

# TRAFFIC IMPACT STUDY

FOR

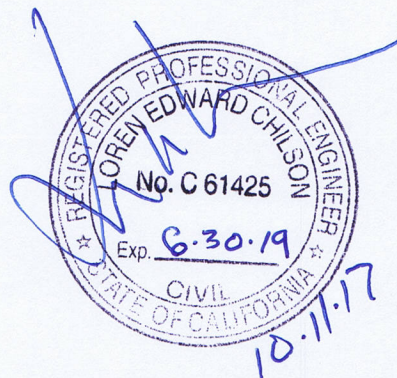
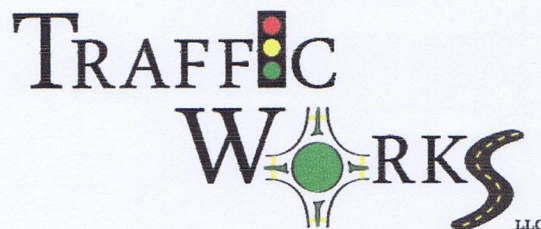
## Ione Sands Motocross Facility

### Amador County, CA

October 11, 2017

PREPARED FOR:  
US Mine Corporation

PREPARED BY:



## **YOUR QUESTIONS ANSWERED QUICKLY**

### **Why did you perform this study?**

This Traffic Impact Study evaluates the potential traffic impacts associated with the proposed Lone Sands Motocross Facility project. The project site is located south of downtown Lone adjacent to Buena Vista Road on the west side of State Route 124 in Amador County, California.

### **What does the project consist of?**

The proposed project consists of a private motocross facility open daily to members for practice, training, product testing, and product development. Membership to the facility is planned to be limited to 300 entities, excluding product testing and development. Maximum daily attendance is projected to be 50 persons.

### **How much vehicular traffic will the project generate?**

The proposed project is anticipated to generate up to 100 daily trips, 50 AM peak hour trips, and 50 PM peak hour trips.

### **Are there any traffic impacts?**

The project is not expected to cause any impacts under Existing Plus Project conditions. Under Cumulative Plus Project conditions, the project is expected to have significant impacts at the following intersections:

- SR 88 / Jackson Valley Road (west)
- SR 88 / Buena Vista Road
- SR 104 / Jackson Valley Road / SR 88

### **Are there any recommendations?**

The *2015 Amador County Regional Transportation Plan (RTP)* includes a list of roadway improvements planned throughout the County. The list of projects includes improvements at the following study intersections (*italicized* intersections would experience a significant project impact):

- *SR 88 / Jackson Valley Road (west) – signalize intersection*
- SR 88 / SR 124 – intersection improvements
- *SR 88 / Buena Vista Road – intersection improvements*
- *SR 104 / Jackson Valley Road / SR 88 – signalize intersection*

Based on Caltrans' "Equitable Share Responsibility" equations and existing and projected traffic volumes at the study intersections, the project's fair share responsibility for each study intersection would be:

- SR 88 / Jackson Valley Road (west) (\$1.5 million) – 2.2%
- SR 88 / SR 124 (\$150,000) – 2.4%

- SR 88 / Buena Vista Road (\$1.5 million) – 0.4%
- SR 104 / Jackson Valley Road / SR 88 (\$1.5 million) – 0.4%

These percentages are to be applied to any unfunded portion of the overall project costs (shown in parenthesis above).

Fair share contribution toward planned improvements at the intersections would reduce the impacts to a less-than-significant level.

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- B. Existing Plus Project Conditions LOS Calculations
- C. Cumulative No Project Conditions LOS Calculations
- D. Cumulative Plus Project Conditions LOS Calculations
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## INTRODUCTION

This report presents the findings of a Traffic Impact Study completed to assess the potential traffic impacts associated with a proposed motocross facility in Amador County, CA. The project would consist of a private motocross facility open daily to members only for practice and training, and for product testing and development. This traffic impact study has been prepared to document existing traffic conditions, quantify traffic volumes generated by the proposed project, identify potential impacts, document findings, and make recommendations to mitigate impacts, if any are found. The project is located on the west side of SR 124, south of downtown Ione and adjacent to Buena Vista Road, as shown on **Figure 1**. The project site plan is shown on **Figure 2**.

### ***Study Area and Evaluated Scenarios***

The following intersections and roadway segments are included in the analysis:

#### Intersections

- SR 104 / Ione Michigan Bar Road
- Preston Avenue / Plymouth Highway / Shakeley Lane
- Preston Avenue / Main Street
- Church Street / Main Street
- SR 124 / Project Access
- SR 124 / Buena Vista Road
- SR 88 / Jackson Valley Road (west)
- SR 124 / SR 88
- SR 88 / Buena Vista Road
- SR 104 / Jackson Valley Road / SR 88

#### Roadway Segments

- Ione Road between SR 16 and SR 104
- SR 104 between Ione Michigan Bar Road and Main Street
- SR 124 between the project site and Main Street
- SR 124 between the project site and SR 88
- SR 88 between SR 124 and Jackson Valley Road

The existing study intersection lane configurations and traffic controls are shown on **Figure 3**, attached. This study includes analysis of both the weekday AM and PM peak hours as these are the periods of time in which peak traffic is anticipated to occur. The evaluated development scenarios are:

- Existing Conditions (no project)
- Existing Plus Project Conditions
- Cumulative No Project Conditions

- Cumulative Plus Project Conditions

***Analysis Methodology***

Level of service (LOS) is a term commonly used by transportation practitioners to measure and describe the operational characteristics of intersections, roadway segments, and other facilities. This term equates seconds of delay per vehicle at intersections to letter grades “A” through “F” with “A” representing optimum conditions and “F” representing breakdown or over capacity flows.

Intersections

Intersection level of service methodology is established in the Highway Capacity Manual (HCM), 2010, published by the Transportation Research Board. The methodology for unsignalized (side-street stop controlled) intersections determines the level of service by comparing the average control delay for the worst movement/approach to the delay thresholds in **Table 1**. The level of service for signalized intersections is determined by comparing the average control delay for the overall intersection to the delay thresholds in **Table 1**.

**Table 1: Level of Service Definition for Unsignalized Intersections**

Level of Service	Brief Description	Average Delay (seconds per vehicle)	
		Unsignalized Intersections	Signalized Intersections
A	Free flow conditions.	< 10	< 10
B	Stable conditions with some affect from other vehicles.	10 to 15	10 to 20
C	Stable conditions with significant affect from other vehicles.	15 to 25	20 to 35
D	High density traffic conditions still with stable flow.	25 to 35	35 to 55
E	At or near capacity flows.	35 to 50	55 to 80
F	Over capacity conditions.	> 50	> 80

Source: Highway Capacity Manual (2010), Chapter 16

Level of service calculations were performed for the study intersections using the Synchro 9 software package with analysis and results reported in accordance with the current HCM 2010 methodology.

