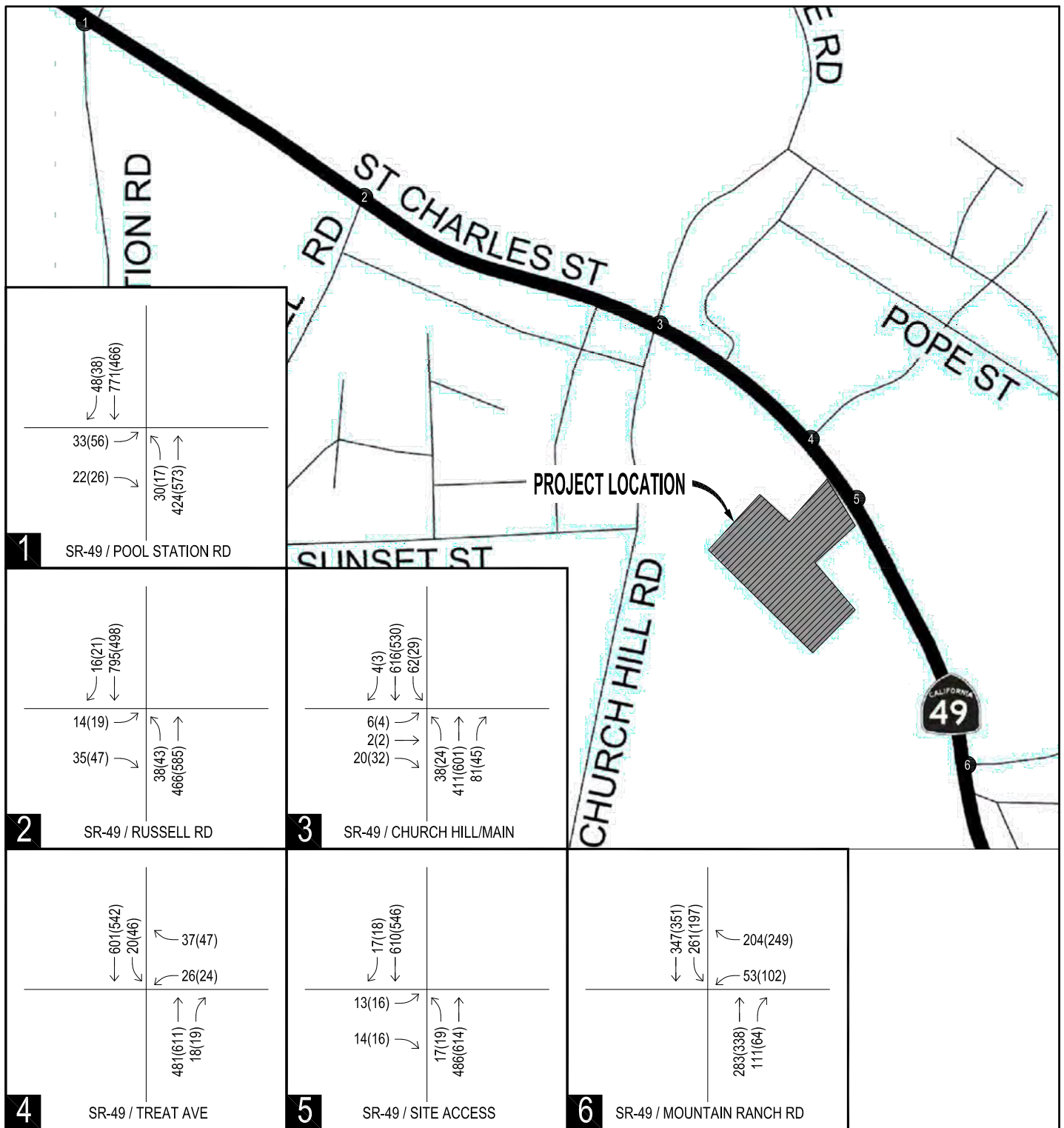
XX (YY) AM (PM) VOLUMES

EXISTING PEAK-HOUR TRAFFIC VOLUMES



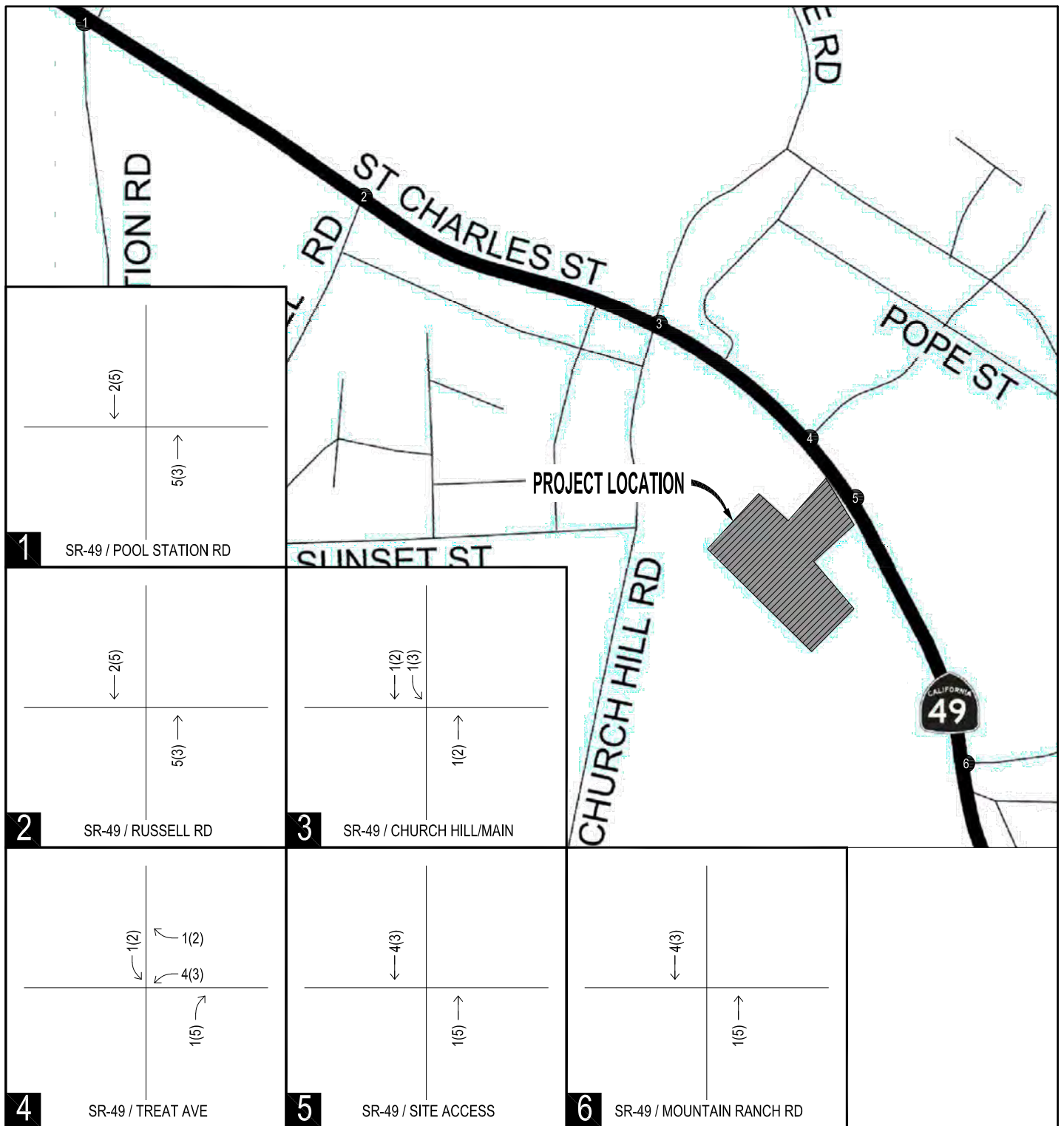
Not to Scale





Proposed Hotel and Restaurant Development
San Andreas, California





Proposed Hotel and Restaurant Development
San Andreas, California

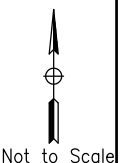
LEGEND

▨ PROJECT SITE
XX (YY) AM (PM) VOLUMES

APPROVED PROJECTS PEAK-HOUR TRAFFIC VOLUMES

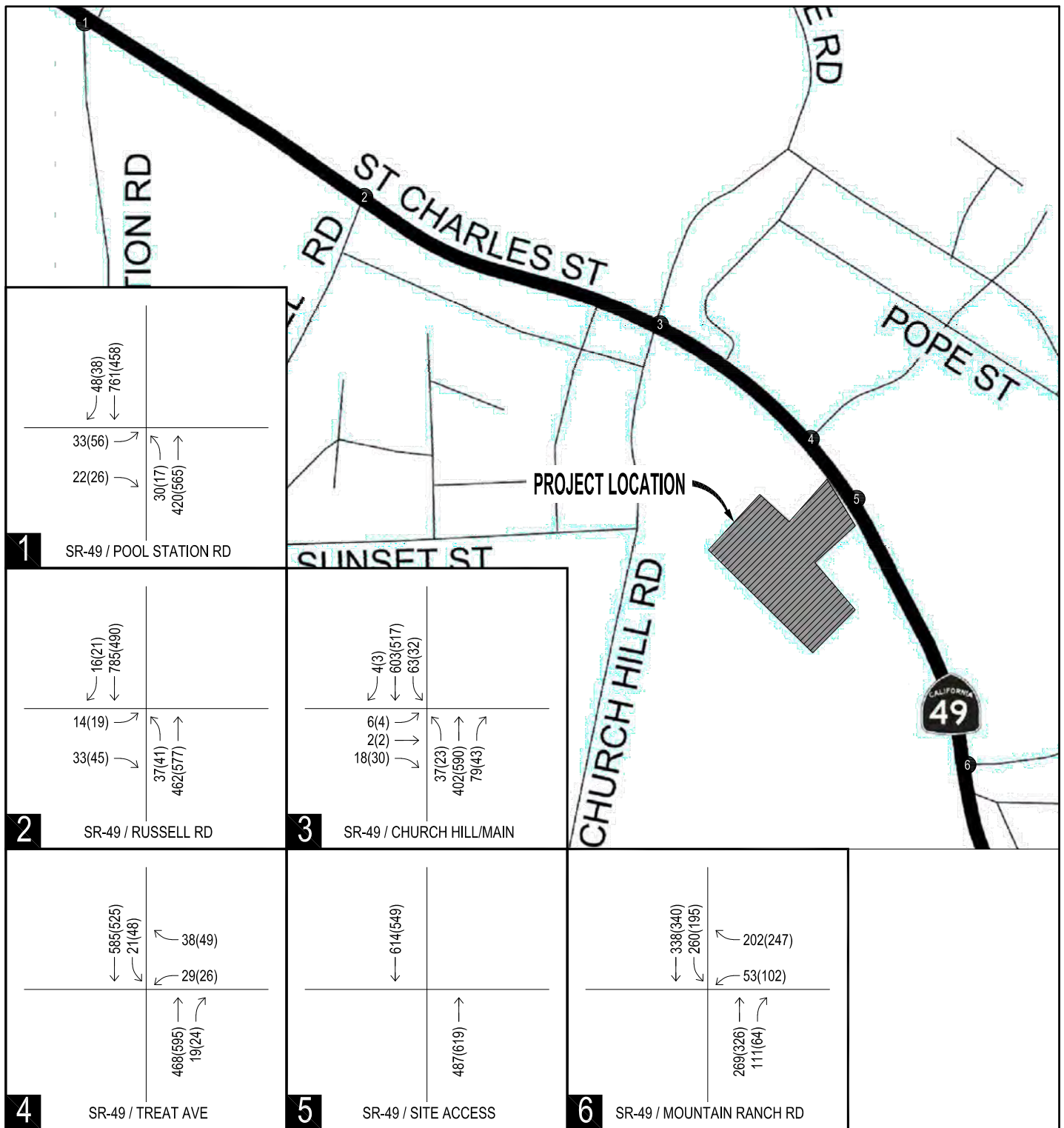


PETERS ENGINEERING GROUP



Not to Scale

Figure 8



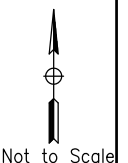
Proposed Hotel and Restaurant Development
San Andreas, California

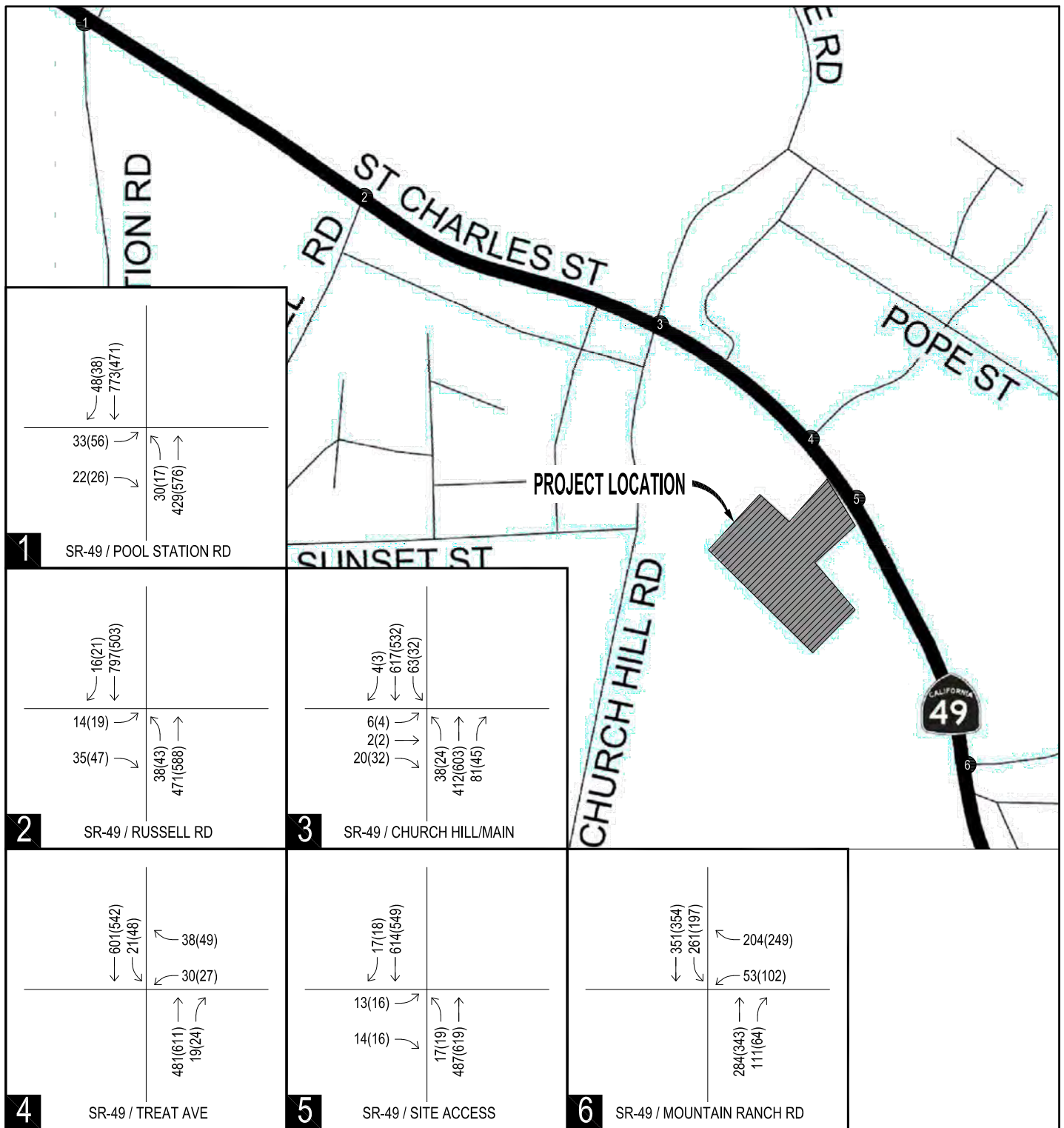
LEGEND

▨ PROJECT SITE

XX (YY) AM (PM) VOLUMES

EXISTING-PLUS APPROVED-PROJECTS
PEAK-HOUR TRAFFIC VOLUMES





Proposed Hotel and Restaurant Development
San Andreas, California

LEGEND

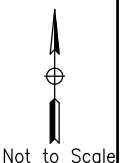
▨ PROJECT SITE

XX (YY) AM (PM) VOLUMES

EXISTING-PLUS APPROVED-PROJECTS PLUS PROJECT
PEAK-HOUR TRAFFIC VOLUMES

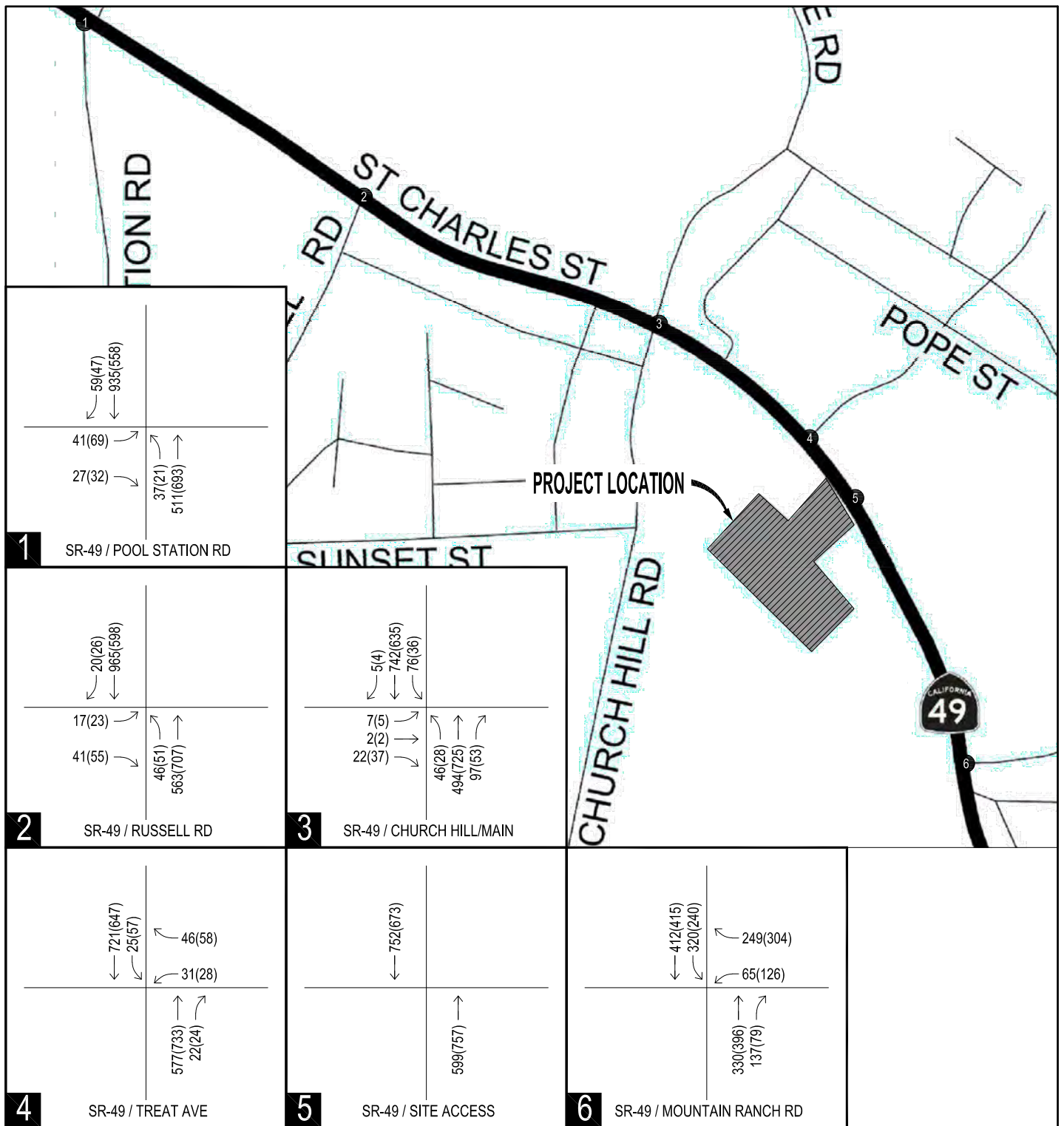


PETERS ENGINEERING GROUP



Not to Scale

Figure 10



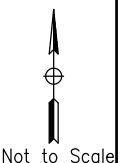
Proposed Hotel and Restaurant Development
San Andreas, California