Roadway Segments

The level of service for roadway segments is determined by comparing the daily traffic volume to the level of service criteria in **Table 2**.

**Table 2: Amador County Daily Roadway Segment Level of Service Thresholds**

Facility	Brief Description				
	LOS A	LOS B	LOS C	LOS D	LOS E
Arterial, Class I	2,600	5,900	10,300	16,900	20,200
Arterial, Class II	2,200	5,200	9,300	15,300	18,900
Arterial, Class III	1,600	4,500	8,600	14,200	18,600
Arterial, Class IV	1,200	3,300	6,400	11,000	15,500
Arterial, Class V	1,000	3,000	5,900	10,200	14,300
Collector, Class I-III	1,300	3,900	7,500	12,600	16,900
Collector, Class IV	1,000	3,000	5,500	8,750	11,200
Collector, Class V	600	2,000	3,500	4,900	5,500

Source: 2004 Amador County Regional Transportation Plan Update, Appendix G

### **Level of Service Policy**

#### City of Lone

The *City of Lone General Plan* Circulation Element provides the following LOS policies:

*CIR-1.3: Seek to maintain operations on all roadways and intersections at Level of Service (LOS) E or better at all times, with the exceptions listed in Policy CIR-1.4. LOS E should be maintained even during peak travel times, unless maintaining the LOS would, in the City's judgement, be infeasible and/or conflict with the achievement of other goals or unless maintaining this LOS would not, in the City's judgement, adequately serve the City's circulation needs, per Policy CIR-1.4.*

*CIR-1.4: In addition, exceptions to Policy CIR-1.3 may be allowed by the City Council where requiring a higher LOS or allowing a lower LOS would result in clear public benefits. Specific exceptions granted by the City Council shall be added to the list of exceptions below, depicted in Figure 4-4. And update as needed:*

- *Main Street, Church Street, Preston Avenue, and Lone Street – LOS F;*
- *All Parkways (Golf Links Drive, WIRIS Segments, F, G, H, and I) – LOS D*

#### Amador County

The *Amador County General Plan* Circulation Element (October 2016) and the *Amador County Regional Transportation Plan* (August 2015) both provide level of service policies. Policy CM-1.1 of the *General Plan* states:

*The County's Level of Service (LOS) standard is LOS C for rural roadways, and LOS D for roadways in urban and developing areas. For Caltrans facilities, the LOS standard shall be that established by Caltrans.*

The *Regional Transportation Plan* (RTP) establishes the following level of service criteria for regional roadway facilities:

*Maintain Level of Service (LOS) conditions “D”, or better, within incorporated cities and developed communities and LOS “C”, or better, for the remainder of the Region to the greatest extent feasible. (LOS for roadway segments is calculated under average daily conditions, whereas LOS for intersections is calculated under peak-hour conditions.)*

Additionally, the Amador County Transportation Commission (ACTC) *Recommended Traffic Impact Study Guidelines* provides the following significance criteria:

*A proposed project is considered to result in a significant impact if the proposed project:*

- *Degrades operations from an acceptable LOS (based on RTP policy or General Plan policies) to an unacceptable level*
- *Increases delay at an unsignalized intersection operating at an unacceptable level by five or more seconds and the intersection satisfies the Manual on Uniform Traffic Control Devices (MUTCD) peak hour volume warrant for traffic signal installation*
- *Increases the volume-to-capacity ratio on a roadway segment operating at an unacceptable level by 0.05 or more*

### Caltrans

The Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002) states that:

*Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.*

Caltrans also provides a Transportation Concept Report (TCR) for each of its State routes. The TCR provides a Concept LOS which is the minimum allowable LOS for each route within the 20-year period. The State routes within the project are have the following Concept LOS:

- SR 88 – LOS C
- SR 104 – LOS E as a 2-lane facility; LOS C as a 4-lane facility
- SR 124 – LOS C

### LOS Threshold Summary

The following LOS thresholds (i.e. the minimum acceptable LOS) were used as the criteria for the study intersections and roadway segments:

- LOS F – Main Street, Church Street, Preston Avenue, Ione Street, and any intersections including these roadways
- LOS E – SR 104 and any intersections including this roadway
- LOS C – SR 88, SR 124 (outside of City of Ione City limits) and any intersections including these roadways



## EXISTING TRANSPORTATION FACILITIES

### *Roadway Facilities*

A brief description of the key roadways in the study area is provided below.

*State Route (SR) 124* is a north-south, two-lane highway that intersects SR 16 at its north end and SR 88 at its south end. Through the City of Ione, SR 124 shares a route with parts of Preston Avenue, Main Street, Church Street and SR 104. The Amador County RTP classifies SR 124 as a California Legal Advisory Route north of downtown Ione, and California Legal Network south of downtown Ione. These classifications allow commercial truck traffic, but limit the maximum length of large trucks that can legally operate on them based on their turning radiuses and the curvature of the roadway. SR 124 adjacent to the project area is classified as a Class II Arterial. The posted speed limit on SR 124 varies between 25 mph near downtown Ione and 55 mph in the more rural areas.

*State Route 104* is generally an east-west, two-lane highway that intersects SR 99 at its west end and SR 88 at its east end. Through the City of Ione, SR 104 shares a route with parts of Preston Avenue, Main Street, S. Ione Street and SR 124. The Amador County RTP classifies SR 104 as a Class I-III Collector, as well as a California Legal Network which allows commercial truck traffic, but limits the maximum length of large trucks that can legally operate on them based on their turning radiuses and the curvature of the roadway. The posted speed limit on SR 104 varies from 25 mph to 55 mph.

*State Route 88* is a two-lane highway with left-turn pockets at most intersections. The Amador County RTP classifies SR 88 in the project area as a Class I Arterial, and a federal Surface Transportation Assistance Act (STAA) Terminal Access route. The STAA establishes operating standards related to the length of heavy trucks. Terminal Access routes are roadways that do not have sharp curves or other constraints that would conflict with maximum length trucks, allowing them to operate freely. The posted speed limit on SR 88 near the project is 55 mph.

*Buena Vista Road* is a two-lane Class IV Collector that connects to SR 124 at its north end and Comanche Reservoir at its south end. The Amador County RTP classifies Buena Vista Road from SR 88 to Jackson Valley Road as a California Legal Advisory Route, which allows commercial truck traffic, but limits the maximum length of trucks that can legally operate on the roadway based on their turning radiuses and the curvature of the roadway.

*Ione Michigan Bar Road* is generally a north-south, two-lane roadway that connects SR 16 to SR 104. The Amador County RTP classifies Ione Michigan Bar Road as a Class I-III Collector.

*Plymouth Highway* is the segment of SR 124 between Preston Avenue in Ione and SR 16 to the north. Plymouth Highway is an undivided, two-lane roadway for its entire length. The roadway is classified as a Class II Arterial and a California Legal Advisory Route. The posted speed limit on Plymouth Highway varies between 35 mph near downtown Ione and 55 mph near SR 16.