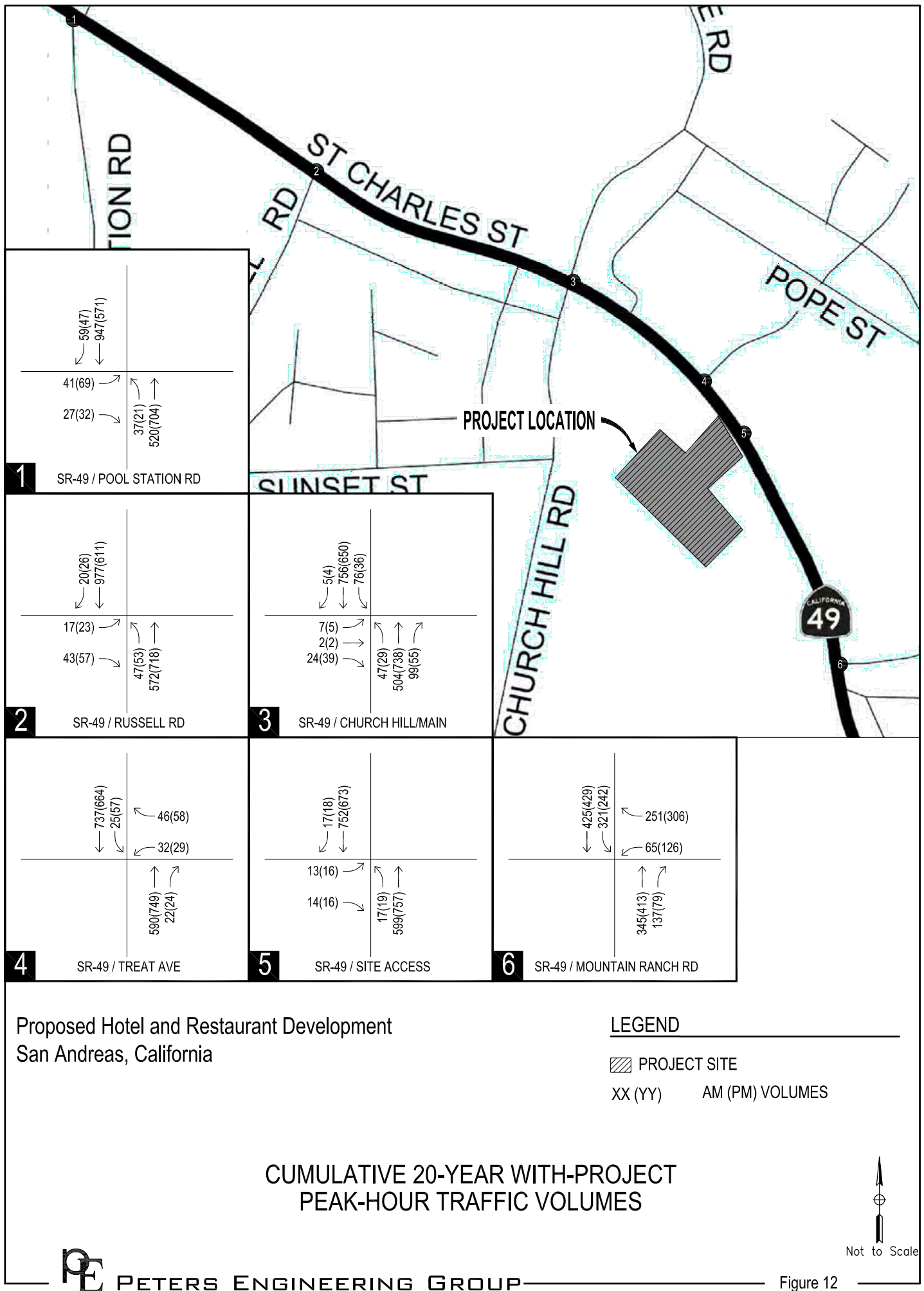
LEGEND

▨ PROJECT SITE

XX (YY) AM (PM) VOLUMES

CUMULATIVE 20-YEAR NO-PROJECT
PEAK-HOUR TRAFFIC VOLUMES





APPENDIX A

TRAFFIC COUNT DATA SHEETS



PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Pool Station Road / St. Charles Street (SR 49)

LATITUDE 38.2012

COUNTY Calaveras

LONGITUDE -120.6927

COLLECTION DATE Tuesday, April 2, 2024

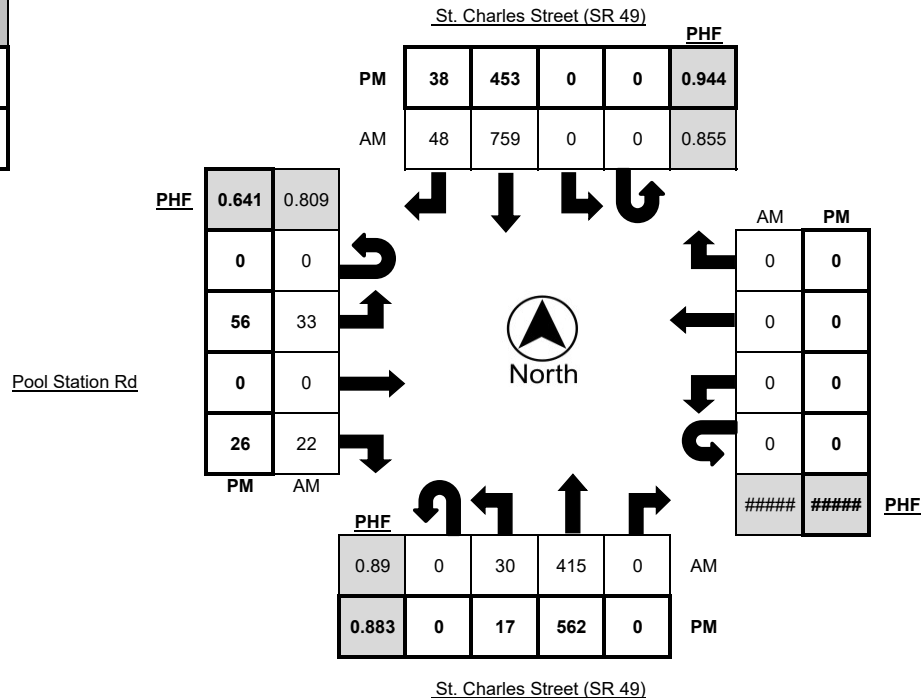
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	4	77	0	4	0	0	81	6	2	0	3	0	4	1	0	0	0	0	0
7:15 AM - 7:30 AM	0	5	95	0	4	0	0	155	11	7	0	5	0	3	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	12	110	0	8	0	0	168	13	12	0	8	0	6	5	0	0	0	0	0
7:45 AM - 8:00 AM	0	5	85	0	7	0	0	214	14	14	0	5	0	5	1	0	0	0	0	0
8:00 AM - 8:15 AM	0	10	115	0	9	0	0	222	14	11	0	11	0	6	5	0	0	0	0	0
8:15 AM - 8:30 AM	0	3	105	0	6	0	0	155	7	7	0	9	0	5	3	0	0	0	0	0
8:30 AM - 8:45 AM	0	7	122	0	6	0	0	101	15	14	0	8	0	6	4	0	0	0	0	0
8:45 AM - 9:00 AM	0	10	86	0	4	0	0	93	12	4	0	9	0	7	6	0	0	0	0	0
TOTAL	0	56	795	0	48	0	0	1189	92	71	0	58	0	42	25	0	0	0	0	0

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	4	160	0	4	0	0	117	13	6	0	19	0	13	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	3	126	0	4	0	0	111	6	7	0	13	0	2	3	0	0	0	0	0
4:30 PM - 4:45 PM	0	7	152	0	10	0	0	114	8	5	0	15	0	6	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	3	124	0	6	0	0	111	11	12	0	9	0	5	2	0	0	0	0	0
5:00 PM - 5:15 PM	0	4	168	0	9	0	0	87	7	7	0	17	0	9	4	0	0	0	0	0
5:15 PM - 5:30 PM	0	2	127	0	4	0	0	99	4	4	0	5	0	6	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	114	0	8	0	0	113	14	5	0	7	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	4	120	0	2	0	0	81	3	3	0	6	0	0	1	0	0	0	0	0
TOTAL	0	27	1091	0	47	0	0	833	66	49	0	91	0	41	10	0	0	0	0	0

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	30	415	0	30	0	0	759	48	44	0	33	0	22	14	0	0	0	0	0
4:00 PM - 5:00 PM	0	17	562	0	24	0	0	453	38	30	0	56	0	26	5	0	0	0	0	0

	PHF	Trucks
AM	0.864	6.7%
PM	0.883	5.1%





Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Pool Station Road / St. Charles Street (SR 49)

LATITUDE 38.2012

COUNTY Calaveras

LONGITUDE -120.6927

COLLECTION DATE Tuesday, April 2, 2024

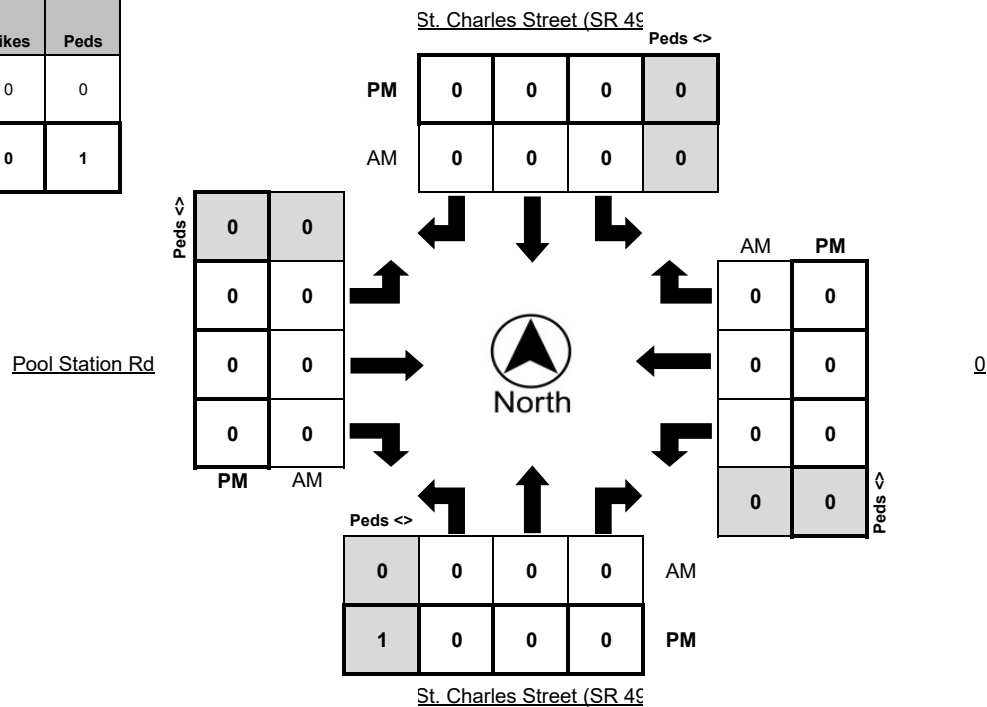
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	1





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310 N. Irwin Street - Suite 20
Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

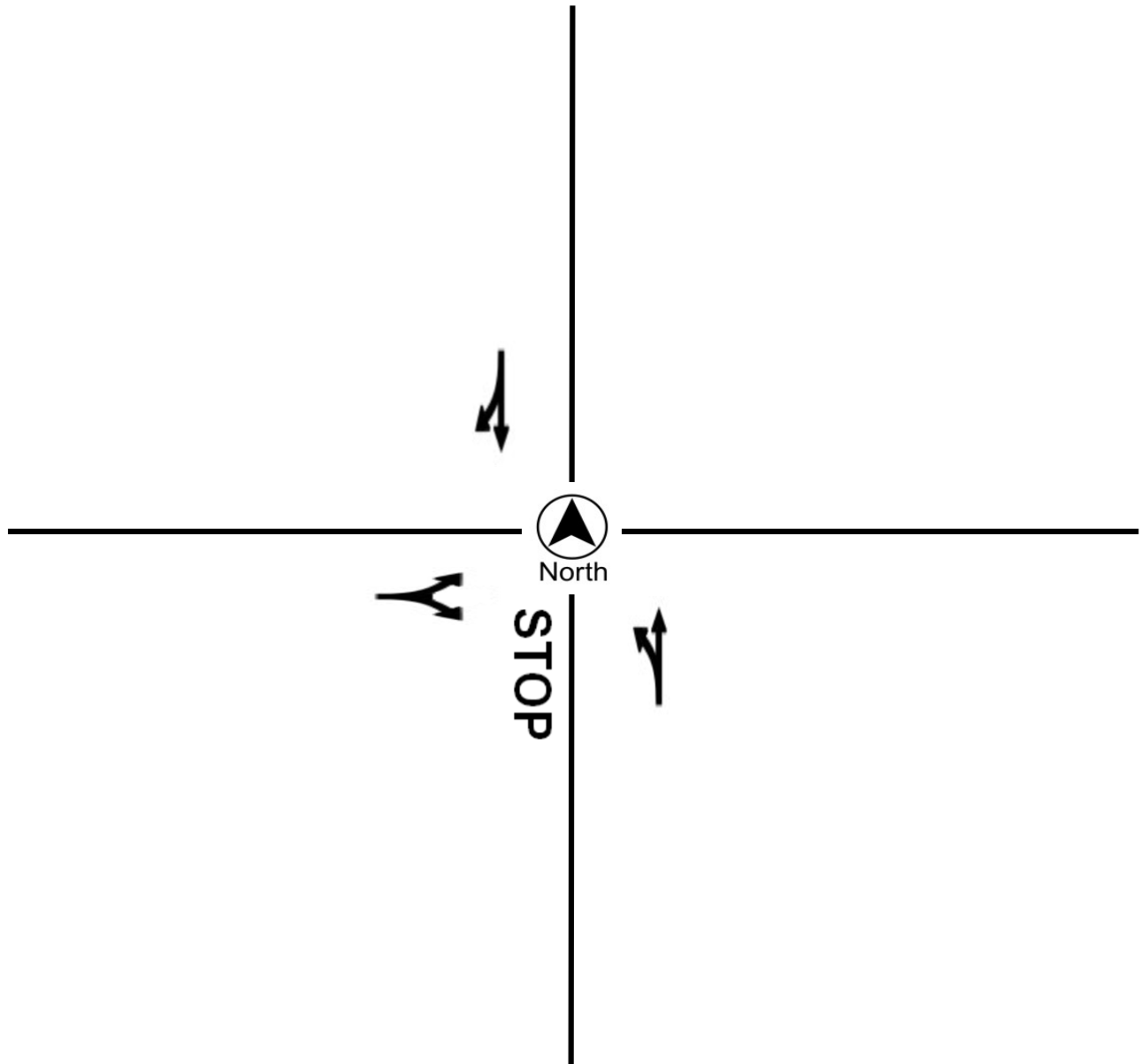
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Pool Station Road / St. Charles Street (SR 49)
COUNTY Calaveras
COLLECTION DATE Tuesday, April 2, 2024
CYCLE TIME N/A

N/S STREET St. Charles Street (SR 49)
E/W STREET Pool Station Rd
WEATHER Clear
CONTROL TYPE One-way Stop

COMMENTS





Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Russel Road / St. Charles Street (SR 49)

LATITUDE 38.1982

COUNTY Calaveras

LONGITUDE -120.6868

COLLECTION DATE Tuesday, April 2, 2024

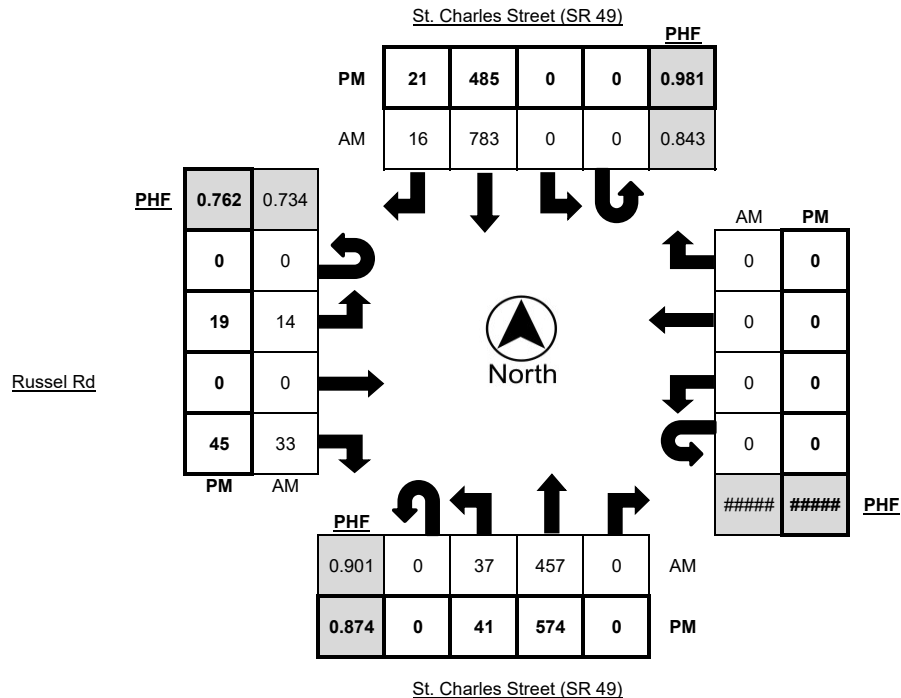
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	2	81	0	4	0	0	89	1	2	0	9	0	4	1	0	0	0	0	0
7:15 AM - 7:30 AM	0	3	99	0	4	0	0	160	4	7	0	5	0	4	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	8	121	0	7	0	0	173	3	8	0	5	0	11	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	7	99	0	6	0	0	207	3	10	0	2	0	6	1	0	0	0	0	0
8:00 AM - 8:15 AM	0	11	126	0	10	0	0	234	3	10	0	2	0	5	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	11	111	0	6	0	0	169	7	8	0	5	0	11	1	0	0	0	0	0
8:30 AM - 8:45 AM	0	6	136	0	4	0	0	100	2	7	0	4	0	3	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	5	84	0	3	0	0	103	5	4	0	2	0	8	0	0	0	0	0	0
TOTAL	0	53	857	0	44	0	0	1235	28	56	0	34	0	52	3	0	0	0	0	0

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	15	161	0	3	0	0	123	6	4	0	6	0	14	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	11	128	0	2	0	0	121	6	1	0	7	0	14	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	12	159	0	7	0	0	123	5	1	0	3	0	9	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	3	126	0	1	0	0	118	4	4	0	3	0	8	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	8	171	0	4	0	0	100	6	5	0	1	0	11	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	10	127	0	1	0	0	101	4	2	0	2	0	5	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	2	125	0	1	0	0	112	6	3	0	2	0	7	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	9	127	0	2	0	0	59	4	2	0	1	0	7	0	0	0	0	0	0
TOTAL	0	70	1124	0	21	0	0	857	41	22	0	25	0	75	0	0	0	0	0	0

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	37	457	0	29	0	0	783	16	36	0	14	0	33	2	0	0	0	0	0
4:00 PM - 5:00 PM	0	41	574	0	13	0	0	485	21	10	0	19	0	45	0	0	0	0	0	0

	PHF	Trucks
AM	0.879	5.0%
PM	0.912	1.9%





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800-975-6938 Phone/Fax
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Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Russel Road / St. Charles Street (SR 49)