*Preston Avenue* is the segment of SR 104 through downtown Ione, from approximately Sutter Lane to Main Street. Preston Avenue also shares a route with SR 124 from Shakeley Lane/Plymouth Highway to Main Street. Preston Avenue is a two-lane roadway with a speed limit of 25 to 35 mph, depending on the location.

*Church Street* is a north-south, two-lane roadway that shares a route with SR 124 through downtown Ione. Church Street has a speed limit of 25 mph.

*Main Street* is an east-west, two-lane roadway in downtown Ione. Main Street shares a route with SR 124 from Preston Avenue to Church Street, and with SR 104 from Preston Avenue to Ione Street. The segment of Main Street from Preston Avenue to Ione Street has on-street parking on both sides of the roadway. The speed limit on Main Street is 25 mph.

*Jackson Valley Road* is rural, two-lane roadway that connects to SR 88 at its west end and SR 88/SR 104 at its east end. The Amador County RTP classifies Jackson Valley Road as a Class V Collector and California Legal Advisory Route.

### ***Bicycle and Pedestrian Facilities***

There are no existing dedicated bicycle or pedestrian facilities on SR 124 near the rural project site. There are some sidewalks and crosswalks in downtown Ione on Preston Avenue, Main Street, and Church Street. Additionally, the City of Ione General Plan identifies Preston Avenue, Main Street, and Church Street through downtown for future Class 2 (on street) bikeways.

### ***Transit Facilities***

Amador Transit provides fixed route bus service throughout Amador County. Route 7 provides service between the Sutter Hill Transit Center and the City of Ione three times per day. The route travels on SR 88, SR 104, and SR 124. Service is provided Monday through Friday with the first bus running from 7:45 AM to 9:00 AM, the second bus running from 11:20 AM to 12:40 PM, and the third bus running from 3:35 PM to 4:40 PM. Weekend and holiday service is not provided. The closest transit stops to the proposed project site are in downtown Ione.

**Amador County Transit Routes**



Source: www.amadortransit.com

**EXISTING CONDITIONS**

**Traffic Volumes**

Existing traffic volumes were determined by conducting new video counts at the study intersections. The counts were conducted during the AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak periods on average mid-week days in April and May 2017. The existing traffic volumes are shown on **Figure 4**.

**Intersection Level of Service Analysis**

Existing conditions intersection level of service analysis was performed using Synchro 9 software, with reports based on HCM 2010 methodology. The peak hour factors (PHF) from the existing counts were used in the analysis. The heavy vehicle percentages from the counts, or a default heavy vehicle percentage of 2 percent (whichever was higher) were also used in the analysis. The level of service results are presented in **Table 3** and the calculation sheets are provided in **Appendix A**, attached.

**Table 3: Existing Conditions Intersection Level of Service**

Intersection	Control	LOS Standard	AM		PM	
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
SR 104/lone Michigan Bar Road	Side-Street STOP	E				
Southbound Approach			B	10.3	B	10.4
Eastbound Left			A	7.5	A	7.5

Intersection	Control	LOS Standard	AM		PM	
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
Preston Avenue/Plymouth Highway/Shakeley Road	Side-Street STOP	F				
Eastbound Approach			C	15.5	C	18.2
Westbound Approach			F	121.6	F	110.1
Northbound Left			A	7.8	A	8.3
Southbound Left			A	8.3	A	8.0
Preston Avenue/Main Street Southbound Approach	Side-Street STOP	F	D	28.7	D	25.2
Church Street/Main Street	Side-Street STOP	F				
Northbound Approach			D	28.7	C	19.8
Southbound Approach			A	9.9	B	11.4
Eastbound Left			A	7.8	A	7.6
Westbound Left			A	8.6	A	8.7
SR 124/Project Access	Side-Street STOP	C				
Eastbound Approach			B	10	B	10.9
Northbound Left			A	7.6	A	0
SR 124/Buena Vista Road	Side-Street STOP	C				
Westbound Approach			A	9.8	A	9.3
Southbound Left			A	7.7	A	7.6
SR 88/Jackson Valley Road (west)	Side-Street STOP	C				
Northbound Approach			B	13.5	C	15.6
Southbound Approach			B	12.0	B	13.3
Eastbound Left			A	7.7	A	8
Westbound Left			A	8.3	A	0
SR 124/SR 88	Side-Street STOP	C				
Southbound Approach			A	9.6	B	11.5
Eastbound Left			A	7.9	A	8
SR 88/Buena Vista Road	Side-Street STOP	C				
Northbound Approach			B	11.7	B	13.9
Southbound Approach			B	14.1	C	17.5
Eastbound Left			A	0	A	0
Westbound Left			A	7.7	A	7.8
SR 104/Jackson Valley Road / SR 88	Side-Street STOP	E				
Northbound Approach			B	10.7	B	11.1
Southbound Approach			<b>F</b>	<b>90.6</b>	<b>F</b>	<b>106.7</b>
Eastbound Left			A	7.7	A	8
Westbound Left			A	7.9	A	8

Notes: 1. Delay is reported in seconds per vehicle for the worst approach/movement for side-street stop controlled intersections.

**Bold** text indicates unacceptable operations.

Source: Traffic Works, 2017

As shown in **Table 3**, the southbound approach of the SR 104 / Jackson Valley Road / SR 88 intersection currently operates at unacceptable LOS F during the AM and PM peak hours. The Preston Avenue /

Shakeley Lane / Plymouth Highway intersection also operates at LOS F during the AM and PM peak hours, however the City of Lone’s LOS policy allows LOS F operations at this intersection. The remaining study intersections currently operate at acceptable levels of service during the AM and PM peak hours.

**Roadway Segment Level of Service Analysis**

Existing conditions roadway segment level of service analysis was performed by comparing the daily traffic volume on the study roadway segments to the level of service thresholds shown in **Table 2**. Caltrans collects daily traffic volumes for all State Routes on an annual basis. The *2015 Traffic Volumes on California State Highways* report provides Annual Average Daily Traffic (AADT) volumes for the segments on SR 104, SR 88, and SR 124 south of the project site. Additionally, as a general rule, peak hour traffic volumes are approximately 10 percent of daily traffic volumes. The daily traffic volume on Lone Road was estimated using this method and the higher of the AM and PM peak hour traffic volumes based on the counts. The segment of SR 124 north of the project site was analyzed based on the daily traffic volume provided in the Amador County RTP. **Table 4** shows the daily roadway segment level of service results.