LATITUDE 38.1982

COUNTY Calaveras

LONGITUDE -120.6868

COLLECTION DATE Tuesday, April 2, 2024

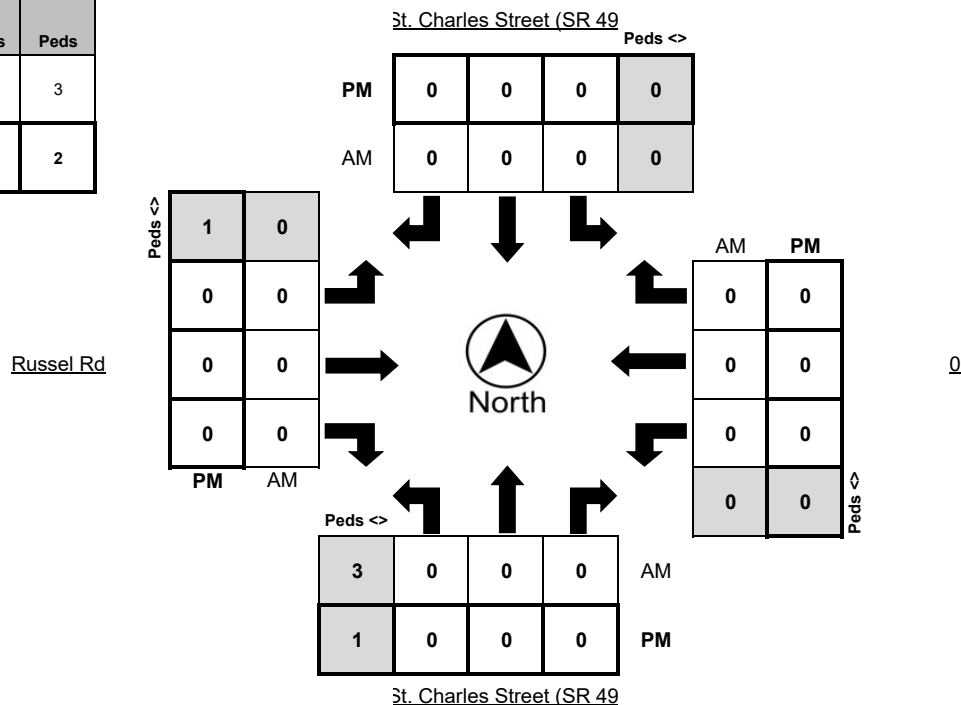
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	7	0	0	1	0	0	0	0	1

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1

	Bikes	Peds
AM Peak Total	0	3
PM Peak Total	0	2





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Turning Movement Report

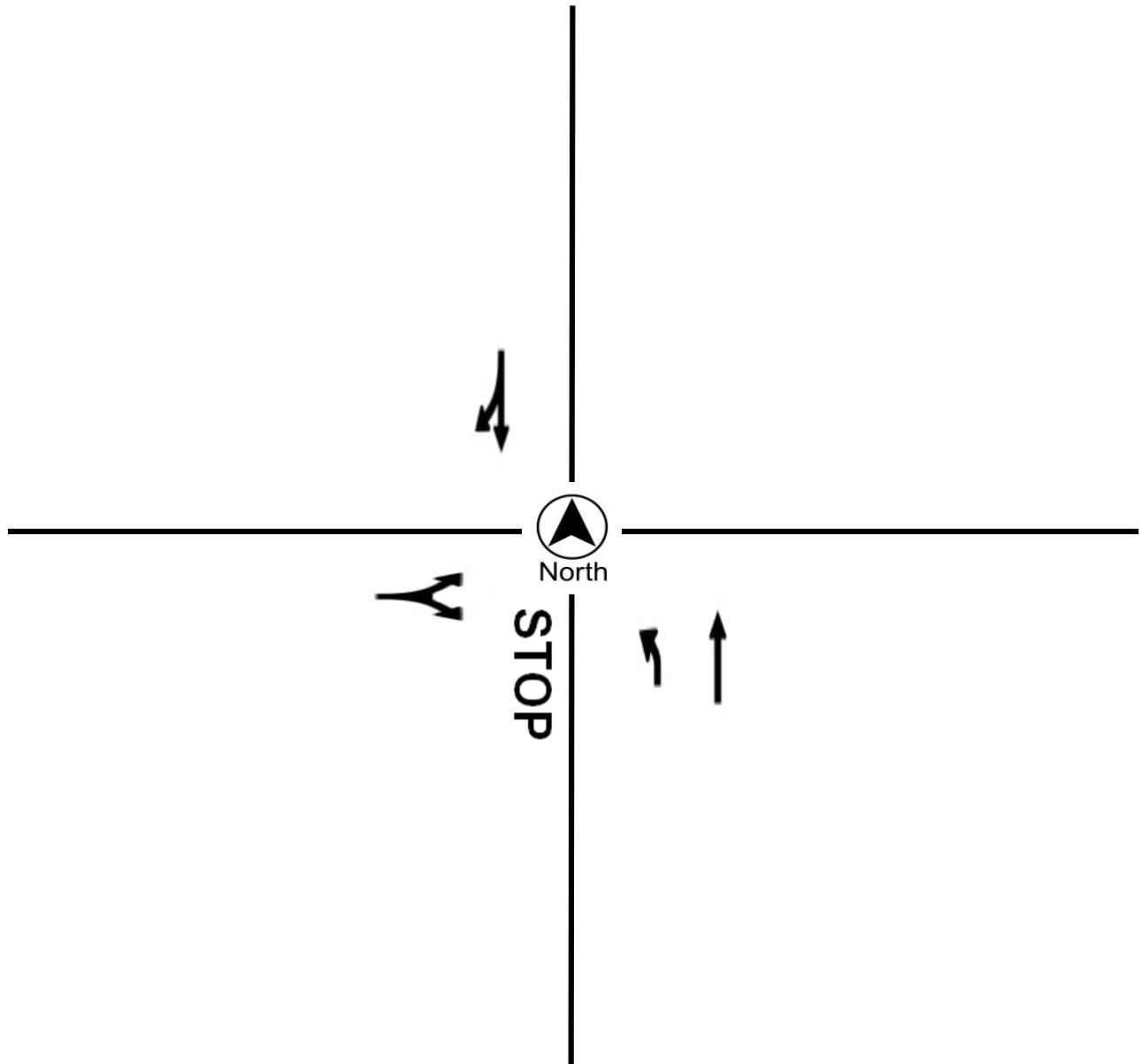
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Russel Road / St. Charles Street (SR 49)
COUNTY Calaveras
COLLECTION DATE Tuesday, April 2, 2024
CYCLE TIME N/A

N/S STREET St. Charles Street (SR 49)
E/W STREET Russel Rd
WEATHER Clear
CONTROL TYPE One-way Stop

COMMENTS





Metro Traffic Data Inc.
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Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Church Hill Road – Main Street / St. Charles Street (SR 49)

LATITUDE 38.1962

COUNTY Calaveras

LONGITUDE -120.6809

COLLECTION DATE Tuesday, April 2, 2024

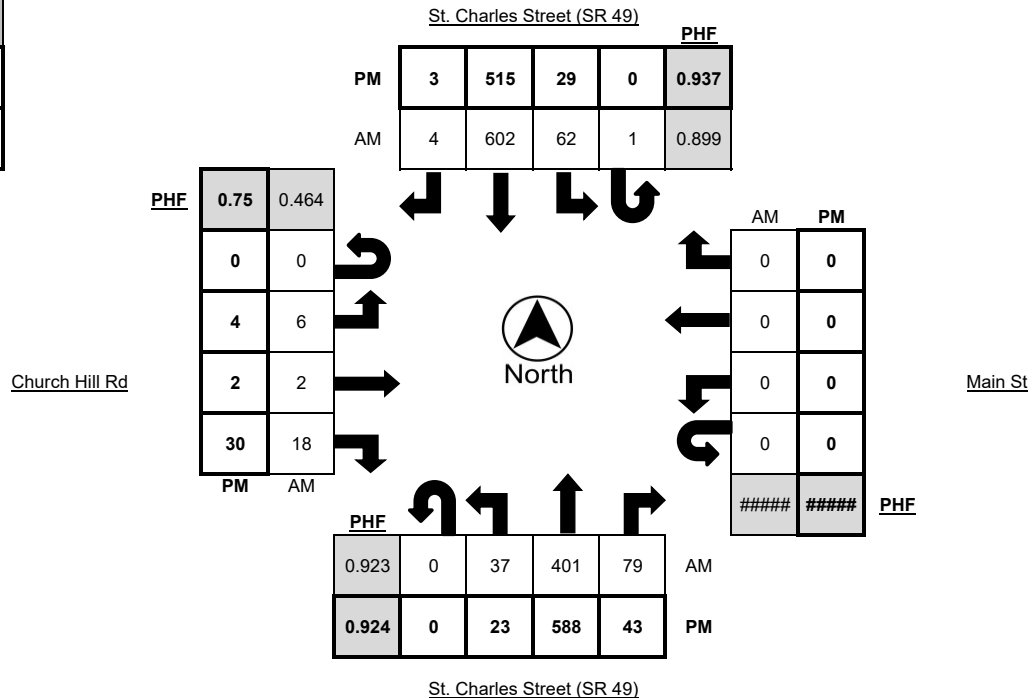
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	4	82	7	6	0	3	80	2	3	0	1	0	3	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	7	98	35	7	0	21	137	2	8	0	1	1	3	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	11	102	22	8	1	26	158	1	8	0	2	0	2	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	10	90	14	8	0	13	159	1	6	0	2	1	11	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	9	111	8	6	0	2	148	0	6	0	1	0	2	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	17	102	11	5	0	11	117	0	9	0	0	0	8	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	5	125	7	7	0	1	96	0	8	0	2	0	10	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	4	85	4	4	0	4	112	1	4	0	0	0	4	0	0	0	0	0	0
TOTAL	0	67	795	108	51	1	81	1007	7	52	0	9	2	43	0	0	0	0	0	0

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	6	153	18	3	0	12	133	1	4	0	1	0	11	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	2	135	11	3	0	6	131	0	1	0	1	0	7	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	7	165	4	5	0	4	139	0	1	0	1	2	8	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	8	135	10	2	0	7	112	2	4	0	1	0	4	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	8	165	7	3	0	9	104	1	5	0	1	0	5	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	9	135	6	0	0	5	105	2	2	0	0	0	4	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	8	112	11	1	0	4	97	0	2	0	1	0	2	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	7	109	10	3	0	5	79	4	3	0	0	0	3	0	0	0	0	0	0
TOTAL	0	55	1109	77	20	0	52	900	10	22	0	6	2	44	0	0	0	0	0	0

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:15 AM - 8:15 AM	0	37	401	79	29	1	62	602	4	28	0	6	2	18	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	23	588	43	13	0	29	515	3	10	0	4	2	30	0	0	0	0	0	0

	PHF	Trucks
AM	0.932	4.7%
PM	0.923	1.9%



Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Birch Hill Road – Main Street / St. Charles Street (SR

LATITUDE 38.1962

COUNTY Calaveras

LONGITUDE -120.6809

COLLECTION DATE Tuesday, April 2, 2024

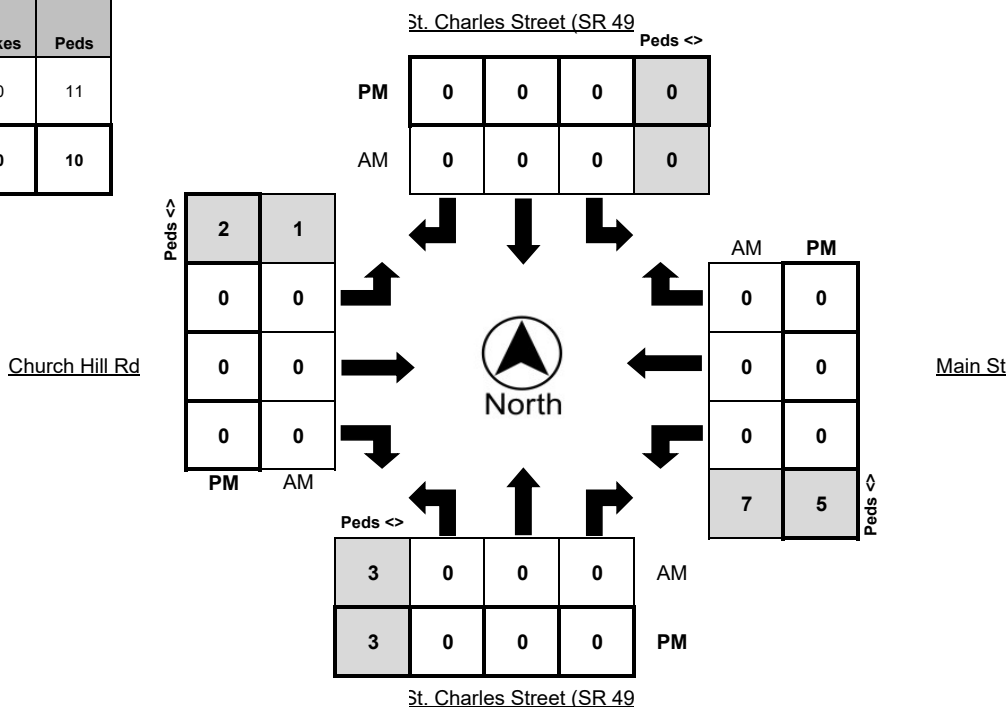
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	1
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	3	0	0	0	0	8	0	0	1

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	1	0	0	0	4	0	0	0	9	0	0	0	4

	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
PEAK HOUR	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	3	0	0	0	7	0	0	0	1
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	3	0	0	0	5	0	0	0	2

	Bikes	Peds
AM Peak Total	0	11
PM Peak Total	0	10





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Turning Movement Report

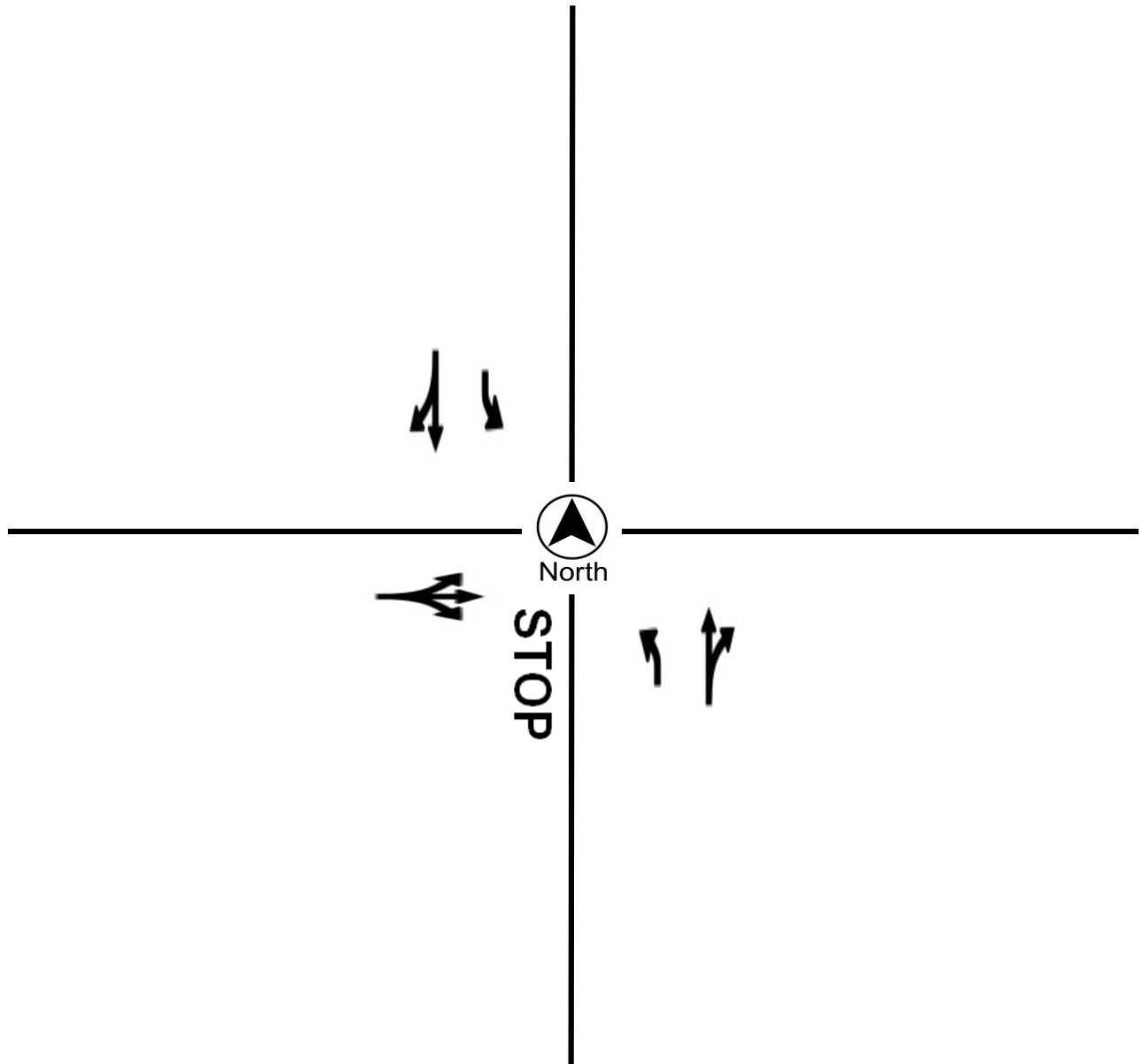
Prepared For:

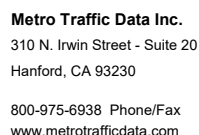
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION rch Hill Road – Main Street / St. Charles Street (SR
COUNTY Calaveras
COLLECTION DATE Tuesday, April 2, 2024
CYCLE TIME N/A

N/S STREET St. Charles Street (SR 49)
E/W STREET Church Hill Rd / Main St
WEATHER Clear
CONTROL TYPE One-way Stop

COMMENTS





Prepared For: **Peters Engineering Group**
862 Pollasky Ave
Clovis, CA 93612

LOCATION	Treat Avenue / St. Charles Street (SR 49)
COUNTY	Calaveras
COLLECTION DATE	Tuesday, April 2, 2024

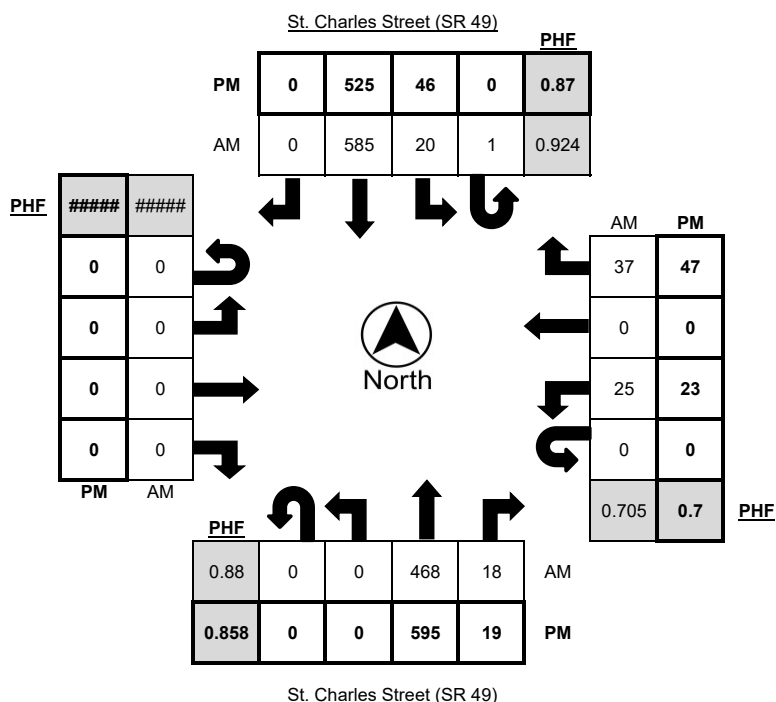
LATITUDE	38.1943
LONGITUDE	-120.6778
WEATHER	Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	87	0	3	0	1	78	0	3	0	0	0	0	0	0	0	0	7	0
7:15 AM - 7:30 AM	0	0	134	4	3	0	0	132	0	6	0	0	0	0	0	0	4	0	5	0
7:30 AM - 7:45 AM	0	0	121	8	4	0	6	158	0	6	0	0	0	0	0	0	7	0	8	0
7:45 AM - 8:00 AM	0	0	97	3	2	1	7	156	0	5	0	0	0	0	0	0	8	0	14	0
8:00 AM - 8:15 AM	0	0	116	3	6	0	7	139	0	4	0	0	0	0	0	0	6	0	10	0
8:15 AM - 8:30 AM	0	0	124	2	4	0	8	120	0	10	0	0	0	0	0	0	4	0	8	1
8:30 AM - 8:45 AM	0	0	129	3	5	0	6	103	0	7	0	0	0	0	0	0	2	0	4	0
8:45 AM - 9:00 AM	0	0	101	4	3	0	4	104	0	4	0	0	0	0	0	0	5	0	4	1
TOTAL	0	0	909	27	30	1	39	990	0	45	0	0	0	0	0	0	36	0	60	2