**Table 4: Existing Conditions Roadway Segment Level of Service**

Roadway Segment	Classification	Number of Lanes	Daily Traffic Volume	LOS	v/c Ratio <sup>1</sup>
Ione Road – SR 16 to SR 104	Class I-III Collector	2	2,100	B	0.12
SR 104 – Ione Michigan Bar Rd to Main St	Class I-III Collector	2	9,200	D	0.54
SR 124 – Main Street to Project Access	Class II Arterial	2	5,300	C	0.28
SR 124 – Project Access to SR 88	Class II Arterial	2	5,200	C	0.28
SR 88 – Jackson Valley Rd to SR 124	Class I Arterial	2	9,100	C	0.45

Notes: 1. v/c = volume-to-capacity  
 Source: Traffic Works, 2017

As shown in the table, all of the study roadway segments currently operate at acceptable levels of service.

**PROJECT GENERATED TRAFFIC**

**Project Description**

The proposed project would be located on the west side of SR 124 south of downtown Ione and consists of a private motocross facility. The project access would be located on the north side of the project site at the existing Ione Minerals driveway, approximately 1,200 feet north of Buena Vista Road.

**Trip Generation**

Trip generation estimates for the proposed project were developed based on the project description. The motocross facility would be a private facility open daily to members only for practice and training, and for product testing and development. Membership to the facility is anticipated to be limited to 300 members, excluding product testing and development. The maximum daily attendance is projected to be 50 persons. It is most likely that members will arrive and depart the facility throughout the day; however, to present

a conservative analysis, it was assumed that all of the daily attendees would arrive and depart during the AM and PM peak hours. It was assumed that 90 percent of daily participants would arrive during the AM peak hour and 10 percent would arrive during the PM peak hour. Additionally, it was assumed that 10 percent of daily participants would depart during the AM peak hour and 90 percent would depart during the PM peak hour. The analysis is additionally conservative in that it is unlikely every person would drive their own vehicle.

**Table 5** provides the daily, AM peak hour, and PM peak hour trip generation projections for the proposed project. As shown in **Table 5**, the proposed project is anticipated to generate 100 daily trips, 50 AM peak hour trips, and 50 PM peak hour trips.

**Table 5: Project Trip Generation**

Trip Generator	Trips						
	Daily	AM	AM In	AM Out	PM	PM In	PM Out
50 Members / Practice Riders per Day	100	50	45	5	50	5	45

Notes: 1. For analysis purposes, it was assumed that all participants would arrive/depart during the AM and PM peak hours.  
 Source: Traffic Works, 2017

***Trip Distribution and Assignment***

Given the unique nature of the project (professional test riders and crews), the distribution of project generated traffic is likely to be more regional, drawing on participants from Sacramento, Stockton, and other larger urban areas.

The following trip distribution percentages were used for distributing the project traffic:

- 5% to/from the north/west on SR 104 toward Galt
- 45% to/from north on Lone-Michigan Bar Road toward SR 16
- 5% to/from north/east Plymouth Highway (SR 124) toward SR 16 and SR 49
- 35% to/from west on SR 88 toward Stockton
- 5% to/from east on SR 88 toward Jackson
- 5% to/from the City of Lone (local trips)

Project generated trips were assigned to the adjacent roadway system based on the distributions outlined above. The AM and PM peak hour project trip assignment is shown on **Figure 5**, attached.

**EXISTING PLUS PROJECT CONDITIONS**

***Traffic Volumes***

Existing Plus Project traffic volumes were developed by adding the project generated trips (**Figure 5**) to the existing traffic volumes (**Figure 4**) and are shown on **Figure 6**, attached.

**Intersection Level of Service Analysis**

**Table 6** presents the level of service analysis summary for the Existing Plus Project scenario assuming the existing intersection configurations and traffic controls. The existing PHF's and heavy vehicle percentages were also used in the existing plus project conditions analysis. Detailed calculation sheets are provided in **Appendix B**, attached.

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

Intersection	Control	LOS Standard	Existing				Existing Plus Project			
			AM		PM		AM		PM	
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
SR 104/Ione Michigan Bar Road	Side-Street STOP	E								
Southbound Approach			B	10.3	B	10.4	B	10.5	B	10.6
Eastbound Left			A	7.5	A	7.5	A	7.5	A	7.5
Preston Avenue/ Plymouth Highway/ Shakeley Road	Side-Street STOP	F								
Eastbound Approach			C	15.5	C	18.2	C	16.3	C	19.4
Westbound Approach			F	121.6	F	110.1	F	152.2	F	136.4
Northbound Left			A	7.8	A	8.3	A	7.9	A	8.4
Southbound Left			A	8.3	A	8.0	A	8.3	A	8.0
Preston Avenue/Main Street	Side-Street STOP	F								
Southbound Approach			D	28.7	D	25.2	D	33.4	D	27.2
Church Street/Main Street	Side-Street STOP	F								
Northbound Approach			D	28.7	C	19.8	D	30.1	C	21.9
Southbound Approach			A	9.9	B	11.4	A	9.9	B	11.4
Eastbound Left			A	7.8	A	7.6	A	7.8	A	7.6
Westbound Left			A	8.6	A	8.7	A	8.7	A	8.7
SR 124/Project Access	Side-Street STOP	C								
Eastbound Approach			B	10.0	B	10.9	B	10.5	B	11.6
Northbound Left			A	7.6	A	0	A	7.7	A	7.7
SR 124/Buena Vista Road	Side-Street STOP	C								
Westbound Approach			A	9.8	A	9.3	A	10.0	A	9.3
Southbound Left			A	7.7	A	7.6	A	7.8	A	7.7
SR 88/Jackson Valley Road (west)	Side-Street STOP	C								
Northbound Approach			B	13.5	C	15.6	B	13.8	C	15.9
Southbound Approach			B	12.0	B	13.3	B	12.2	B	13.5
Eastbound Left			A	7.7	A	8.0	A	7.7	A	8.0
Westbound Left			A	8.3	A	0	A	8.3	A	0
SR 124/SR 88	Side-Street STOP	C								
Southbound Approach			A	9.6	B	11.5	A	9.7	B	11.5
Eastbound Left			A	7.9	A	8.0	A	7.9	A	8.0

Intersection	Control	LOS Standard	Existing				Existing Plus Project			
			AM		PM		AM		PM	
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
SR 88/Buena Vista Road	Side-Street STOP	C								
Northbound Approach			B	11.7	B	13.9	B	11.7	B	13.9
Southbound Approach			B	14.1	C	17.5	B	14.2	C	17.6
Eastbound Left			A	0	A	0	A	0	A	0
Westbound Left			A	7.7	A	7.8	A	7.7	A	7.8
SR 104/Jackson Valley Road/SR 88	Side-Street STOP	E								
Northbound Approach			B	10.7	B	11.1	B	10.7	B	11.1
Southbound Approach			<b>F</b>	<b>90.6</b>	<b>F</b>	<b>106.7</b>	<b>F</b>	<b>93.4</b>	<b>F</b>	<b>109.4</b>
Eastbound Left			A	7.7	A	8.0	A	7.7	A	8.0
Westbound Left			A	7.9	A	8.0	A	7.9	A	8.0

Notes: 1. Delay is reported in seconds per vehicle for the worst approach/movement for side-street stop controlled intersections.

**Bold** text indicates unacceptable operations.

Underlined text indicates a significant impact.

Source: Traffic Works, 2017

As shown in **Table 6**, the SR 104 / Jackson Valley Road / SR 88 intersection is expected to operate at LOS F during the AM and PM peak hours with and without the project; however, the project is not expected add more than 5 seconds of delay and therefore does not cause a significant impact at this location based on ACTC criteria. The Preston Avenue / Plymouth Highway / Shakeley Lane intersection is also expected to operate at LOS F during the AM and PM peak hours with and without the project; however, LOS F is considered acceptable based on City of Lone standards. The remaining study intersections are expected to operate at acceptable levels of service with the addition of project generated traffic during the AM and PM peak hours.

### **Roadway Segment Level of Service Analysis**

Project generated daily traffic volumes were added to the existing daily traffic volumes to evaluate Existing Plus Project conditions roadway segment level of service. The analysis results are shown in **Table 7**.



**Table 7: Existing Plus Project Conditions Roadway Segment Level of Service**

Roadway Segment	Classification	Number of Lanes	Existing			Existing Plus Project		
			Daily Traffic Volume	LOS	v/c Ratio <sup>1</sup>	Daily Traffic Volume	LOS	v/c Ratio <sup>1</sup>
Ione Road – SR 16 to SR 104	Class I-III Collector	2	2,100	B	0.12	2,145	B	0.13
SR 104 – Ione Michigan Bar Rd to Main St	Class I-III Collector	2	9,200	D	0.54	9,250	D	0.55
SR 124 – Main Street to Project Access	Class II Arterial	2	5,300	C	0.28	5,360	C	0.28
SR 124 – Project Access to SR 88	Class II Arterial	2	5,200	C	0.28	5,240	C	0.28
SR 88 – Jackson Valley Rd to SR 124	Class I Arterial	2	9,100	C	0.45	9,135	C	0.45

Notes: 1. v/c = volume-to-capacity  
 Source: Traffic Works, 2017

As shown in the Table 7, the study roadway segments are all expected to operate at acceptable levels of service with the addition of project generated traffic.

## CUMULATIVE NO PROJECT CONDITIONS

### *Traffic Volume Forecasts*

Future year (cumulative conditions) traffic volume forecasts were developed by applying a growth factor to existing traffic volumes to account for population growth and anticipated new development in the area. The *2015 Amador County Regional Transportation Plan* includes a population growth projection of 0.8 percent per year for the entire county. This growth rate was applied to the existing traffic volumes for a 20 year period. Additionally, future year traffic volumes in the *2015 Amador County RTP* were reviewed and compared to the traffic volumes developed using the growth rate. The volumes on most of the roadways matched closely to the RTP, except for the volumes on SR 88. The RTP future year traffic volumes on SR 88 were significantly higher than the volumes developed using the growth rate. The cumulative conditions traffic volumes on SR 88 were therefore adjusted up to more closely match the volumes presented in the RTP.

A list of all approved, but not yet constructed development projects in Amador County was also reviewed to determine if traffic from those projects would affect the study intersections. Based on comments from Caltrans, traffic generated by the proposed “Buena Vista Rancheria of Me-Wuk Indians Gaming and Entertainment Facility” project was included in the cumulative conditions traffic volume forecasts. Traffic generated by the US Mine Corporation Aggregate Processing Plant (on Buena Vista Road) and Industrial Park (north of this subject site) projects were also included in the cumulative conditions traffic volume forecasts with volumes obtained from those project’s traffic impact studies. The Cumulative No Project conditions intersection turning movement volumes are shown on **Figure 7**.

**Intersection Level of Service Analysis**

The cumulative conditions intersection level of service analysis assumes the existing intersection configurations and traffic controls. A PHF of 0.92 or the existing PHF (whichever was higher) was used in the analysis, as well as the existing heavy vehicle percentages. The cumulative conditions LOS results are shown in **Table 8** and detailed calculation sheets are provided in **Appendix C**, attached.

**Table 8: Cumulative No Project Conditions Intersection Level of Service**

Intersection	Control	LOS Standard	AM		PM	
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
SR 104/Ione Michigan Bar Road	Side-Street STOP	E				
Southbound Approach			B	11.3	B	11.9
Eastbound Left			A	7.5	A	7.5
Preston Avenue/Plymouth Highway/Shakeley Road	Side-Street STOP	F				
Eastbound Approach			C	20.9	E	45.5
Westbound Approach			F	490.3	F	951.8
Northbound Left			A	8.1	A	9.0
Southbound Left			A	8.5	A	8.3
Preston Avenue/Main Street	Side-Street STOP	F				
Southbound Approach			F	102.7	F	126.0
Church Street/Main Street	Side-Street STOP	F				
Northbound Approach			F	99.3	F	92.5
Southbound Approach			B	10.1	B	12.3
Eastbound Left			A	7.9	A	7.7
Westbound Left			A	9.1	A	9.4
SR 124/Project Access	Side-Street STOP	C				
Eastbound Approach			C	15.5	C	16.3
Northbound Left			A	8.1	A	8.2
SR 124/Buena Vista Road	Side-Street STOP	C				
Westbound Approach			B	10.9	B	10.1
Southbound Left			A	8.1	A	8.0
SR 88/Jackson Valley Road (west)	Side-Street STOP	C				
Northbound Approach			F	115.4	F	539.8
Southbound Approach			D	32.2	E	48.1
Eastbound Left			A	8.8	A	9.3
Westbound Left			A	9.7	A	9.7
SR 124/SR 88	Side-Street STOP	C				
Southbound Approach			C	19.6	F	73.3
Eastbound Left			A	9.9	B	10.1
SR 88/Buena Vista Road	Side-Street STOP	C				
Northbound Approach			F	78.3	F	>1000
Southbound Approach			F	197.1	F	>1000
Eastbound Left			A	0	A	0
Westbound Left			A	8.9	A	9.4

Intersection	Control	LOS Standard	AM		PM	
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
SR 104/Jackson Valley Road/ SR 88	Side-Street STOP	E				
Northbound Approach			C	20.0	E	<b>48.2</b>
Southbound Approach			<b>F</b>	<b>&gt;1000</b>	<b>F</b>	<b>&gt;1000</b>
Eastbound Left			A	8.8	A	9.5
Westbound Left			A	9.1	A	9.9

Notes: 1. Delay is reported in seconds per vehicle for the worst approach/movement for side-street stop controlled intersections.

**Bold** text indicates unacceptable operations.

Source: Traffic Works, 2017

As shown in **Table 8**, the SR 88 / Jackson Valley Road (west), SR 124 / SR 88, SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections are expected to operate at unacceptable levels of service under Cumulative No Project conditions. The Preston Avenue / Shakeley Lane / Plymouth Highway, Preston Avenue / Main Street, and Church Street / Main Street intersections are also expected to operate at LOS F during the AM and PM peak hours, however the City of Lone’s LOS policy allows LOS F operations at these intersections. The remaining study intersections are expected to operate at acceptable levels of service during the AM and PM peak hours.