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	0	159	6	3	0	16	148	0	5	0	0	0	0	0	0	10	0	15	0
4:15 PM - 4:30 PM	0	0	125	5	3	0	7	124	0	1	0	0	0	0	0	0	2	0	13	0
4:30 PM - 4:45 PM	0	0	173	6	5	0	15	142	0	1	0	0	0	0	0	0	6	0	12	0
4:45 PM - 5:00 PM	0	0	138	2	3	0	8	111	0	4	0	0	0	0	0	0	5	0	7	0
5:00 PM - 5:15 PM	0	0	157	5	2	0	8	109	0	5	0	0	0	0	0	0	5	0	10	0
5:15 PM - 5:30 PM	0	0	137	4	0	0	11	102	0	2	0	0	0	0	0	0	2	0	9	0
5:30 PM - 5:45 PM	0	0	122	6	2	0	12	93	0	2	0	0	0	0	0	0	4	0	6	0
5:45 PM - 6:00 PM	0	0	110	0	2	0	5	79	0	3	0	0	0	0	0	0	5	0	11	0
TOTAL	0	0	1121	34	20	0	82	908	0	23	0	0	0	0	0	0	39	0	83	0

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:15 AM - 8:15 AM	0	0	468	18	15	1	20	585	0	21	0	0	0	0	0	0	25	0	37	0
4:00 PM - 5:00 PM	0	0	595	19	14	0	46	525	0	11	0	0	0	0	0	0	23	0	47	0

	PHF	Trucks
AM	0.937	3.1%
PM	0.886	2.0%





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Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Treat Avenue / St. Charles Street (SR 49)

LATITUDE 38.1943

COUNTY Calaveras

LONGITUDE -120.6778

COLLECTION DATE Tuesday, April 2, 2024

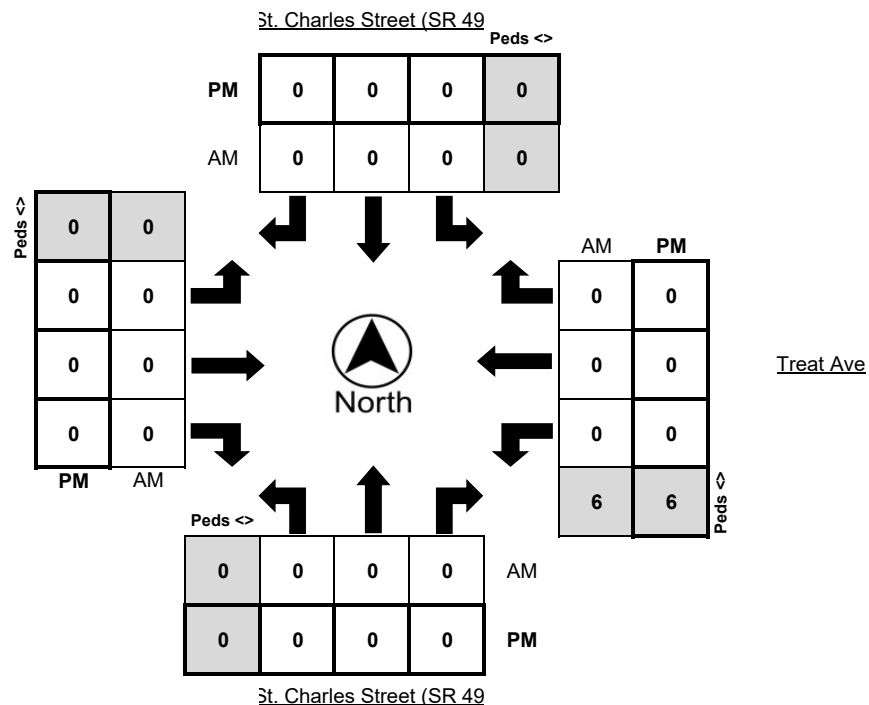
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
TOTAL	0	0	0	0	0	0	0	1	0	0	0	12	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
5:00 PM - 5:15 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
TOTAL	0	1	0	0	0	0	0	1	0	0	0	10	0	0	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0

	Bikes	Peds
AM Peak Total	0	6
PM Peak Total	0	6





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Turning Movement Report

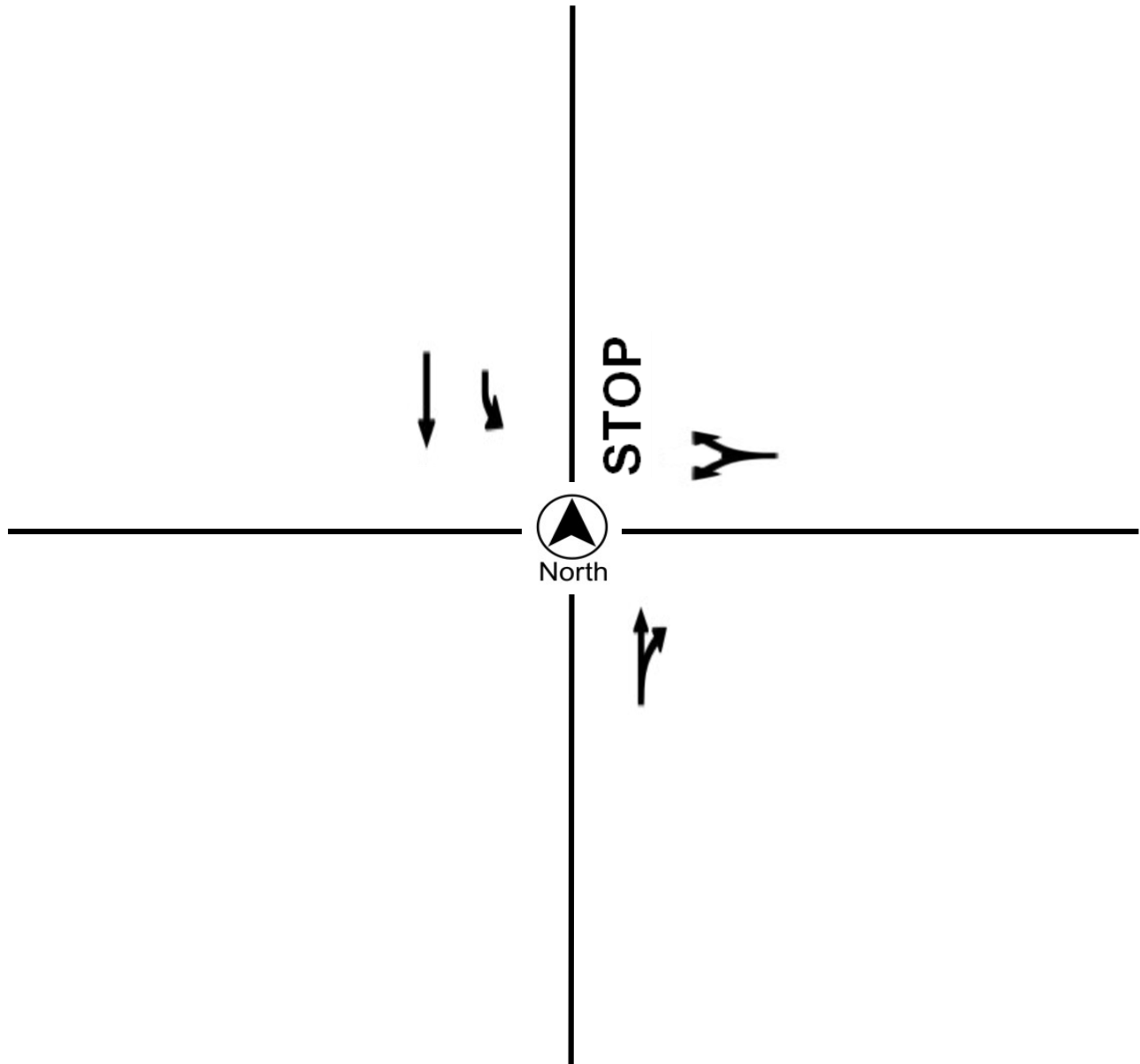
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Treat Avenue / St. Charles Street (SR 49)
COUNTY Calaveras
COLLECTION DATE Tuesday, April 2, 2024
CYCLE TIME N/A

N/S STREET St. Charles Street (SR 49)
E/W STREET Treat Ave
WEATHER Clear
CONTROL TYPE One-way Stop

COMMENTS





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Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Mountain Ranch Road / St. Charles Street (SR 49)

LATITUDE 38.1892

COUNTY Calaveras

LONGITUDE -120.6745

COLLECTION DATE Tuesday, April 2, 2024

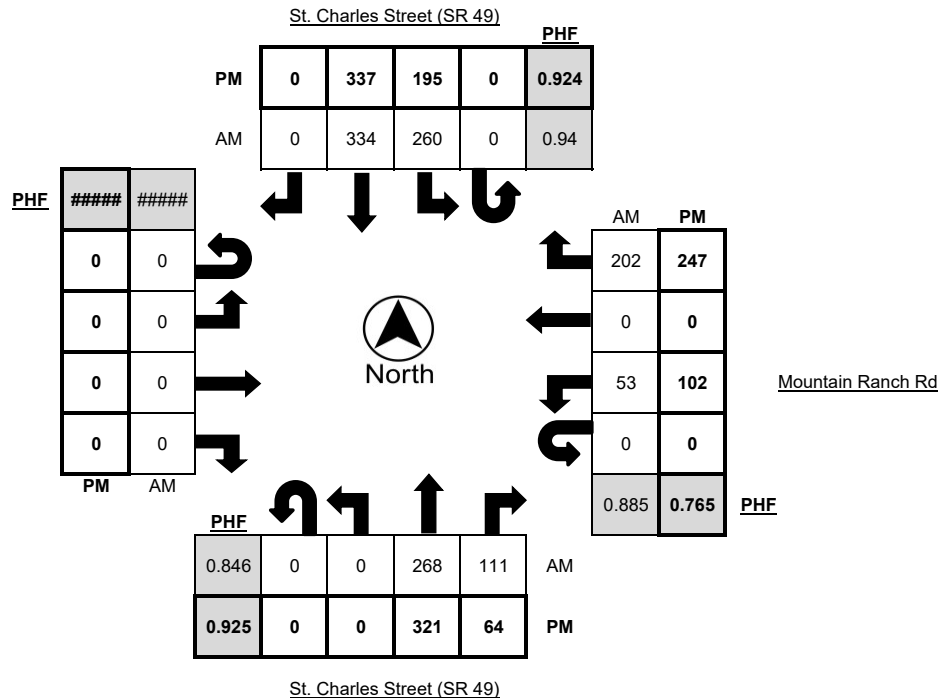
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	57	17	5	0	31	49	0	3	0	0	0	0	0	0	13	0	26	0
7:15 AM - 7:30 AM	0	0	94	25	3	0	49	76	0	7	0	0	0	0	0	0	13	0	46	1
7:30 AM - 7:45 AM	0	0	72	24	9	0	59	99	0	6	0	0	0	0	0	0	10	0	55	3
7:45 AM - 8:00 AM	0	0	66	46	4	0	89	66	0	5	0	0	0	0	0	0	13	0	41	1
8:00 AM - 8:15 AM	0	0	55	21	5	0	50	82	0	3	0	0	0	0	0	0	13	0	51	2
8:15 AM - 8:30 AM	0	0	75	20	3	0	62	87	0	12	0	0	0	0	0	0	17	0	55	2
8:30 AM - 8:45 AM	0	0	77	22	4	0	40	56	0	6	0	0	0	0	0	0	21	0	54	7
8:45 AM - 9:00 AM	0	0	63	16	2	0	37	65	0	4	0	0	0	0	0	0	18	0	44	1
TOTAL	0	0	559	191	35	0	417	580	0	46	0	0	0	0	0	0	118	0	372	17

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	0	82	14	4	0	52	92	0	5	0	0	0	0	0	0	27	0	73	0
4:15 PM - 4:30 PM	0	0	71	22	1	0	40	88	0	1	0	0	0	0	0	0	27	0	44	0
4:30 PM - 4:45 PM	0	0	81	11	3	0	51	93	0	0	0	0	0	0	0	0	29	0	85	1
4:45 PM - 5:00 PM	0	0	87	17	3	0	52	64	0	3	0	0	0	0	0	0	19	0	45	2
5:00 PM - 5:15 PM	0	0	76	15	1	0	44	66	0	4	0	0	0	0	0	0	31	0	73	1
5:15 PM - 5:30 PM	0	0	72	13	0	0	46	62	0	1	0	0	0	0	0	0	9	0	52	1
5:30 PM - 5:45 PM	0	0	65	14	1	0	36	58	0	1	0	0	0	0	0	0	13	0	55	0
5:45 PM - 6:00 PM	0	0	67	19	2	0	29	53	0	3	0	0	0	0	0	0	4	0	29	0
TOTAL	0	0	601	125	15	0	350	576	0	18	0	0	0	0	0	0	159	0	456	5

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	268	111	21	0	260	334	0	26	0	0	0	0	0	0	53	0	202	8
4:00 PM - 5:00 PM	0	0	321	64	11	0	195	337	0	9	0	0	0	0	0	0	102	0	247	3

	PHF	Trucks
AM	0.956	4.5%
PM	0.904	1.8%





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Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Mountain Ranch Road / St. Charles Street (SR 49)

LATITUDE 38.1892

COUNTY Calaveras

LONGITUDE -120.6745

COLLECTION DATE Tuesday, April 2, 2024

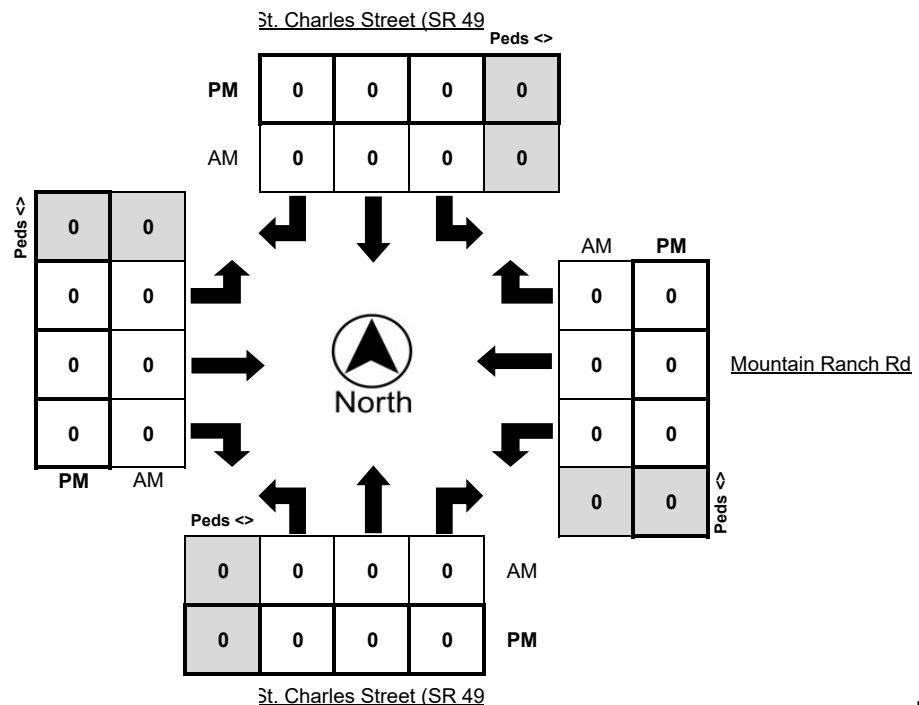
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0





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Turning Movement Report

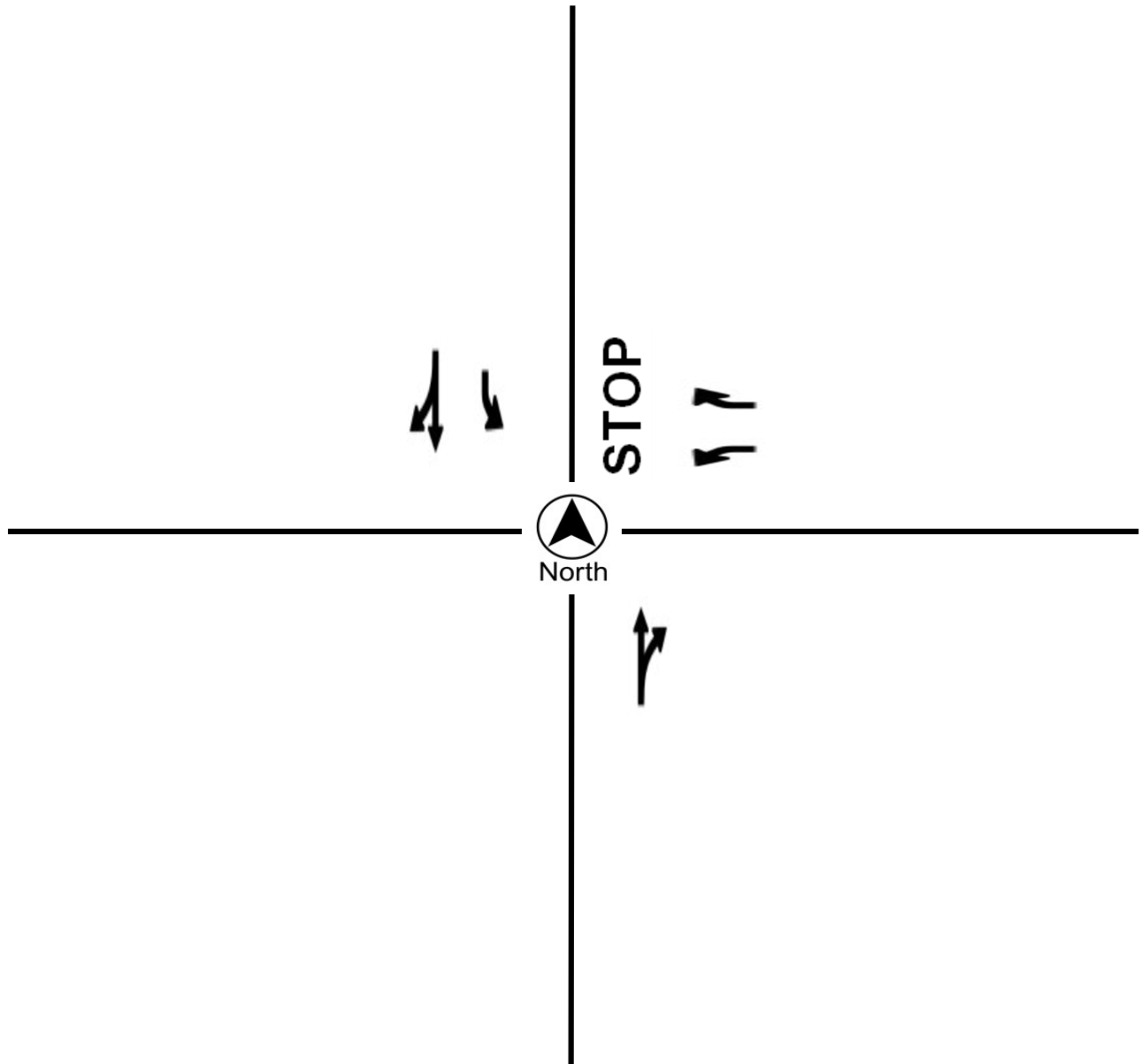
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Mountain Ranch Road / St. Charles Street (SR 49)
COUNTY Calaveras
COLLECTION DATE Tuesday, April 2, 2024
CYCLE TIME N/A