**Roadway Segment Level of Service Analysis**

Cumulative conditions roadway segment level of service analysis was performed by comparing the future background daily traffic volumes projections to the level of service thresholds shown in **Table 2**. The LOS results are presented in **Table 9**.

**Table 9: Cumulative No Project Conditions Roadway Segment Level of Service**

Roadway Segment	Classification	Number of Lanes	Daily Traffic Volume	LOS	v/c Ratio <sup>1</sup>
lone Road – SR 16 to SR 104	Class I-III Collector	2	3,712	B	0.22
SR 104 – lone Michigan Bar Rd to Main St	Class I-III Collector	2	12,428	D	0.74
SR 124 – Main Street to North Project Access	Class II Arterial	2	8,465	C	0.45
SR 124 – South Project Access to SR 88	Class II Arterial	2	6,830	C	0.36
SR 88 – Jackson Valley Rd to SR 124	Class I Arterial	2	<b>18,930</b>	<b>E</b>	<b>0.94</b>

Notes: 1. v/c = volume-to-capacity

**Bold** text indicates unacceptable operations.

Source: Traffic Works, 2017

As shown in the table, the segment of SR 88 between Jackson Valley Road (west) and SR 124 is expected to operate at LOS E under Cumulative No Project conditions. The other study roadway segments are expected to operate at acceptable levels of service.

## CUMULATIVE PLUS PROJECT CONDITIONS

### Traffic Volume Forecasts

Project generated traffic volumes were added to the Cumulative No Project conditions traffic volumes to develop Cumulative Plus Project conditions traffic volumes for this analysis.

### Intersection Level of Service Analysis

Table 10 presents the level of service analysis summary for Cumulative Plus Project conditions. Detailed calculation sheets are provided in Appendix D, attached.

**Table 10: Cumulative Plus Project Conditions Intersection Level of Service**

Intersection	Control	LOS Standard	Cumulative No Project				Cumulative Plus Project			
			AM		PM		AM		PM	
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
SR 104/lone Michigan Bar Road	Side-Street STOP	E								
Southbound Approach			B	11.3	B	11.9	B	11.6	B	12.0
Eastbound Left			A	7.5	A	7.5	A	7.5	A	7.5
Preston Avenue/ Plymouth Highway/ Shakeley Road	Side-Street STOP	F								
Eastbound Approach			C	20.9	E	45.5	C	22.4	F	50.3
Westbound Approach			F	490.3	F	951.8	F	551.5	F	1027.7
Northbound Left			A	8.1	A	9.0	A	8.1	A	9.0
Southbound Left			A	8.5	A	8.3	A	8.5	A	8.4
Preston Avenue/Main Street	Side-Street STOP	F								
Southbound Approach			F	102.7	F	126.0	F	119.2	F	138.0
Church Street/Main Street	Side-Street STOP	F								
Northbound Approach			F	99.3	F	92.5	F	109.4	F	120.4
Southbound Approach			B	10.1	B	12.3	B	10.1	B	12.3
Eastbound Left			A	7.9	A	7.7	A	7.9	A	7.7
Westbound Left			A	9.1	A	9.4	A	9.3	A	9.4
SR 124/Project Access	Side-Street STOP	C								
Eastbound Approach			C	15.5	C	16.3	C	16.7	C	18.6
Northbound Left			A	8.1	A	8.2	A	8.3	A	8.2
SR 124/Buena Vista Road	Side-Street STOP	C								
Westbound Approach			B	10.9	B	10.1	B	11.1	B	10.1
Southbound Left			A	8.1	A	8.0	A	8.1	A	8.0
SR 88/Jackson Valley Road (west)	Side-Street STOP	C								
Northbound Approach			F	115.4	F	539.8	F	125.4	F	576.8
Southbound Approach			D	32.2	E	48.1	D	33.4	F	50.2
Eastbound Left			A	8.8	A	9.3	A	8.8	A	9.4
Westbound Left			A	9.7	A	9.7	A	9.7	A	9.7

Intersection	Control	LOS Standard	Cumulative No Project				Cumulative Plus Project				
			AM		PM		AM		PM		
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	
SR 124/SR 88	Side-Street	C									
Southbound Approach			C	19.6	F	<b>73.3</b>	C	20.6	F	<b>76.5</b>	
Eastbound Left	STOP		A	9.9	B	10.1	B	10.1	B	10.1	
SR 88/Buena Vista Road	Side-Street	C									
Northbound Approach				F	<b>78.3</b>	F	>1000	F	<b>79.7</b>	F	<u>&gt;1000</u>
Southbound Approach				F	<b>197.1</b>	F	>1000	F	<b>201.7</b>	F	<u>&gt;1000</u>
Eastbound Left			STOP	A	0	A	0	A	0	A	0
Westbound Left				A	8.9	A	9.4	A	8.9	A	9.5
SR 104/Jackson Valley Road/SR 88	Side-Street	E									
Northbound Approach				C	20.0	E	48.2	C	20.1	E	49.4
Southbound Approach				F	>1000	F	>1000	F	<u>&gt;1000</u>	F	<u>&gt;1000</u>
Eastbound Left			STOP	A	8.8	A	9.5	A	8.8	A	9.5
Westbound Left				A	9.1	A	9.9	A	9.1	A	9.9

Notes: 1. Delay is reported in seconds per vehicle for the worst approach/movement for side-street stop controlled intersections.

**Bold** text indicates unacceptable operations.

Underlined text indicates a significant impact.

Source: Traffic Works, 2017

As shown in **Table 10**, the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections are expected to operate at LOS F under Cumulative Plus Project conditions. Although these intersections are expected to operate at LOS F without the project, the delays are expected to increase by more than five seconds with the project. The *ACTC Recommended Traffic Impact Study Guidelines* considers a project to have a significant impact if it “increases delay at an unsignalized intersection operating at an unacceptable level by five or more seconds and the intersection satisfies the Manual on Uniform Traffic Control Devices (MUTCD) peak hour volume warrant for traffic signal installation.” Peak hour signal warrant analysis was conducted at these locations to determine if the second condition would be met and is provided in the following section.

The SR 124 / SR 88 intersection is also expected to operate at LOS F with and without the project; however, the project is not expected to increase delay at this intersection by more than 5 seconds. The Preston Avenue / Shakeley Lane / Plymouth Highway, Preston Avenue / Main Street, and Church Street / Main Street intersections are also expected to operate at LOS F during the AM and PM peak hours under Cumulative Plus Project conditions, but the City of Ione’s LOS policy allows LOS F operations at these intersections. The remaining study intersections are expected to operate at acceptable levels of service during the AM and PM peak hours.