N/S STREET St. Charles Street (SR 49)
E/W STREET Mountain Ranch Rd /
WEATHER Clear
CONTROL TYPE One-way Stop

COMMENTS



APPENDIX B

INTERSECTION ANALYSIS SHEETS



PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	22	30	415	759	48
Future Vol, veh/h	33	22	30	415	759	48
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	38	26	35	483	883	56

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1465	912	939	0	-	0
Stage 1	911	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.17	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.263	-	-	-
Pot Cap-1 Maneuver	138	325	710	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	128	324	709	-	-	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v38.73		0.7	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	121	-	169	-	-
HCM Lane V/C Ratio	0.049	-	0.378	-	-
HCM Control Delay (s/veh)	10.3	0	38.7	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-

Warrant 3: Peak Hour

1: SR-49 & Pool Station Rd - Existing

Intersection Information:

	Major Street	Minor Street
Street Name	SR-49	Pool Station Rd
Direction	NB/SB	EB
Number of Lanes	1	1
Approach Speed	30	30

Warrant 3 Met? **Yes**

Details

Low Population? **Yes**

Condition A Met? **No**

Condition B Met? **Yes**

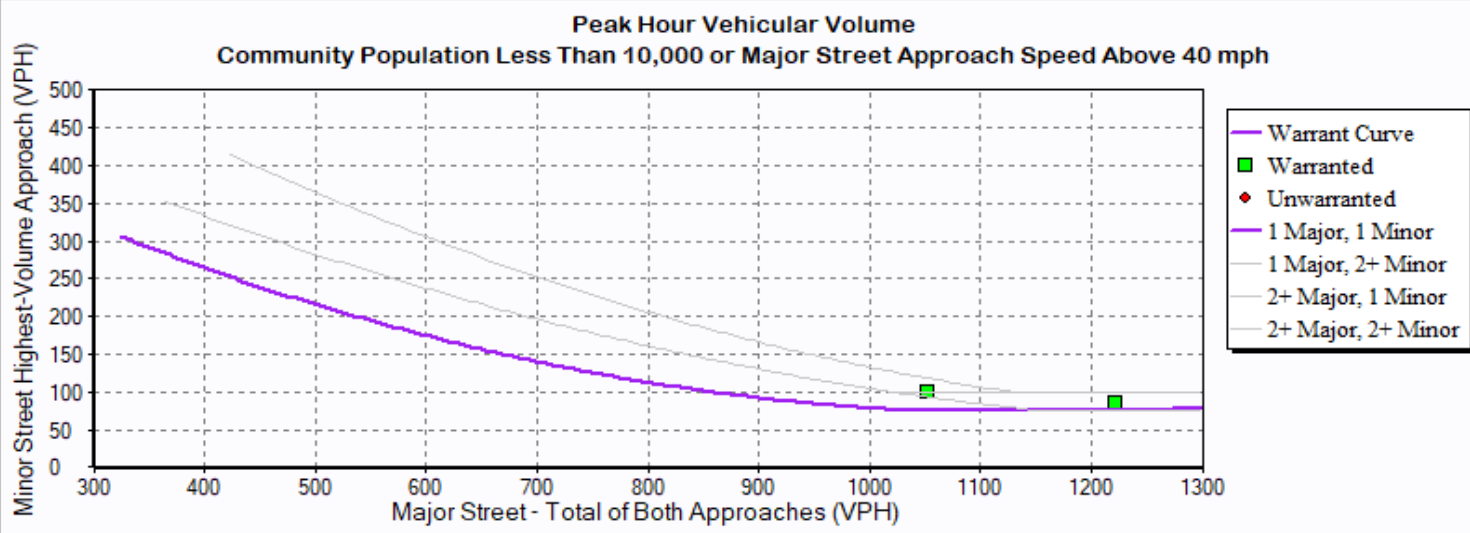
Notes 0 Hours met (1 required)

Notes 2 Hours met (1 required)

Minor Approach Time Delay Condition Met? **Not Met**

Minor Approach Volume Condition Met? **Met**

Total Entering Intersection Volume Condition Met? **Not Met**



Warrant 3: Peak Hour

1: SR-49 & Pool Station Rd - Existing

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:30	1,222	85
17:00	1,053	99

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	33	37	457	783	16
Future Vol, veh/h	14	33	37	457	783	16
Conflicting Peds, #/hr	3	3	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	16	38	42	519	890	18

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1508	905	911
Stage 1	902	-	-
Stage 2	606	-	-
Critical Hdwy	6.45	6.25	4.15
Critical Hdwy Stg 1	5.45	-	-
Critical Hdwy Stg 2	5.45	-	-
Follow-up Hdwy	3.545	3.345	2.245
Pot Cap-1 Maneuver	131	331	735
Stage 1	391	-	-
Stage 2	539	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	123	329	733
Mov Cap-2 Maneuver	252	-	-
Stage 1	368	-	-
Stage 2	537	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v19.48		0.76	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	733	-	302	-	-
HCM Lane V/C Ratio	0.057	-	0.177	-	-
HCM Control Delay (s/veh)	10.2	-	19.5	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Existing-AM
06/13/2024

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕					↕	↕		↕	↕	
Traffic Vol, veh/h	6	2	18	0	0	0	37	401	79	62	602	4
Future Vol, veh/h	6	2	18	0	0	0	37	401	79	62	602	4
Conflicting Peds, #/hr	11	0	11	11	0	11	11	0	11	11	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	6	2	19	0	0	0	40	431	85	67	647	4
Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1316	1400	671				663	0	0	527	0	0
Stage 1	794	794	-				-	-	-	-	-	-
Stage 2	522	607	-				-	-	-	-	-	-
Critical Hdwy	6.45	6.55	6.25				4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	5.45	5.55	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.55	-				-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345				2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	172	138	451				912	-	-	1025	-	-
Stage 1	440	396	-				-	-	-	-	-	-
Stage 2	589	482	-				-	-	-	-	-	-
Platoon blocked, %							-	-		-	-	
Mov Cap-1 Maneuver	150	0	442				902	-	-	1025	-	-
Mov Cap-2 Maneuver	150	0	-				-	-	-	-	-	-
Stage 1	416	0	-				-	-	-	-	-	-
Stage 2	545	0	-				-	-	-	-	-	-
Approach	EB						NB			SB		
HCM Control Delay, s/v18.36							0.66			0.81		
HCM LOS	C											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	902	-	-	297	1025	-	-					
HCM Lane V/C Ratio	0.044	-	-	0.094	0.065	-	-					
HCM Control Delay (s/veh)	9.2	-	-	18.4	8.8	-	-					
HCM Lane LOS	A	-	-	C	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	-	-					

4: SR-49 & Treat Ave
HCM 7th TWSC

Existing-AM
06/13/2024

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	37	468	18	20	585
Future Vol, veh/h	25	37	468	18	20	585
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	40	503	19	22	629
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1197	525	0	0	529	0
Stage 1	519	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	204	551	-	-	1033	-
Stage 1	595	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	198	544	-	-	1028	-
Mov Cap-2 Maneuver	333	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v	14.8	0		0.28		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	434	1028	-	
HCM Lane V/C Ratio	-	-	0.154	0.021	-	
HCM Control Delay (s/veh)	-	-	14.8	8.6	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-	

6: SR-49 & Mountain Ranch Rd
HCM 7th TWSC

Existing-AM
06/13/2024

Intersection						
Int Delay, s/veh	5.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	202	268	111	260	334
Future Vol, veh/h	53	202	268	111	260	334
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	55	210	279	116	271	348
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1229	339	0	0	396	0
Stage 1	338	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	194	697	-	-	1147	-
Stage 1	716	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	695	-	-	1146	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	302	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v18.82		0	3.99			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 148 695	1146	-		
HCM Lane V/C Ratio	-	- 0.374 0.303	0.236	-		
HCM Control Delay (s/veh)	-	- 43.3 12.4	9.1	-		
HCM Lane LOS	-	- E B	A	-		
HCM 95th %tile Q(veh)	-	- 1.6 1.3	0.9	-		

Warrant 3: Peak Hour

6: SR-49 & Mountain Ranch Rd - Existing

Intersection Information:

	Major Street	Minor Street
Street Name	SR-49	Mountain Ranch Rd
Direction	NB/SB	WB
Number of Lanes	2	2
Approach Speed	30	30

Warrant 3 Met? **Yes**

Details

Low Population? **Yes**

Condition A Met? **No**

Condition B Met? **Yes**

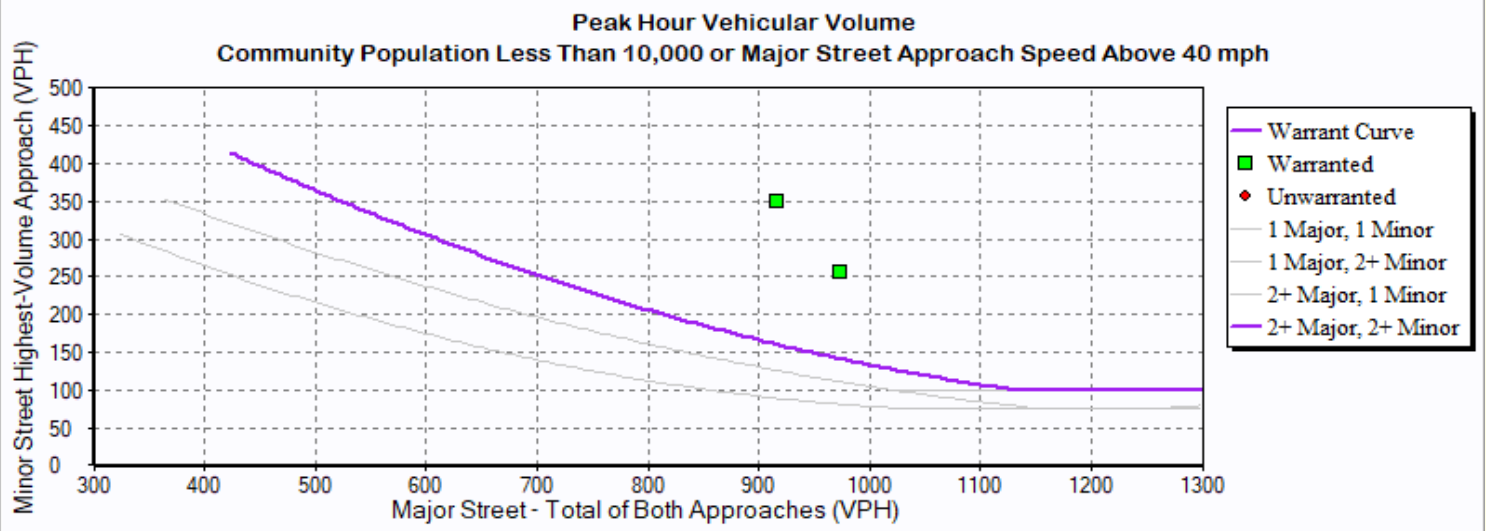
Notes 0 Hours met (1 required)

Notes 2 Hours met (1 required)

Minor Approach Time Delay Condition Met? **Not Met**

Minor Approach Volume Condition Met? **Met**

Total Entering Intersection Volume Condition Met? **Not Met**



Warrant 3: Peak Hour

6: SR-49 & Mountain Ranch Rd - Existing

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:30	973	255
17:30	917	349

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	26	17	562	453	38
Future Vol, veh/h	56	26	17	562	453	38
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	64	30	19	639	515	43
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1216	538	559	0	-	0
Stage 1	537	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	197	537	997	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	191	536	996	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v29.22		0.26		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	53	-	240	-	-	
HCM Lane V/C Ratio	0.019	-	0.388	-	-	
HCM Control Delay (s/veh)	8.7	0	29.2	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-	

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	45	41	574	485	21
Future Vol, veh/h	19	45	41	574	485	21
Conflicting Peds, #/hr	2	2	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	49	45	631	533	23
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1269	549	558	0	-	0
Stage 1	547	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	186	536	1013	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	177	534	1011	-	-	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	14.67	0.58		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1011	-	442	-	-	
HCM Lane V/C Ratio	0.045	-	0.159	-	-	
HCM Control Delay (s/veh)	8.7	-	14.7	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-	

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Existing-PM
06/13/2024

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	2	30	0	0	0	23	588	43	29	515	3
Future Vol, veh/h	4	2	30	0	0	0	23	588	43	29	515	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	33	0	0	0	25	639	47	32	560	3
Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1334	1380	581				573	0	0	696	0	0
Stage 1	634	634	-				-	-	-	-	-	-
Stage 2	699	746	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	170	144	513				1000	-	-	900	-	-
Stage 1	528	473	-				-	-	-	-	-	-
Stage 2	493	421	-				-	-	-	-	-	-
Platoon blocked, %							-	-		-	-	
Mov Cap-1 Maneuver	157	0	504				990	-	-	900	-	-
Mov Cap-2 Maneuver	157	0	-				-	-	-	-	-	-
Stage 1	510	0	-				-	-	-	-	-	-
Stage 2	471	0	-				-	-	-	-	-	-
Approach	EB						NB			SB		
HCM Control Delay, s/v14.99							0.31			0.48		
HCM LOS	B											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	990	-	-	399	900	-	-					
HCM Lane V/C Ratio	0.025	-	-	0.098	0.035	-	-					
HCM Control Delay (s/veh)	8.7	-	-	15	9.1	-	-					
HCM Lane LOS	A	-	-	B	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	-	-					

4: SR-49 & Treat Ave
HCM 7th TWSC

Existing-PM
06/13/2024

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	47	595	19	46	525
Future Vol, veh/h	23	47	595	19	46	525
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	53	676	22	52	597
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1400	699	0	0	704	0
Stage 1	693	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	155	440	-	-	894	-
Stage 1	496	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	144	435	-	-	889	-
Mov Cap-2 Maneuver	282	-	-	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v	17.41	0		0.75		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	369	889	-	
HCM Lane V/C Ratio	-	-	0.215	0.059	-	
HCM Control Delay (s/veh)	-	-	17.4	9.3	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.8	0.2	-	

Intersection

Int Delay, s/veh 9.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	102	247	321	64	195	337
Future Vol, veh/h	102	247	321	64	195	337
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	274	357	71	217	374

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1202	394	0
Stage 1	393	-	-
Stage 2	809	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	204	655	-
Stage 1	682	-	-
Stage 2	438	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	164	654	-
Mov Cap-2 Maneuver	164	-	-
Stage 1	681	-	-
Stage 2	354	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	29.21	0	3.28
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	164	654	1130	-
HCM Lane V/C Ratio	-	-	0.689	0.42	0.192	-
HCM Control Delay (s/veh)	-	-	65	14.4	8.9	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	4.1	2.1	0.7	-

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations						
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Traffic Vol, veh/h	33	22	30	424	771	48
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Future Vol, veh/h	33	22	30	424	771	48
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Conflicting Peds, #/hr	1	1	1	0	0	1
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Sign Control	Stop	Stop	Free	Free	Free	Free
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RT Channelized	-	None	-	None	-	None
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Storage Length	0	-	-	-	-	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	86	86	86	86	86	86
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Heavy Vehicles, %	7	7	7	7	7	7
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Mvmt Flow	38	26	35	493	897	56
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Major/Minor	Minor2	Major1	Major2
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Conflicting Flow All	1489	926	953
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Stage 1	925	-	-
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Stage 2	564	-	-
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Critical Hdwy	6.47	6.27	4.17
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Critical Hdwy Stg 1	5.47	-	-
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Critical Hdwy Stg 2	5.47	-	-
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Follow-up Hdwy	3.563	3.363	2.263
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Pot Cap-1 Maneuver	133	319	701
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Stage 1	378	-	-
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Stage 2	560	-	-
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Platoon blocked, %			
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Mov Cap-1 Maneuver	124	318	700
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Mov Cap-2 Maneuver	124	-	-
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Stage 1	352	-	-
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Stage 2	559	-	-
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Approach	EB	NB	SB
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HCM Control Delay, s/v40.48		0.69	0
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HCM LOS	E		
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Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
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Capacity (veh/h)	119	-	164	-	-
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HCM Lane V/C Ratio	0.05	-	0.391	-	-
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HCM Control Delay (s/veh)	10.4	0	40.5	-	-
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HCM Lane LOS	B	A	E	-	-
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HCM 95th %tile Q(veh)	0.2	-	1.7	-	-
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Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	35	38	466	795	16
Future Vol, veh/h	14	35	38	466	795	16
Conflicting Peds, #/hr	3	3	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	16	40	43	530	903	18

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1534	919	925
Stage 1	916	-	-
Stage 2	619	-	-
Critical Hdwy	6.45	6.25	4.15
Critical Hdwy Stg 1	5.45	-	-
Critical Hdwy Stg 2	5.45	-	-
Follow-up Hdwy	3.545	3.345	2.245
Pot Cap-1 Maneuver	126	325	727
Stage 1	385	-	-
Stage 2	531	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	118	323	725
Mov Cap-2 Maneuver	247	-	-
Stage 1	361	-	-
Stage 2	530	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	19.9	0.78	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	725	-	297	-	-
HCM Lane V/C Ratio	0.06	-	0.188	-	-
HCM Control Delay (s/veh)	10.3	-	19.9	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Existing Plus Project-AM
06/13/2024

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕		↕	↕	
Traffic Vol, veh/h	6	2	20	0	0	0	38	411	81	62	616	4
Future Vol, veh/h	6	2	20	0	0	0	38	411	81	62	616	4
Conflicting Peds, #/hr	11	0	11	11	0	11	11	0	11	11	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	6	2	22	0	0	0	41	442	87	67	662	4

Major/Minor	Minor2			Major1		Major2			
Conflicting Flow All	1344	1431	687	678	0	0	540	0	0
Stage 1	809	809	-	-	-	-	-	-	-
Stage 2	535	622	-	-	-	-	-	-	-
Critical Hdwy	6.45	6.55	6.25	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	5.45	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	165	133	442	900	-	-	1013	-	-
Stage 1	433	389	-	-	-	-	-	-	-
Stage 2	581	474	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	144	0	433	891	-	-	1013	-	-
Mov Cap-2 Maneuver	144	0	-	-	-	-	-	-	-
Stage 1	409	0	-	-	-	-	-	-	-
Stage 2	537	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v18.54		0.66	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	891	-	-	296	1013	-	-
HCM Lane V/C Ratio	0.046	-	-	0.102	0.066	-	-
HCM Control Delay (s/veh)	9.2	-	-	18.5	8.8	-	-
HCM Lane LOS	A	-	-	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	-	-

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	37	481	18	20	601
Future Vol, veh/h	26	37	481	18	20	601
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	28	40	517	19	22	646
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1228	539	0	0	543	0
Stage 1	533	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	196	541	-	-	1021	-
Stage 1	587	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	189	534	-	-	1015	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v15.14		0		0.28		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	423	1015	-	
HCM Lane V/C Ratio	-	-	0.16	0.021	-	
HCM Control Delay (s/veh)	-	-	15.1	8.6	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	14	17	486	610	17
Future Vol, veh/h	13	14	17	486	610	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	15	18	528	663	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1238	672	682	0	-	0
Stage 1	672	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	194	456	911	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	456	911	-	-	-
Mov Cap-2 Maneuver	328	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v15.15		0.31		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	911	-	384	-	-	
HCM Lane V/C Ratio	0.02	-	0.076	-	-	
HCM Control Delay (s/veh)	9	-	15.2	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	204	283	111	261	347
Future Vol, veh/h	53	204	283	111	261	347
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	55	213	295	116	272	361

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1260	355	0	0	411
Stage 1	354	-	-	-	-
Stage 2	906	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245
Pot Cap-1 Maneuver	185	683	-	-	1131
Stage 1	704	-	-	-	-
Stage 2	389	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	141	681	-	-	1130
Mov Cap-2 Maneuver	141	-	-	-	-
Stage 1	703	-	-	-	-
Stage 2	295	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v19.59		0	3.95
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	141	681	1130
HCM Lane V/C Ratio	-	-	0.393	0.312	0.241
HCM Control Delay (s/veh)	-	-	46.3	12.7	9.2
HCM Lane LOS	-	-	E	B	A
HCM 95th %tile Q(veh)	-	-	1.7	1.3	0.9