### **Traffic Signal Warrant Analysis**

The California *Manual on Uniform Traffic Control Devices* (CA MUTCD) presents a Peak Hour Signal Warrant analysis methodology to assist in determining if a traffic signal is warranted at an intersection. Note, as stated in the CA MUTCD - *the satisfaction of a traffic signal warrant or warrants shall not in itself*

require the installation of a traffic control signal. Traffic signals should only be installed following a formal engineering study. This analysis is only for the purposes of determining impact significance. The CA MUTCD presents two versions of the Peak Hour Warrant. The 70% Factor Warrant is to be used for communities with a population of less than 10,000 or a speed limit above 40 mph on the major street. The SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections (impacted intersections) meet both of these criteria.

**Table 11** shows the results of the peak hour signal warrant analysis (70% Factor) at the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections based on Cumulative No Project and Cumulative Plus Project conditions traffic volumes.

**Table 11: Peak Hour Traffic Signal Warrant Analysis**

Intersection	# of Lanes (Major Street/ Minor Street)	Cumulative No Project						Cumulative Plus Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Major Street Volume	Minor Street Volume	Warrant Met?	Major Street Volume	Minor Street Volume	Warrant Met?	Major Street Volume	Minor Street Volume	Warrant Met?	Major Street Volume	Minor Street Volume	Warrant Met?
SR 88/Jackson Valley Road (west)	1 / 1	1,181	103	Yes	1,523	149	Yes	1,199	103	Yes	1,541	149	Yes
SR 88/Buena Vista Road	1 / 1	1,162	196	Yes	1,442	164	Yes	1,166	196	Yes	1,446	164	Yes
SR 104/ Jackson Valley Road/ SR 88	1 / 1	1,428	390	Yes	1,831	290	Yes	1,432	390	Yes	1,835	290	Yes

Source: Traffic Works, 2017

As shown in table, the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections are expected to meet the peak hour signal warrant under Cumulative No Project and Cumulative Plus Project conditions. Note that the project would add only 4 vehicles to the SR 88 / Buena Vista Road and SR 104 / Jackson Valley Road / SR 88 intersections during the AM and PM peak hours.

**Roadway Segment Level of Service Analysis**

**Table 12** presents the Cumulative Plus Project conditions roadway segment level of service analysis results.

**Table 12: Cumulative Plus Project Conditions Roadway Segment Level of Service**

Roadway Segment	Classification	Number of Lanes	Cumulative			Cumulative Plus Project		
			Daily Traffic Volume	LOS	v/c Ratio <sup>1</sup>	Daily Traffic Volume	LOS	v/c Ratio <sup>1</sup>
Ione Road – SR 16 to SR 104	Class I-III Collector	2	3,712	B	0.22	3,757	B	0.22
SR 104 – Ione Michigan Bar Rd to Main St	Class I-III Collector	2	12,428	D	0.74	12,478	D	0.74
SR 124 – Main Street to North Project Access	Class II Arterial	2	8,465	C	0.45	8,525	C	0.45
SR 124 – South Project Access to SR 88	Class II Arterial	2	6,830	C	0.36	6,870	C	0.36
SR 88 – Jackson Valley Rd to SR 124	Class I Arterial	2	<b>18,930</b>	<b>E</b>	<b>0.94</b>	<b>18,965</b>	<b>E</b>	<b>0.94</b>

Notes: 1. v/c = volume-to-capacity  
**Bold** text indicates unacceptable operations.  
Underlined text indicates a significant impact.  
 Source: Traffic Works, 2017

As shown in the table, the segment of SR 88 between Jackson Valley Road (west) and SR 124 is expected to operate at LOS E with or without the project. The project would not increase the volume-to-capacity ratio on this segment by more than 0.05, therefore it would not create a significant impact. The remaining study roadway segments are all expected to operate at acceptable levels of service under Cumulative Plus Project conditions.

**Potential Impacts**

The proposed project would technically have a significant impact at the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections under Cumulative Plus Project conditions. These intersections are expected to operate at unacceptable levels of service without the project; however, the project is expected to add more than 5 seconds of delay and the intersections would meet peak hour signal warrant criteria under Cumulative Plus Project conditions.

**Recommended Mitigations**

Table 5 of the 2015 Amador County RTP includes the Regional Roadway Capital Improvement Program with Multi-Modal Components, which is a list of roadway improvements planned throughout the County. The list of improvements is divided into three categories:

- Tier I: Full Funding Potentially Available within 20 Years
- Tier IIA: Partial Funding Committed, but Full Funding Not Available within 20 Years
- Tier IIB: No Funding Committed

Traffic signal installations at the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections are already planned and included as Tier IIA improvements.

**Table 13** shows the mitigated level of service results (i.e. with traffic signals) at the intersections under Cumulative Plus Project conditions. The technical calculations are provided in **Appendix D**.

**Table 13: Cumulative Plus Project Conditions Intersection Level of Service with Mitigations**

Intersection	Control	LOS Standard	AM		PM	
			LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
SR 88 / Jackson Valley Road (west)	Signal	C	B	15.0	B	17.1
SR 88/Buena Vista Road	Signal	C	B	18.0	C	22.4
SR 104/Jackson Valley Road/ SR 88	Signal	E	C	29.3	C	29.5

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections.

**Bold** text indicates unacceptable operations.

Source: Traffic Works, 2017

As shown in the table, the mitigations are expected to improve operations at the intersections to LOS C or better. The project impacts would therefore be mitigated with the proposed improvements.

## FAIR SHARE CONTRIBUTION TO INTERSECTION IMPROVEMENTS

The following study intersections and proposed improvements are included in the Regional Roadway Capital Improvement Program listed in the *2015 Amador County RTP*:

- SR 88 / Jackson Valley Road (west) (Tier IIA) – Signalize Intersection; Cost Estimate = \$1.5 million
- SR 88 / SR 124 (Tier IIA) – Intersection Improvements; Cost Estimate = \$150,000
- SR 88 / Buena Vista Road (Tier IIA) – Intersection Improvements; Cost Estimate = \$1.5 million
- SR 104 / Jackson Valley Road / SR 88 (Tier IIA) – Signalize Intersection; Cost Estimate = \$1.5 million

The Caltrans *Guide for the Preparation of Traffic Impact Studies* provides an equation for determining “Equitable Share Responsibility” of a project’s traffic impact. Although the project is not expected to have a significant impact at two of the four intersections listed above, it will add traffic to these intersections. The following equation was used to determine the equitable share of responsibility based on project generated traffic:

$$P = T / (T_B - T_E)$$

where

*P* = The equitable share for the proposed project’s traffic impact

*T* = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour, vph

*T<sub>B</sub>* = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g., 20 year model or the furthest future model date feasible), vph

*T<sub>E</sub>* = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph



The “Equitable Share Responsibility” equation was used to determine the project’s fair share responsibility based on AM peak hour traffic volumes, since the AM peak hour generated higher percentages than the PM peak hour. **Table 14** shows the project’s fair share responsibility for intersection improvements at the four study intersections listed above. Detailed calculations are provided in **Appendix E**, attached.