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations						
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Traffic Vol, veh/h	56	26	17	573	466	38
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Future Vol, veh/h	56	26	17	573	466	38
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Conflicting Peds, #/hr	1	1	1	0	0	1
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Sign Control	Stop	Stop	Free	Free	Free	Free
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RT Channelized	-	None	-	None	-	None
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Storage Length	0	-	-	-	-	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	88	88	88	88	88	88
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Heavy Vehicles, %	5	5	5	5	5	5
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Mvmt Flow	64	30	19	651	530	43
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Major/Minor	Minor2	Major1	Major2
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Conflicting Flow All	1243	553	574
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Stage 1	552	-	-
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Stage 2	691	-	-
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Critical Hdwy	6.45	6.25	4.15
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Critical Hdwy Stg 1	5.45	-	-
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Critical Hdwy Stg 2	5.45	-	-
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Follow-up Hdwy	3.545	3.345	2.245
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Pot Cap-1 Maneuver	190	527	985
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Stage 1	571	-	-
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Stage 2	492	-	-
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Platoon blocked, %			
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Mov Cap-1 Maneuver	184	526	984
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Mov Cap-2 Maneuver	184	-	-
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Stage 1	553	-	-
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Stage 2	491	-	-
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Approach	EB	NB	SB
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HCM Control Delay, s/v30.65		0.25	0
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HCM LOS	D		
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Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
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Capacity (veh/h)	52	-	231	-	-
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HCM Lane V/C Ratio	0.02	-	0.403	-	-
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HCM Control Delay (s/veh)	8.7	0	30.7	-	-
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HCM Lane LOS	A	A	D	-	-
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HCM 95th %tile Q(veh)	0.1	-	1.8	-	-
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Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	47	43	585	498	21
Future Vol, veh/h	19	47	43	585	498	21
Conflicting Peds, #/hr	2	2	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	52	47	643	547	23

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1300	563	572	0	-	0
Stage 1	561	-	-	-	-	-
Stage 2	739	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	178	526	1000	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	169	524	999	-	-	-
Mov Cap-2 Maneuver	307	-	-	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	471	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v14.92		0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	999	-	435	-	-
HCM Lane V/C Ratio	0.047	-	0.167	-	-
HCM Control Delay (s/veh)	8.8	-	14.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Existing Plus Project-PM
06/13/2024

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕		↕	↕	
Traffic Vol, veh/h	4	2	32	0	0	0	24	601	45	29	530	3
Future Vol, veh/h	4	2	32	0	0	0	24	601	45	29	530	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	35	0	0	0	26	653	49	32	576	3

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1366	1415	598	589	0	0	712	0	0
Stage 1	651	651	-	-	-	-	-	-	-
Stage 2	715	764	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	162	137	502	986	-	-	888	-	-
Stage 1	519	465	-	-	-	-	-	-	-
Stage 2	484	413	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	149	0	493	977	-	-	888	-	-
Mov Cap-2 Maneuver	149	0	-	-	-	-	-	-	-
Stage 1	500	0	-	-	-	-	-	-	-
Stage 2	463	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v15.25		0.31	0.48
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	977	-	-	393	888	-	-
HCM Lane V/C Ratio	0.027	-	-	0.105	0.036	-	-
HCM Control Delay (s/veh)	8.8	-	-	15.2	9.2	-	-
HCM Lane LOS	A	-	-	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	-	-

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	47	611	19	46	542
Future Vol, veh/h	24	47	611	19	46	542
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	53	694	22	52	616

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1438	717	0	0	722
Stage 1	711	-	-	-	-
Stage 2	726	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	147	430	-	-	880
Stage 1	487	-	-	-	-
Stage 2	479	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	136	425	-	-	875
Mov Cap-2 Maneuver	274	-	-	-	-
Stage 1	484	-	-	-	-
Stage 2	448	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v17.94		0	0.73
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	358	875
HCM Lane V/C Ratio	-	-	0.225	0.06
HCM Control Delay (s/veh)	-	-	17.9	9.4
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	16	19	614	546	18
Future Vol, veh/h	16	16	19	614	546	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	17	21	667	593	20

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1312	603	613	0	-	0
Stage 1	603	-	-	-	-	-
Stage 2	709	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	175	499	966	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	171	499	966	-	-	-
Mov Cap-2 Maneuver	311	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v15.34		0.26	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	966	-	383	-	-
HCM Lane V/C Ratio	0.021	-	0.091	-	-
HCM Control Delay (s/veh)	8.8	-	15.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection						
Int Delay, s/veh	10					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	102	249	338	64	197	351
Future Vol, veh/h	102	249	338	64	197	351
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	277	376	71	219	390
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1241	413	0	0	448	0
Stage 1	412	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	193	639	-	-	1113	-
Stage 1	668	-	-	-	-	-
Stage 2	429	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	638	-	-	1112	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v32.13		0	3.25			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 155 638	1112	-		
HCM Lane V/C Ratio	-	- 0.732 0.434	0.197	-		
HCM Control Delay (s/veh)	-	- 74.2 14.9	9	-		
HCM Lane LOS	-	- F B	A	-		
HCM 95th %tile Q(veh)	-	- 4.4 2.2	0.7	-		

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	22	30	420	761	48
Future Vol, veh/h	33	22	30	420	761	48
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	38	26	35	488	885	56
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1473	915	942	0	-	0
Stage 1	914	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.17	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.263	-	-	-
Pot Cap-1 Maneuver	136	324	708	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	127	323	707	-	-	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	357	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	39.26	0.69		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	120	-	167	-	-	
HCM Lane V/C Ratio	0.049	-	0.382	-	-	
HCM Control Delay (s/veh)	10.4	0	39.3	-	-	
HCM Lane LOS	B	A	E	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-	

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	33	37	462	785	16
Future Vol, veh/h	14	33	37	462	785	16
Conflicting Peds, #/hr	3	3	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	16	38	42	525	892	18

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1516	907	913
Stage 1	904	-	-
Stage 2	612	-	-
Critical Hdwy	6.45	6.25	4.15
Critical Hdwy Stg 1	5.45	-	-
Critical Hdwy Stg 2	5.45	-	-
Follow-up Hdwy	3.545	3.345	2.245
Pot Cap-1 Maneuver	129	330	734
Stage 1	390	-	-
Stage 2	535	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	121	328	732
Mov Cap-2 Maneuver	251	-	-
Stage 1	367	-	-
Stage 2	534	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v19.55		0.76	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	732	-	301	-	-
HCM Lane V/C Ratio	0.057	-	0.178	-	-
HCM Control Delay (s/veh)	10.2	-	19.6	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Existing Plus Approved Projects-AM

06/13/2024

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔					↔↕	↔↕		↔↕	↔↕	
Traffic Vol, veh/h	6	2	18	0	0	0	37	402	79	63	603	4
Future Vol, veh/h	6	2	18	0	0	0	37	402	79	63	603	4
Conflicting Peds, #/hr	11	0	11	11	0	11	11	0	11	11	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	6	2	19	0	0	0	40	432	85	68	648	4
Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1320	1405	673				664	0	0	528	0	0
Stage 1	797	797	-				-	-	-	-	-	-
Stage 2	523	608	-				-	-	-	-	-	-
Critical Hdwy	6.45	6.55	6.25				4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	5.45	5.55	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.55	-				-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345				2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	171	137	450				911	-	-	1024	-	-
Stage 1	439	394	-				-	-	-	-	-	-
Stage 2	589	481	-				-	-	-	-	-	-
Platoon blocked, %							-	-		-	-	
Mov Cap-1 Maneuver	149	0	441				902	-	-	1024	-	-
Mov Cap-2 Maneuver	149	0	-				-	-	-	-	-	-
Stage 1	415	0	-				-	-	-	-	-	-
Stage 2	544	0	-				-	-	-	-	-	-
Approach	EB						NB			SB		
HCM Control Delay, s/v18.43							0.66			0.82		
HCM LOS	C											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	902	-	-	296	1024	-	-					
HCM Lane V/C Ratio	0.044	-	-	0.094	0.066	-	-					
HCM Control Delay (s/veh)	9.2	-	-	18.4	8.8	-	-					
HCM Lane LOS	A	-	-	C	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	-	-					

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	38	468	19	21	585
Future Vol, veh/h	29	38	468	19	21	585
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	31	41	503	20	23	629
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1200	525	0	0	530	0
Stage 1	519	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	204	550	-	-	1033	-
Stage 1	595	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	197	544	-	-	1027	-
Mov Cap-2 Maneuver	332	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v15.15		0		0.3		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	427	1027	-	
HCM Lane V/C Ratio	-	-	0.169	0.022	-	
HCM Control Delay (s/veh)	-	-	15.1	8.6	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Intersection						
Int Delay, s/veh	5.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	202	269	111	260	338
Future Vol, veh/h	53	202	269	111	260	338
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	55	210	280	116	271	352
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1234	340	0	0	397	0
Stage 1	339	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	192	696	-	-	1146	-
Stage 1	715	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	147	694	-	-	1145	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v18.92		0	3.96			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 147 694	1145	-		
HCM Lane V/C Ratio	-	- 0.377 0.303	0.237	-		
HCM Control Delay (s/veh)	-	- 43.7 12.4	9.1	-		
HCM Lane LOS	-	- E B	A	-		
HCM 95th %tile Q(veh)	-	- 1.6 1.3	0.9	-		

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	26	17	565	458	38
Future Vol, veh/h	56	26	17	565	458	38
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	64	30	19	642	520	43
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1225	544	565	0	-	0
Stage 1	543	-	-	-	-	-
Stage 2	682	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	195	533	992	-	-	-
Stage 1	576	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	189	532	991	-	-	-
Mov Cap-2 Maneuver	189	-	-	-	-	-
Stage 1	558	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	29.69	0.25		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	53	-	237	-	-	
HCM Lane V/C Ratio	0.019	-	0.393	-	-	
HCM Control Delay (s/veh)	8.7	0	29.7	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.8	-	-	

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	45	41	577	490	21
Future Vol, veh/h	19	45	41	577	490	21
Conflicting Peds, #/hr	2	2	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	49	45	634	538	23

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1278	554	564
Stage 1	552	-	-
Stage 2	726	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	183	532	1008
Stage 1	577	-	-
Stage 2	479	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	175	530	1006
Mov Cap-2 Maneuver	312	-	-
Stage 1	550	-	-
Stage 2	478	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v14.75		0.58	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1006	-	439	-	-
HCM Lane V/C Ratio	0.045	-	0.16	-	-
HCM Control Delay (s/veh)	8.7	-	14.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Existing Plus Approved Projects-PM

06/13/2024

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	2	30	0	0	0	23	590	43	32	517	3
Future Vol, veh/h	4	2	30	0	0	0	23	590	43	32	517	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	33	0	0	0	25	641	47	35	562	3
Major/Minor	Minor2						Major1		Major2			
Conflicting Flow All	1344	1391	584				575	0	0	698	0	0
Stage 1	643	643	-				-	-	-	-	-	-
Stage 2	701	748	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	167	142	512				998	-	-	898	-	-
Stage 1	523	468	-				-	-	-	-	-	-
Stage 2	492	420	-				-	-	-	-	-	-
Platoon blocked, %							-	-				
Mov Cap-1 Maneuver	154	0	502				988	-	-	898	-	-
Mov Cap-2 Maneuver	154	0	-				-	-	-	-	-	-
Stage 1	505	0	-				-	-	-	-	-	-
Stage 2	468	0	-				-	-	-	-	-	-
Approach	EB						NB		SB			
HCM Control Delay, s/v15.07							0.31		0.53			
HCM LOS	C											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	988	-	-	396	898	-	-					
HCM Lane V/C Ratio	0.025	-	-	0.099	0.039	-	-					
HCM Control Delay (s/veh)	8.7	-	-	15.1	9.2	-	-					
HCM Lane LOS	A	-	-	C	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	-	-					

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	49	595	24	48	525
Future Vol, veh/h	26	49	595	24	48	525
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	56	676	27	55	597
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1407	702	0	0	709	0
Stage 1	696	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	153	438	-	-	890	-
Stage 1	495	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	142	433	-	-	885	-
Mov Cap-2 Maneuver	280	-	-	-	-	-
Stage 1	492	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v	17.88	0		0.78		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	364	885	-	
HCM Lane V/C Ratio	-	-	0.234	0.062	-	
HCM Control Delay (s/veh)	-	-	17.9	9.3	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-	

Intersection						
Int Delay, s/veh	9.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	102	247	326	64	195	340
Future Vol, veh/h	102	247	326	64	195	340
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	274	362	71	217	378
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1211	400	0	0	434	0
Stage 1	399	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	201	650	-	-	1125	-
Stage 1	678	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	649	-	-	1124	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v29.85		0	3.27			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 162 649	1124	-		
HCM Lane V/C Ratio	-	- 0.698 0.423	0.193	-		
HCM Control Delay (s/veh)	-	- 66.9 14.6	9	-		
HCM Lane LOS	-	- F B	A	-		
HCM 95th %tile Q(veh)	-	- 4.1 2.1	0.7	-		

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	22	30	429	773	48
Future Vol, veh/h	33	22	30	429	773	48
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	38	26	35	499	899	56
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1497	929	956	0	-	0
Stage 1	928	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.17	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.263	-	-	-
Pot Cap-1 Maneuver	131	318	700	-	-	-
Stage 1	377	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	122	317	699	-	-	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	351	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	41.05	0.68		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	118	-	162	-	-	
HCM Lane V/C Ratio	0.05	-	0.395	-	-	
HCM Control Delay (s/veh)	10.4	0	41.1	-	-	
HCM Lane LOS	B	A	E	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.7	-	-	

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	35	38	471	797	16
Future Vol, veh/h	14	35	38	471	797	16
Conflicting Peds, #/hr	3	3	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	16	40	43	535	906	18

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1542	921	927
Stage 1	918	-	-
Stage 2	625	-	-
Critical Hdwy	6.45	6.25	4.15
Critical Hdwy Stg 1	5.45	-	-
Critical Hdwy Stg 2	5.45	-	-
Follow-up Hdwy	3.545	3.345	2.245
Pot Cap-1 Maneuver	125	324	725
Stage 1	384	-	-
Stage 2	528	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	116	322	723
Mov Cap-2 Maneuver	246	-	-
Stage 1	360	-	-
Stage 2	527	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v19.97		0.77	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	723	-	296	-	-
HCM Lane V/C Ratio	0.06	-	0.188	-	-
HCM Control Delay (s/veh)	10.3	-	20	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔					↔↕	↔↕		↔↕	↔↕	
Traffic Vol, veh/h	6	2	20	0	0	0	38	412	81	63	617	4
Future Vol, veh/h	6	2	20	0	0	0	38	412	81	63	617	4
Conflicting Peds, #/hr	11	0	11	11	0	11	11	0	11	11	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	6	2	22	0	0	0	41	443	87	68	663	4
Major/Minor	Minor2						Major1		Major2			
Conflicting Flow All	1348	1435	688				679	0	0	541	0	0
Stage 1	812	812	-				-	-	-	-	-	-
Stage 2	536	623	-				-	-	-	-	-	-
Critical Hdwy	6.45	6.55	6.25				4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	5.45	5.55	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.55	-				-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345				2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	164	132	441				899	-	-	1013	-	-
Stage 1	431	388	-				-	-	-	-	-	-
Stage 2	581	474	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	143	0	432				890	-	-	1013	-	-
Mov Cap-2 Maneuver	143	0	-				-	-	-	-	-	-
Stage 1	407	0	-				-	-	-	-	-	-
Stage 2	536	0	-				-	-	-	-	-	-
Approach	EB						NB		SB			
HCM Control Delay, s/v18.61							0.66		0.81			
HCM LOS	C											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	890	-	-	295	1013	-	-					
HCM Lane V/C Ratio	0.046	-	-	0.102	0.067	-	-					
HCM Control Delay (s/veh)	9.2	-	-	18.6	8.8	-	-					
HCM Lane LOS	A	-	-	C	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	-	-					

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	38	481	19	21	601
Future Vol, veh/h	30	38	481	19	21	601
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	32	41	517	20	23	646
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1231	539	0	0	544	0
Stage 1	533	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	195	540	-	-	1020	-
Stage 1	586	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	188	534	-	-	1014	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	15.5	0	0.29			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	416	1014	-	
HCM Lane V/C Ratio	-	-	0.176	0.022	-	
HCM Control Delay (s/veh)	-	-	15.5	8.6	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	14	17	487	614	17
Future Vol, veh/h	13	14	17	487	614	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	15	18	529	667	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1243	677	686	0	-	0
Stage 1	677	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	193	453	908	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	189	453	908	-	-	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	495	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v15.21		0.31		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	908	-	382	-	-	
HCM Lane V/C Ratio	0.02	-	0.077	-	-	
HCM Control Delay (s/veh)	9	-	15.2	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	204	284	111	261	351
Future Vol, veh/h	53	204	284	111	261	351
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	55	213	296	116	272	366
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1265	356	0	0	412	0
Stage 1	355	-	-	-	-	-
Stage 2	910	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	184	682	-	-	1130	-
Stage 1	703	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	140	680	-	-	1129	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	294	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	19.7	0	3.92			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 140 680 1129	-			
HCM Lane V/C Ratio	-	- 0.396 0.312 0.241	-			
HCM Control Delay (s/veh)	-	- 46.8 12.7 9.2	-			
HCM Lane LOS	-	- E B A	-			
HCM 95th %tile Q(veh)	-	- 1.7 1.3 0.9	-			

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	26	17	576	471	38
Future Vol, veh/h	56	26	17	576	471	38
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	64	30	19	655	535	43
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1252	559	579	0	-	0
Stage 1	558	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	188	523	980	-	-	-
Stage 1	567	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	181	522	979	-	-	-
Mov Cap-2 Maneuver	181	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	31.16	0.25		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	52	-	229	-	-	
HCM Lane V/C Ratio	0.02	-	0.407	-	-	
HCM Control Delay (s/veh)	8.8	0	31.2	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.9	-	-	

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	47	43	588	503	21
Future Vol, veh/h	19	47	43	588	503	21
Conflicting Peds, #/hr	2	2	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	52	47	646	553	23
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1309	568	578	0	-	0
Stage 1	566	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	176	522	996	-	-	-
Stage 1	568	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	167	520	994	-	-	-
Mov Cap-2 Maneuver	305	-	-	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	15	0.6		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	994	-	432	-	-	
HCM Lane V/C Ratio	0.048	-	0.168	-	-	
HCM Control Delay (s/veh)	8.8	-	15	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-	

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕		↕	↕	
Traffic Vol, veh/h	4	2	32	0	0	0	24	603	45	32	532	3
Future Vol, veh/h	4	2	32	0	0	0	24	603	45	32	532	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	35	0	0	0	26	655	49	35	578	3

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1377	1426	600	592	0	0	714	0	0
Stage 1	659	659	-	-	-	-	-	-	-
Stage 2	718	767	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	160	135	501	984	-	-	886	-	-
Stage 1	514	460	-	-	-	-	-	-	-
Stage 2	483	412	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	147	0	491	975	-	-	886	-	-
Mov Cap-2 Maneuver	147	0	-	-	-	-	-	-	-
Stage 1	496	0	-	-	-	-	-	-	-
Stage 2	460	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v15.33		0.31	0.52
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	975	-	-	390	886	-	-
HCM Lane V/C Ratio	0.027	-	-	0.106	0.039	-	-
HCM Control Delay (s/veh)	8.8	-	-	15.3	9.2	-	-
HCM Lane LOS	A	-	-	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.1	-	-

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	49	611	24	48	542
Future Vol, veh/h	27	49	611	24	48	542
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	56	694	27	55	616
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1445	720	0	0	728	0
Stage 1	714	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	145	428	-	-	876	-
Stage 1	485	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	135	423	-	-	871	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v	18.44	0		0.77		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	354	871	-	
HCM Lane V/C Ratio	-	-	0.244	0.063	-	
HCM Control Delay (s/veh)	-	-	18.4	9.4	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-	

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	16	19	619	549	18
Future Vol, veh/h	16	16	19	619	549	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	17	21	673	597	20
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1321	607	616	0	-	0
Stage 1	607	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	173	497	964	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	169	497	964	-	-	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	15.4	0.26		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	964	-	381	-	-	
HCM Lane V/C Ratio	0.021	-	0.091	-	-	
HCM Control Delay (s/veh)	8.8	-	15.4	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection						
Int Delay, s/veh	10.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	102	249	343	64	197	354
Future Vol, veh/h	102	249	343	64	197	354
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	277	381	71	219	393
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1250	419	0	0	453	0
Stage 1	418	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	191	634	-	-	1107	-
Stage 1	665	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	153	633	-	-	1106	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v32.89		0	3.24			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 153 633 1106	-	-		
HCM Lane V/C Ratio	-	- 0.742 0.437 0.198	-	-		
HCM Control Delay (s/veh)	-	- 76.5 15 9.1	-	-		
HCM Lane LOS	-	- F C A	-	-		
HCM 95th %tile Q(veh)	-	- 4.5 2.2 0.7	-	-		

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	27	37	511	935	59
Future Vol, veh/h	41	27	37	511	935	59
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	47	31	42	581	1063	67
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1763	1098	1131	0	-	0
Stage 1	1097	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.17	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.263	-	-	-
Pot Cap-1 Maneuver	90	253	600	-	-	-
Stage 1	313	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	80	252	599	-	-	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	280	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v92.12		0.77		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	122	-	110	-	-	
HCM Lane V/C Ratio	0.07	-	0.701	-	-	
HCM Control Delay (s/veh)	11.5	0	92.1	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0.2	-	3.7	-	-	

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	41	46	563	965	20
Future Vol, veh/h	17	41	46	563	965	20
Conflicting Peds, #/hr	3	3	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	19	47	52	640	1097	23

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1858	1114	1122	0	-	0
Stage 1	1111	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	79	250	611	-	-	-
Stage 1	311	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	72	248	610	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	461	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v27.06		0.87	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	610	-	228	-	-
HCM Lane V/C Ratio	0.086	-	0.289	-	-
HCM Control Delay (s/veh)	11.5	-	27.1	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.3	-	1.2	-	-

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Cumulative 20 Year No Project-AM
06/13/2024

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕		↕	↕	
Traffic Vol, veh/h	7	2	22	0	0	0	46	494	97	76	742	5
Future Vol, veh/h	7	2	22	0	0	0	46	494	97	76	742	5
Conflicting Peds, #/hr	11	0	11	11	0	11	11	0	11	11	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	8	2	24	0	0	0	49	531	104	82	798	5

Major/Minor	Minor2			Major1		Major2			
Conflicting Flow All	1616	1720	823	814	0	0	646	0	0
Stage 1	975	975	-	-	-	-	-	-	-
Stage 2	641	745	-	-	-	-	-	-	-
Critical Hdwy	6.45	6.55	6.25	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	5.45	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	112	88	369	800	-	-	925	-	-
Stage 1	361	326	-	-	-	-	-	-	-
Stage 2	519	416	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	94	0	361	792	-	-	925	-	-
Mov Cap-2 Maneuver	94	0	-	-	-	-	-	-	-
Stage 1	335	0	-	-	-	-	-	-	-
Stage 2	468	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v24.89		0.71	0.86
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	792	-	-	214	925	-	-
HCM Lane V/C Ratio	0.062	-	-	0.156	0.088	-	-
HCM Control Delay (s/veh)	9.9	-	-	24.9	9.3	-	-
HCM Lane LOS	A	-	-	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.3	-	-

Intersection

Int Delay, s/veh 1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	46	577	22	25	721
Future Vol, veh/h	31	46	577	22	25	721
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	33	49	620	24	27	775

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1473	644	0
Stage 1	638	-	-
Stage 2	835	-	-
Critical Hdwy	6.43	6.23	-
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	-
Pot Cap-1 Maneuver	139	471	-
Stage 1	524	-	-
Stage 2	424	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	133	466	-
Mov Cap-2 Maneuver	269	-	-
Stage 1	521	-	-
Stage 2	409	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v17.98		0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	360	926
HCM Lane V/C Ratio	-	-	0.23	0.029
HCM Control Delay (s/veh)	-	-	18	9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

6: SR-49 & Mountain Ranch Rd
HCM 7th TWSC

Cumulative 20 Year No Project-AM
06/13/2024

Intersection						
Int Delay, s/veh	9.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	249	330	137	320	412
Future Vol, veh/h	65	249	330	137	320	412
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	68	259	344	143	333	429
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1513	417	0	0	487	0
Stage 1	416	-	-	-	-	-
Stage 2	1097	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	130	629	-	-	1060	-
Stage 1	659	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	628	-	-	1059	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	216	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	36.81	0	4.35			
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	89	628	1059	-
HCM Lane V/C Ratio	-	-	0.762	0.413	0.315	-
HCM Control Delay (s/veh)	-	-	121.5	14.7	10	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	3.9	2	1.4	-

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	32	21	693	558	47
Future Vol, veh/h	69	32	21	693	558	47
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	78	36	24	788	634	53

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1498	663	689	0	-	0
Stage 1	662	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	133	456	892	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	126	455	891	-	-	-
Mov Cap-2 Maneuver	126	-	-	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	420	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v66.93		0.27	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	53	-	164	-	-
HCM Lane V/C Ratio	0.027	-	0.702	-	-
HCM Control Delay (s/veh)	9.2	0	66.9	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	4.2	-	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	55	51	707	598	26
Future Vol, veh/h	23	55	51	707	598	26
Conflicting Peds, #/hr	2	2	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	60	56	777	657	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1564	675	688	0	-	0
Stage 1	673	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	123	454	906	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	115	452	905	-	-	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	474	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	17.87	0.62	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	905	-	365	-	-
HCM Lane V/C Ratio	0.062	-	0.235	-	-
HCM Control Delay (s/veh)	9.2	-	17.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Cumulative 20 Year No Project-PM
06/13/2024

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕		↕	↕	
Traffic Vol, veh/h	5	2	37	0	0	0	28	725	53	36	635	4
Future Vol, veh/h	5	2	37	0	0	0	28	725	53	36	635	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	2	40	0	0	0	30	788	58	39	690	4

Major/Minor	Minor2			Major1			Major2			
Conflicting Flow All	1640	1697	712		705	0	0	856	0	0
Stage 1	781	781	-		-	-	-	-	-	-
Stage 2	859	917	-		-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22		4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-		-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-		-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318		2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	110	92	432		893	-	-	784	-	-
Stage 1	452	405	-		-	-	-	-	-	-
Stage 2	415	351	-		-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	99	0	424		885	-	-	784	-	-
Mov Cap-2 Maneuver	99	0	-		-	-	-	-	-	-
Stage 1	432	0	-		-	-	-	-	-	-
Stage 2	390	0	-		-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v18.98		0.32	0.52
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	885	-	-	305	784	-	-
HCM Lane V/C Ratio	0.034	-	-	0.157	0.05	-	-
HCM Control Delay (s/veh)	9.2	-	-	19	9.8	-	-
HCM Lane LOS	A	-	-	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.2	-	-

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	58	733	24	57	647
Future Vol, veh/h	28	58	733	24	57	647
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	66	833	27	65	735
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1723	859	0	0	866	0
Stage 1	853	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	98	356	-	-	777	-
Stage 1	418	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	352	-	-	773	-
Mov Cap-2 Maneuver	220	-	-	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v23.19		0	0.82			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	294	773	-	
HCM Lane V/C Ratio	-	-	0.332	0.084	-	
HCM Control Delay (s/veh)	-	-	23.2	10.1	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1.4	0.3	-	

6: SR-49 & Mountain Ranch Rd
HCM 7th TWSC

Cumulative 20 Year No Project-PM
06/13/2024

Intersection						
Int Delay, s/veh	28.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	126	304	396	79	240	415
Future Vol, veh/h	126	304	396	79	240	415
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	338	440	88	267	461
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1480	486	0	0	529	0
Stage 1	485	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 138	581	-	-	1038	-
Stage 1	619	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 102	580	-	-	1037	-
Mov Cap-2 Maneuver	~ 102	-	-	-	-	-
Stage 1	619	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v99.08		0		3.54		
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	102	580	1037	-
HCM Lane V/C Ratio	-	-	1.366	0.582	0.257	-
HCM Control Delay (s/veh)	-	-	291.1	19.5	9.7	-
HCM Lane LOS	-	-	F	C	A	-
HCM 95th %tile Q(veh)	-	-	10	3.7	1	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	27	37	520	947	59
Future Vol, veh/h	41	27	37	520	947	59
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	47	31	42	591	1076	67
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1787	1112	1144	0	-	0
Stage 1	1111	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.17	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.263	-	-	-
Pot Cap-1 Maneuver	87	248	593	-	-	-
Stage 1	308	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	78	248	592	-	-	-
Mov Cap-2 Maneuver	78	-	-	-	-	-
Stage 1	275	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	98.71	0.77		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	120	-	107	-	-	
HCM Lane V/C Ratio	0.071	-	0.725	-	-	
HCM Control Delay (s/veh)	11.5	0	98.7	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0.2	-	3.9	-	-	

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	43	47	572	977	20
Future Vol, veh/h	17	43	47	572	977	20
Conflicting Peds, #/hr	3	3	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	19	49	53	650	1110	23
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1884	1128	1136	0	-	0
Stage 1	1125	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	76	245	604	-	-	-
Stage 1	306	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	69	244	602	-	-	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	278	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	27.89	0.88		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	602	-	224	-	-	
HCM Lane V/C Ratio	0.089	-	0.304	-	-	
HCM Control Delay (s/veh)	11.6	-	27.9	-	-	
HCM Lane LOS	B	-	D	-	-	
HCM 95th %tile Q(veh)	0.3	-	1.2	-	-	

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Cumulative 20 Year With Project-AM
06/13/2024

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	2	24	0	0	0	47	504	99	76	756	5
Future Vol, veh/h	7	2	24	0	0	0	47	504	99	76	756	5
Conflicting Peds, #/hr	11	0	11	11	0	11	11	0	11	11	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	8	2	26	0	0	0	51	542	106	82	813	5
Major/Minor	Minor2						Major1		Major2			
Conflicting Flow All	1644	1750	838				829	0	0	659	0	0
Stage 1	990	990	-				-	-	-	-	-	-
Stage 2	654	760	-				-	-	-	-	-	-
Critical Hdwy	6.45	6.55	6.25				4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	5.45	5.55	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.55	-				-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345				2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	108	84	362				790	-	-	915	-	-
Stage 1	355	321	-				-	-	-	-	-	-
Stage 2	512	410	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	90	0	354				781	-	-	915	-	-
Mov Cap-2 Maneuver	90	0	-				-	-	-	-	-	-
Stage 1	329	0	-				-	-	-	-	-	-
Stage 2	461	0	-				-	-	-	-	-	-
Approach	EB						NB		SB			
HCM Control Delay, s/v25.26							0.72		0.85			
HCM LOS	D											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	781	-	-	213	915	-	-					
HCM Lane V/C Ratio	0.065	-	-	0.167	0.089	-	-					
HCM Control Delay (s/veh)	9.9	-	-	25.3	9.3	-	-					
HCM Lane LOS	A	-	-	D	A	-	-					
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0.3	-	-					

4: SR-49 & Treat Ave
HCM 7th TWSC

Cumulative 20 Year With Project-AM
06/13/2024

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	46	590	22	25	737
Future Vol, veh/h	32	46	590	22	25	737
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	34	49	634	24	27	792
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1504	658	0	0	664	0
Stage 1	652	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	133	462	-	-	920	-
Stage 1	516	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	127	457	-	-	915	-
Mov Cap-2 Maneuver	263	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	18.46	0	0.3			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	351	915	-	
HCM Lane V/C Ratio	-	-	0.239	0.029	-	
HCM Control Delay (s/veh)	-	-	18.5	9.1	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-	

5: SR-49 & Site Access
HCM 7th TWSC

Cumulative 20 Year With Project-AM
06/13/2024

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	14	17	599	752	17
Future Vol, veh/h	13	14	17	599	752	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	15	18	651	817	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1515	827	836	0	-	0
Stage 1	827	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	132	372	798	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	129	372	798	-	-	-
Mov Cap-2 Maneuver	266	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	17.73	0.27		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	798	-	312	-	-	
HCM Lane V/C Ratio	0.023	-	0.094	-	-	
HCM Control Delay (s/veh)	9.6	-	17.7	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

6: SR-49 & Mountain Ranch Rd
HCM 7th TWSC

Cumulative 20 Year With Project-AM
06/13/2024

Intersection						
Int Delay, s/veh	10.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	251	345	137	321	425
Future Vol, veh/h	65	251	345	137	321	425
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	68	261	359	143	334	443
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1544	433	0	0	503	0
Stage 1	432	-	-	-	-	-
Stage 2	1112	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	124	617	-	-	1046	-
Stage 1	648	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	84	615	-	-	1045	-
Mov Cap-2 Maneuver	84	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	39.81	0	4.33			
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	84	615	1045	-
HCM Lane V/C Ratio	-	-	0.803	0.425	0.32	-
HCM Control Delay (s/veh)	-	-	135.2	15.1	10.1	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	4.1	2.1	1.4	-

Intersection						
Int Delay, s/veh	5.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	32	21	704	571	47
Future Vol, veh/h	69	32	21	704	571	47
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	78	36	24	800	649	53

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1525	678	703	0	-	0
Stage 1	677	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	128	447	881	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	121	446	880	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	475	-	-	-	-	-
Stage 2	414	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v72.73		0.27	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	52	-	158	-	-
HCM Lane V/C Ratio	0.027	-	0.729	-	-
HCM Control Delay (s/veh)	9.2	0	72.7	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	4.4	-	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	57	53	718	611	26
Future Vol, veh/h	23	57	53	718	611	26
Conflicting Peds, #/hr	2	2	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	63	58	789	671	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1595	690	702	0	-	0
Stage 1	688	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	117	445	895	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	109	444	894	-	-	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	466	-	-	-	-	-
Stage 2	393	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v18.24		0.64	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	894	-	359	-	-
HCM Lane V/C Ratio	0.065	-	0.245	-	-
HCM Control Delay (s/veh)	9.3	-	18.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

3: SR-49 & Church Hill Rd/Main St
HCM 7th TWSC

Cumulative 20 Year With Project-PM
06/13/2024

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕					↕	↕		↕	↕	
Traffic Vol, veh/h	5	2	39	0	0	0	29	738	55	36	650	4
Future Vol, veh/h	5	2	39	0	0	0	29	738	55	36	650	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	2	42	0	0	0	32	802	60	39	707	4
Major/Minor	Minor2						Major1		Major2			
Conflicting Flow All	1672	1732	729				721	0	0	872	0	0
Stage 1	797	797	-				-	-	-	-	-	-
Stage 2	875	935	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	105	88	423				881	-	-	773	-	-
Stage 1	444	399	-				-	-	-	-	-	-
Stage 2	408	344	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	95	0	415				873	-	-	773	-	-
Mov Cap-2 Maneuver	95	0	-				-	-	-	-	-	-
Stage 1	424	0	-				-	-	-	-	-	-
Stage 2	383	0	-				-	-	-	-	-	-
Approach	EB						NB		SB			
HCM Control Delay, s/v19.41							0.33		0.52			
HCM LOS	C											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	873	-	-	300	773	-	-					
HCM Lane V/C Ratio	0.036	-	-	0.167	0.051	-	-					
HCM Control Delay (s/veh)	9.3	-	-	19.4	9.9	-	-					
HCM Lane LOS	A	-	-	C	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.2	-	-					

4: SR-49 & Treat Ave
HCM 7th TWSC

Cumulative 20 Year With Project-PM

06/13/2024

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	58	749	24	57	664
Future Vol, veh/h	29	58	749	24	57	664
Conflicting Peds, #/hr	6	6	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	66	851	27	65	755
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1761	877	0	0	884	0
Stage 1	871	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	93	348	-	-	765	-
Stage 1	410	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	84	344	-	-	761	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v24.11		0		0.8		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	286	761	-	
HCM Lane V/C Ratio	-	-	0.346	0.085	-	
HCM Control Delay (s/veh)	-	-	24.1	10.2	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1.5	0.3	-	

5: SR-49 & Site Access
HCM 7th TWSC

Cumulative 20 Year With Project-PM
06/13/2024

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	16	19	757	673	18
Future Vol, veh/h	16	16	19	757	673	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	17	21	823	732	20

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1605	741	751	0	-	0
Stage 1	741	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	116	416	858	-	-	-
Stage 1	471	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	113	416	858	-	-	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v17.97		0.23	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	858	-	312	-	-
HCM Lane V/C Ratio	0.024	-	0.111	-	-
HCM Control Delay (s/veh)	9.3	-	18	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

6: SR-49 & Mountain Ranch Rd
HCM 7th TWSC

Cumulative 20 Year With Project-PM
06/13/2024

Intersection						
Int Delay, s/veh	31.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	126	306	413	79	242	429
Future Vol, veh/h	126	306	413	79	242	429
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	340	459	88	269	477
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1519	505	0	0	548	0
Stage 1	504	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 131	567	-	-	1022	-
Stage 1	607	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 96	566	-	-	1021	-
Mov Cap-2 Maneuver	~ 96	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	257	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v111.4		0		3.53		
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	96	566	1021	-
HCM Lane V/C Ratio	-	-	1.456	0.601	0.263	-
HCM Control Delay (s/veh)	-	-	\$ 332.3	20.5	9.8	-
HCM Lane LOS	-	-	F	C	A	-
HCM 95th %tile Q(veh)	-	-	10.5	4	1.1	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

APPENDIX C

IMPROVED INTERSECTION ANALYSIS SHEETS



PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

6: SR-49 & Mountain Ranch Rd
HCM 7th Signalized Intersection Summary

Existing Plus Project-AM-Improved

06/14/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	53	204	283	111	261	347
Future Volume (veh/h)	53	204	283	111	261	347
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	55	0	295	82	272	361
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	105		421	117	347	1155
Arrive On Green	0.06	0.00	0.31	0.31	0.20	0.63
Sat Flow, veh/h	1739	1547	1367	380	1739	1826
Grp Volume(v), veh/h	55	0	0	377	272	361
Grp Sat Flow(s),veh/h/ln	1739	1547	0	1747	1739	1826
Q Serve(g_s), s	1.0	0.0	0.0	6.1	4.7	2.9
Cycle Q Clear(g_c), s	1.0	0.0	0.0	6.1	4.7	2.9
Prop In Lane	1.00	1.00		0.22	1.00	
Lane Grp Cap(c), veh/h	105		0	537	347	1155
V/C Ratio(X)	0.52		0.00	0.70	0.78	0.31
Avail Cap(c_a), veh/h	980		0	996	545	1842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	9.8	12.1	2.7
Incr Delay (d2), s/veh	4.0	0.0	0.0	1.7	3.9	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.8	1.7	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	18.5	0.0	0.0	11.4	16.0	2.8
LnGrp LOS	B			B	B	A
Approach Vol, veh/h	55		377			633
Approach Delay, s/veh	18.5		11.4			8.5
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	10.4	14.7			25.1	6.8
Change Period (Y+Rc), s	4.0	4.9			4.9	4.9
Max Green Setting (Gmax), s	10.0	18.2			32.2	18.0
Max Q Clear Time (g_c+I1), s	6.7	8.1			4.9	3.0
Green Ext Time (p_c), s	0.3	1.7			2.3	0.1
Intersection Summary						
HCM 7th Control Delay, s/veh			10.1			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.						

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	55	213	411	272	361
v/c Ratio	0.19	0.49	0.67	0.67	0.28
Control Delay (s/veh)	19.4	8.0	18.9	30.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.4	8.0	18.9	30.5	4.8
Queue Length 50th (ft)	13	0	83	68	34
Queue Length 95th (ft)	38	44	#180	#193	83
Internal Link Dist (ft)	511		535		1612
Turn Bay Length (ft)					
Base Capacity (vph)	729	766	761	405	1339
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.28	0.54	0.67	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

6: SR-49 & Mountain Ranch Rd
HCM 7th Signalized Intersection Summary

Existing Plus Project-PM-Improved

06/14/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	102	249	338	64	197	351
Future Volume (veh/h)	102	249	338	64	197	351
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	0	376	50	219	390
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	174		526	70	284	1134
Arrive On Green	0.10	0.00	0.33	0.33	0.16	0.61
Sat Flow, veh/h	1781	1585	1612	214	1781	1870
Grp Volume(v), veh/h	113	0	0	426	219	390
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1826	1781	1870
Q Serve(g_s), s	2.0	0.0	0.0	6.8	3.9	3.4
Cycle Q Clear(g_c), s	2.0	0.0	0.0	6.8	3.9	3.4
Prop In Lane	1.00	1.00		0.12	1.00	
Lane Grp Cap(c), veh/h	174		0	596	284	1134
V/C Ratio(X)	0.65		0.00	0.72	0.77	0.34
Avail Cap(c_a), veh/h	969		0	1059	484	1820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	0.0	9.8	13.3	3.2
Incr Delay (d2), s/veh	4.0	0.0	0.0	1.6	4.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	2.1	1.6	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	18.4	0.0	0.0	11.4	17.8	3.4
LnGrp LOS	B			B	B	A
Approach Vol, veh/h	113		426			609
Approach Delay, s/veh	18.4		11.4			8.6
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.3	15.7			25.0	8.1
Change Period (Y+Rc), s	4.0	4.9			4.9	4.9
Max Green Setting (Gmax), s	9.0	19.2			32.2	18.0
Max Q Clear Time (g_c+l1), s	5.9	8.8			5.4	4.0
Green Ext Time (p_c), s	0.2	1.9			2.5	0.2
Intersection Summary						
HCM 7th Control Delay, s/veh			10.6			
HCM 7th LOS			B			
Notes						
User approved pedestrian interval to be less than phase max green.						
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.						

6: SR-49 & Mountain Ranch Rd
Queues

Existing Plus Project-PM-Improved

06/14/2024

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	113	277	447	219	390
v/c Ratio	0.36	0.55	0.73	0.65	0.34
Control Delay (s/veh)	21.2	7.6	21.5	32.1	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.2	7.6	21.5	32.1	5.9
Queue Length 50th (ft)	28	0	99	58	42
Queue Length 95th (ft)	66	49	#201	#159	95
Internal Link Dist (ft)	511		535		1486
Turn Bay Length (ft)					
Base Capacity (vph)	686	775	762	343	1292
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.36	0.59	0.64	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

6: SR-49 & Mountain Ranch Rd
HCM 7th Roundabout

Existing Plus Project-AM-Improved

06/14/2024

Intersection				
Intersection Delay, s/veh	7.9			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	1	1	
Conflicting Circle Lanes	1	1	1	
Adj Approach Flow, veh/h	267	411	633	
Demand Flow Rate, veh/h	281	432	665	
Vehicles Circulating, veh/h	310	286	58	
Vehicles Exiting, veh/h	408	437	310	
Ped Vol Crossing Leg, #/h	1	1	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	5.6	8.4	8.5	
Approach LOS	A	A	A	
Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L		TR	LT
RT Channelized		Yield		
Lane Util	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	58	223	432	665
Cap Entry Lane, veh/h	1006	1006	1031	1301
Entry HV Adj Factor	0.948	0.952	0.952	0.952
Flow Entry, veh/h	55	212	411	633
Cap Entry, veh/h	954	958	981	1238
V/C Ratio	0.058	0.221	0.419	0.511
Control Delay, s/veh	4.3	5.9	8.4	8.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	2	3

6: SR-49 & Mountain Ranch Rd
HCM 7th Roundabout

Existing Plus Project-PM-Improved

06/14/2024

Intersection				
Intersection Delay, s/veh	7.8			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	1		1
Conflicting Circle Lanes	1	1		1
Adj Approach Flow, veh/h	390	447		609
Demand Flow Rate, veh/h	398	456		621
Vehicles Circulating, veh/h	384	223		115
Vehicles Exiting, veh/h	295	513		384
Ped Vol Crossing Leg, #/h	1	1		0
Ped Cap Adj	1.000	1.000		1.000
Approach Delay, s/veh	6.6	7.8		8.5
Approach LOS	A	A		A
Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L		TR	LT
RT Channelized		Yield		
Lane Util	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	115	283	456	621
Cap Entry Lane, veh/h	933	933	1099	1227
Entry HV Adj Factor	0.983	0.980	0.981	0.981
Flow Entry, veh/h	113	277	447	609
Cap Entry, veh/h	916	914	1078	1204
V/C Ratio	0.123	0.303	0.415	0.506
Control Delay, s/veh	5.1	7.2	7.8	8.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	2	3

6: SR-49 & Mountain Ranch Rd Existing Plus Approved Projects Plus Project-AM-Improved
 HCM 7th Signalized Intersection Summary

06/14/2024

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	53	204	284	111	261	351
Future Volume (veh/h)	53	204	284	111	261	351
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	55	0	296	82	272	366
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	105		422	117	347	1156
Arrive On Green	0.06	0.00	0.31	0.31	0.20	0.63
Sat Flow, veh/h	1739	1547	1368	379	1739	1826
Grp Volume(v), veh/h	55	0	0	378	272	366
Grp Sat Flow(s),veh/h/ln	1739	1547	0	1747	1739	1826
Q Serve(g_s), s	1.0	0.0	0.0	6.1	4.7	2.9
Cycle Q Clear(g_c), s	1.0	0.0	0.0	6.1	4.7	2.9
Prop In Lane	1.00	1.00		0.22	1.00	
Lane Grp Cap(c), veh/h	105		0	538	347	1156
V/C Ratio(X)	0.52		0.00	0.70	0.78	0.32
Avail Cap(c_a), veh/h	980		0	995	544	1840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	9.8	12.1	2.7
Incr Delay (d2), s/veh	4.0	0.0	0.0	1.7	3.9	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.8	1.7	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	18.6	0.0	0.0	11.4	16.0	2.8
LnGrp LOS	B			B	B	A
Approach Vol, veh/h	55		378			638
Approach Delay, s/veh	18.6		11.4			8.5
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	10.4	14.7			25.1	6.8
Change Period (Y+Rc), s	4.0	4.9			4.9	4.9
Max Green Setting (Gmax), s	10.0	18.2			32.2	18.0
Max Q Clear Time (g_c+I1), s	6.7	8.1			4.9	3.0
Green Ext Time (p_c), s	0.3	1.7			2.3	0.1
Intersection Summary						
HCM 7th Control Delay, s/veh			10.0			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.						

6: SR-49 & Mountain Ranch Rd
Queues

Existing Plus Approved Projects Plus Project-AM-Improved

06/14/2024

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	55	213	412	272	366
v/c Ratio	0.19	0.49	0.67	0.67	0.29
Control Delay (s/veh)	19.4	8.0	18.9	30.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.4	8.0	18.9	30.5	4.8
Queue Length 50th (ft)	13	0	84	68	34
Queue Length 95th (ft)	38	44	#181	#193	84
Internal Link Dist (ft)	511		535		1612
Turn Bay Length (ft)					
Base Capacity (vph)	729	766	761	405	1339
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.28	0.54	0.67	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

6: SR-49 & Mountain Ranch Rd Existing Plus Approved Projects Plus Project-PM-Improved
 HCM 7th Signalized Intersection Summary

06/14/2024

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	102	249	343	64	197	354
Future Volume (veh/h)	102	249	343	64	197	354
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	0	381	50	219	393
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	174		530	70	284	1137
Arrive On Green	0.10	0.00	0.33	0.33	0.16	0.61
Sat Flow, veh/h	1781	1585	1615	212	1781	1870
Grp Volume(v), veh/h	113	0	0	431	219	393
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1826	1781	1870
Q Serve(g_s), s	2.0	0.0	0.0	6.9	3.9	3.5
Cycle Q Clear(g_c), s	2.0	0.0	0.0	6.9	3.9	3.5
Prop In Lane	1.00	1.00		0.12	1.00	
Lane Grp Cap(c), veh/h	174		0	600	284	1137
V/C Ratio(X)	0.65		0.00	0.72	0.77	0.35
Avail Cap(c_a), veh/h	964		0	1054	482	1811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	0.0	0.0	9.8	13.4	3.2
Incr Delay (d2), s/veh	4.1	0.0	0.0	1.6	4.5	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.2	1.6	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	18.5	0.0	0.0	11.5	17.9	3.4
LnGrp LOS	B			B	B	A
Approach Vol, veh/h	113		431			612
Approach Delay, s/veh	18.5		11.5			8.6
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.3	15.8			25.1	8.1
Change Period (Y+Rc), s	4.0	4.9			4.9	4.9
Max Green Setting (Gmax), s	9.0	19.2			32.2	18.0
Max Q Clear Time (g_c+I1), s	5.9	8.9			5.5	4.0
Green Ext Time (p_c), s	0.2	2.0			2.5	0.2
Intersection Summary						
HCM 7th Control Delay, s/veh			10.6			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.						

6: SR-49 & Mountain Ranch Rd
Queues

Existing Plus Approved Projects Plus Project-PM-Improved

06/14/2024

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	113	277	452	219	393
v/c Ratio	0.36	0.55	0.73	0.65	0.35
Control Delay (s/veh)	21.2	7.6	21.9	32.1	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.2	7.6	21.9	32.1	5.9
Queue Length 50th (ft)	28	0	101	58	42
Queue Length 95th (ft)	66	49	#208	#159	96
Internal Link Dist (ft)	511		535		1486
Turn Bay Length (ft)					
Base Capacity (vph)	684	773	758	342	1289
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.36	0.60	0.64	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection				
Intersection Delay, s/veh	7.9			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	1	1	
Conflicting Circle Lanes	1	1	1	
Adj Approach Flow, veh/h	267	412	638	
Demand Flow Rate, veh/h	281	433	670	
Vehicles Circulating, veh/h	311	286	58	
Vehicles Exiting, veh/h	408	442	311	
Ped Vol Crossing Leg, #/h	1	1	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	5.6	8.4	8.5	
Approach LOS	A	A	A	
Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L		TR	LT
RT Channelized	Yield			
Lane Util	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	58	223	433	670
Cap Entry Lane, veh/h	1005	1005	1031	1301
Entry HV Adj Factor	0.948	0.952	0.952	0.952
Flow Entry, veh/h	55	212	412	638
Cap Entry, veh/h	953	957	981	1238
V/C Ratio	0.058	0.222	0.420	0.515
Control Delay, s/veh	4.3	5.9	8.4	8.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	2	3

Intersection				
Intersection Delay, s/veh	7.8			
Intersection LOS	A			
Approach	WB	NB		SB
Entry Lanes	1	1	1	
Conflicting Circle Lanes	1	1	1	
Adj Approach Flow, veh/h	390	452	612	
Demand Flow Rate, veh/h	398	461	624	
Vehicles Circulating, veh/h	389	223	115	
Vehicles Exiting, veh/h	295	516	389	
Ped Vol Crossing Leg, #/h	1	1	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	6.6	7.8	8.6	
Approach LOS	A	A	A	
Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L		TR	LT
RT Channelized	Yield			
Lane Util	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	115	283	461	624
Cap Entry Lane, veh/h	928	928	1099	1227
Entry HV Adj Factor	0.983	0.980	0.981	0.981
Flow Entry, veh/h	113	277	452	612
Cap Entry, veh/h	912	910	1078	1204
V/C Ratio	0.124	0.305	0.419	0.509
Control Delay, s/veh	5.1	7.2	7.8	8.6
LOS	A	A	A	A
95th %tile Queue, veh	0	1	2	3

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	27	37	520	947	59
Future Vol, veh/h	41	27	37	520	947	59
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	47	31	42	591	1076	67
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1787	1112	1144	0	-	0
Stage 1	1111	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.17	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.263	-	-	-
Pot Cap-1 Maneuver	87	248	593	-	-	-
Stage 1	308	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	78	248	592	-	-	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	275	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	31.45	0.77		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	120	-	212	-	-	
HCM Lane V/C Ratio	0.071	-	0.365	-	-	
HCM Control Delay (s/veh)	11.5	0	31.5	-	-	
HCM Lane LOS	B	A	D	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-	

6: SR-49 & Mountain Ranch Rd
HCM 7th Signalized Intersection Summary

Cumulative 20 Year With Project-AM-Improved

06/14/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	65	251	345	137	321	425
Future Volume (veh/h)	65	251	345	137	321	425
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	68	0	359	100	334	443
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	115		474	132	420	1258
Arrive On Green	0.07	0.00	0.35	0.35	0.24	0.69
Sat Flow, veh/h	1739	1547	1366	381	1739	1826
Grp Volume(v), veh/h	68	0	0	459	334	443
Grp Sat Flow(s),veh/h/ln	1739	1547	0	1747	1739	1826
Q Serve(g_s), s	1.5	0.0	0.0	9.3	7.2	4.0
Cycle Q Clear(g_c), s	1.5	0.0	0.0	9.3	7.2	4.0
Prop In Lane	1.00	1.00		0.22	1.00	
Lane Grp Cap(c), veh/h	115		0	606	420	1258
V/C Ratio(X)	0.59		0.00	0.76	0.79	0.35
Avail Cap(c_a), veh/h	782		0	1100	782	2154
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	0.0	11.6	14.2	2.6
Incr Delay (d2), s/veh	4.7	0.0	0.0	2.0	3.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	3.1	2.7	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	22.9	0.0	0.0	13.5	17.7	2.7
LnGrp LOS	C			B	B	A
Approach Vol, veh/h	68		459			777
Approach Delay, s/veh	22.9		13.5			9.2
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.7	18.8			32.5	7.6
Change Period (Y+Rc), s	4.0	4.9			4.9	4.9
Max Green Setting (Gmax), s	18.0	25.2			47.2	18.0
Max Q Clear Time (g_c+I1), s	9.2	11.3			6.0	3.5
Green Ext Time (p_c), s	0.7	2.5			3.1	0.1
Intersection Summary						
HCM 7th Control Delay, s/veh			11.4			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.						

6: SR-49 & Mountain Ranch Rd
Queues

Cumulative 20 Year With Project-AM-Improved

06/14/2024

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	68	261	502	334	443
v/c Ratio	0.29	0.60	0.79	0.73	0.35
Control Delay (s/veh)	28.2	10.4	27.9	32.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.2	10.4	27.9	32.8	4.8
Queue Length 50th (ft)	25	0	155	116	48
Queue Length 95th (ft)	58	57	#331	#251	111
Internal Link Dist (ft)	511		535		1612
Turn Bay Length (ft)					
Base Capacity (vph)	532	649	766	532	1442
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.40	0.66	0.63	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	32	21	704	571	47
Future Vol, veh/h	69	32	21	704	571	47
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	78	36	24	800	649	53

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1525	678	703	0	-	0
Stage 1	677	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	128	447	881	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	124	446	880	-	-	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	414	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v24.28		0.27	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	880	-	300	-	-
HCM Lane V/C Ratio	0.027	-	0.383	-	-
HCM Control Delay (s/veh)	9.2	-	24.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

6: SR-49 & Mountain Ranch Rd
HCM 7th Signalized Intersection Summary

Cumulative 20 Year With Project-PM
06/14/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	126	306	413	79	242	429
Future Volume (veh/h)	126	306	413	79	242	429
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	0	459	61	269	477
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	187		594	79	342	1229
Arrive On Green	0.11	0.00	0.37	0.37	0.19	0.66
Sat Flow, veh/h	1781	1585	1612	214	1781	1870
Grp Volume(v), veh/h	140	0	0	520	269	477
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1826	1781	1870
Q Serve(g_s), s	3.1	0.0	0.0	10.4	5.9	4.8
Cycle Q Clear(g_c), s	3.1	0.0	0.0	10.4	5.9	4.8
Prop In Lane	1.00	1.00		0.12	1.00	
Lane Grp Cap(c), veh/h	187		0	673	342	1229
V/C Ratio(X)	0.75		0.00	0.77	0.79	0.39
Avail Cap(c_a), veh/h	782		0	1112	562	1910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	0.0	11.5	15.9	3.3
Incr Delay (d2), s/veh	5.9	0.0	0.0	1.9	4.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	3.5	2.4	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	23.8	0.0	0.0	13.4	19.9	3.5
LnGrp LOS	C			B	B	A
Approach Vol, veh/h	140		520			746
Approach Delay, s/veh	23.8		13.4			9.4
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.9	20.1			32.0	9.2
Change Period (Y+Rc), s	4.0	4.9			4.9	4.9
Max Green Setting (Gmax), s	13.0	25.1			42.1	18.1
Max Q Clear Time (g_c+I1), s	7.9	12.4			6.8	5.1
Green Ext Time (p_c), s	0.4	2.8			3.4	0.3
Intersection Summary						
HCM 7th Control Delay, s/veh			12.3			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.						

6: SR-49 & Mountain Ranch Rd
Queues

Cumulative 20 Year With Project-PM
06/14/2024

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	140	340	547	269	477
v/c Ratio	0.45	0.61	0.81	0.71	0.39
Control Delay (s/veh)	27.7	8.5	28.0	36.3	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.7	8.5	28.0	36.3	6.2
Queue Length 50th (ft)	48	0	162	93	62
Queue Length 95th (ft)	94	59	#351	#218	139
Internal Link Dist (ft)	511		535		1486
Turn Bay Length (ft)					
Base Capacity (vph)	565	730	812	405	1384
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.25	0.47	0.67	0.66	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

6: SR-49 & Mountain Ranch Rd
HCM 7th Roundabout

Cumulative 20 Year With Project-AM-Improved

06/14/2024

Intersection				
Intersection Delay, s/veh	10.2			
Intersection LOS	B			
Approach	WB	NB		SB
Entry Lanes	1	1	1	
Conflicting Circle Lanes	1	1	1	
Adj Approach Flow, veh/h	329	502	777	
Demand Flow Rate, veh/h	345	527	816	
Vehicles Circulating, veh/h	377	351	71	
Vehicles Exiting, veh/h	501	536	377	
Ped Vol Crossing Leg, #/h	1	1	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	6.6	11.3	11.1	
Approach LOS	A	B	B	
Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L		TR	LT
RT Channelized	Yield			
Lane Util	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	71	274	527	816
Cap Entry Lane, veh/h	939	939	965	1283
Entry HV Adj Factor	0.958	0.952	0.953	0.952
Flow Entry, veh/h	68	261	502	777
Cap Entry, veh/h	900	895	919	1222
V/C Ratio	0.076	0.292	0.546	0.636
Control Delay, s/veh	4.7	7.1	11.3	11.1
LOS	A	A	B	B
95th %tile Queue, veh	0	1	3	5

6: SR-49 & Mountain Ranch Rd
HCM 7th Roundabout

Cumulative 20 Year With Project-PM-Improved

06/14/2024

Intersection				
Intersection Delay, s/veh	10.2			
Intersection LOS	B			
Approach	WB	NB		SB
Entry Lanes	1	1		1
Conflicting Circle Lanes	1	1		1
Adj Approach Flow, veh/h	480	547		746
Demand Flow Rate, veh/h	490	558		761
Vehicles Circulating, veh/h	468	274		143
Vehicles Exiting, veh/h	364	630		468
Ped Vol Crossing Leg, #/h	1	1		0
Ped Cap Adj	1.000	1.000		1.000
Approach Delay, s/veh	8.3	10.2		11.5
Approach LOS	A	B		B
Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L		TR	LT
RT Channelized		Yield		
Lane Util	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	143	347	558	761
Cap Entry Lane, veh/h	856	856	1043	1193
Entry HV Adj Factor	0.979	0.980	0.980	0.981
Flow Entry, veh/h	140	340	547	746
Cap Entry, veh/h	838	839	1022	1170
V/C Ratio	0.167	0.405	0.535	0.638
Control Delay, s/veh	6.0	9.2	10.2	11.5
LOS	A	A	B	B
95th %tile Queue, veh	1	2	3	5