**Table 14: Equitable Share Responsibility**

Intersection	T (Project Trips)	T <sub>B</sub> (Forecasted Traffic Volume)	T <sub>E</sub> (Existing Traffic Volume)	P (Equitable Share)
SR 88/Jackson Valley Road (west)	18	1,304	484	2.2%
SR 88/SR 124	22	1,460	556	2.4%
SR 88/Buena Vista Road	4	1,460	555	0.4%
SR 104/Jackson Valley Road/SR 88	4	1,942	1,049	0.4%

Source: Traffic Works, 2017

The Amador County *Recommended Traffic Impact Study Guidelines* state, “this percentage shall apply to any unfunded portion of the mitigation measure costs.” Amador County staff will need to identify the unfunded costs for the study intersection improvements.

## CEQA ENVIRONMENTAL CHECKLIST

The CEQA *Appendix G Environmental Checklist Form* is used to develop significance criteria for key transportation areas. The checklist questions and determination of significant impacts is provided below.

Would the project:

***Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?***

- The proposed project is expected to have a significant impact at the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections under Cumulative Plus Project conditions by adding more than five seconds of delay to the intersections which would already be operating at LOS F without the project. Transit service through the impacted intersections may also experience increased delay. Additionally, the intersections are expected to meet the peak hour signal warrants under Cumulative Plus Project conditions. This is considered a *significant impact*.

### ***Proposed Mitigation***

The 2015 Amador County RTP includes planned improvements (traffic signals) at the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88

intersections with the purpose of mitigating future conditions. The project applicant shall provide a fair share contribution, based on Caltrans' "Equitable Share Responsibility" equation, toward these improvements which would improve operations at the intersections to LOS C or better and resolve the operational issues.

**Significance After Mitigation:** Less than Significant

***Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?***

- The proposed project is expected to have a significant impact at the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections under cumulative plus project conditions by adding more than five seconds of delay at the intersections which would already be operating at LOS F without the project. Additionally, the intersections are expected to meet the peak hour signal warrants under cumulative plus project conditions. Therefore, this is considered a *significant impact*.

***Proposed Mitigation***

The 2015 Amador County RTP includes planned improvements (traffic signals) at the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections. The project applicant shall provide a fair share contribution, based on Caltrans' "Equitable Share Responsibility" equation, toward these improvements which would improve operations at the intersections to LOS C or better.

**Significance After Mitigation:** Less than Significant

***Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?***

- The project would not result in a change to air traffic patterns or a change in location for air traffic. Therefore, there would be *no impact*.

***Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?***

- The project would utilize existing access locations and is not expected to include incompatible uses. Access modifications, if any, will be in accordance with Caltrans standards and permits. Therefore, this impact is *less than significant*.

***Result in inadequate emergency access?***

- The project would utilize existing access locations and provide adequate means of ingress and egress in compliance with applicable fire safety codes. Therefore, this impact is *less than significant*.

***Conflict with adopted policies, plans, programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?***

- The project does not include any elements that would significantly increase demand for transit, bicycle, or pedestrian facilities, and is not expected to interfere with existing or planned multi-modal facilities. Therefore, this impact is *less than significant*.

## **CONCLUSIONS AND RECOMMENDATIONS**

The following is a list of our key findings and recommendations:

### ***Proposed Project***

The proposed project consists of a private motocross facility open daily to members only for practice and training, and for product testing and development. Membership to facility is anticipated to be limited to 300 entities, excluding product testing and development. Maximum daily attendance is projected to be 50 participants.

The proposed project is anticipated to generate up to 100 daily trips, 50 AM peak hour trips, and 50 PM peak hour trips.

### ***Existing Level of Service***

The SR 104 / Jackson Valley Road / SR 88 intersection currently operates at unacceptable LOS F during the AM and PM peak hours. The Preston Avenue / Shakeley Lane / Plymouth Highway intersection also operates at LOS F during the AM and PM peak hours, however the City of Ione's LOS policy allows LOS F operations at this intersection. The remaining study intersections currently operate at acceptable levels of service during the AM and PM peak hours.

All of the study roadway segments currently operate at acceptable levels of service.

### ***Existing Plus Project Level of Service***

With the addition of project traffic, the SR 104 / Jackson Valley Road / SR 88 intersection is expected to operate at LOS F during the AM and PM peak hours; however, the project is not expected add more than 5 seconds of delay, therefore the project would not cause a significant impact. The Preston Avenue / Plymouth Highway / Shakeley Lane intersection is also expected to operate at LOS F during the AM and PM peak hours with and without the project; however, LOS F is considered acceptable based on City of Ione standards. The remaining study intersections are expected to operate at acceptable levels of service with the addition of project generated traffic during the AM and PM peak hours.

The study roadway segments are expected to operate at acceptable levels of service under Existing Plus Project conditions.

### ***Cumulative No Project Level of Service***

The following intersections are expected to operate at unacceptable levels of service under Cumulative No Project conditions:

- SR 88 / Jackson Valley Road (west)
- SR 124 / SR 88
- SR 88 / Buena Vista Road
- SR 104 / Jackson Valley Road / SR 88

The following intersections are expected to operate at LOS F under Cumulative No Project conditions, however the City of Ione's LOS policy allows LOS F operations at these intersections:

- Preston Avenue / Shakeley Lane / Plymouth Highway
- Preston Avenue / Main Street
- Church Street / Main Street

The remaining study intersections are expected to operate at acceptable levels of service during the AM and PM peak hours.

The segment of SR 88 between Jackson Valley Road (west) and SR 124 is expected to operate at unacceptable LOS E under Cumulative No Project conditions. The remaining study roadway segments are expected to operate at acceptable levels of service.

### ***Cumulative Plus Project Level of Service***

The project is expected to create a significant impact at the SR 88 / Jackson Valley Road (west), SR 88 / Buena Vista Road, and SR 104 / Jackson Valley Road / SR 88 intersections by adding more than 5 seconds of delay to the intersections which would already be operating at unacceptable levels. These locations would require mitigation.

The segment of SR 88 between Jackson Valley Road (west) and SR 124 is expected to operate at unacceptable LOS E under Cumulative Plus Project conditions, however the project is not expected to increase the volume-to-capacity ratio for the segment by more than 0.05. This is considered a less-than-significant impact. The remaining study roadway segments are expected to operate at acceptable levels of service.

### ***Fair Share Contribution***

Based on existing and projected traffic volumes, the project shall contribute the following fair share contributions toward intersection improvements at:

- SR 88 / Jackson Valley Road (west) – 2.2%
- SR 124 / SR 88 – 2.4%

- SR 88 / Buena Vista Road – 0.4%
- SR 104 / Jackson Valley Road / SR 88 – 0.4%

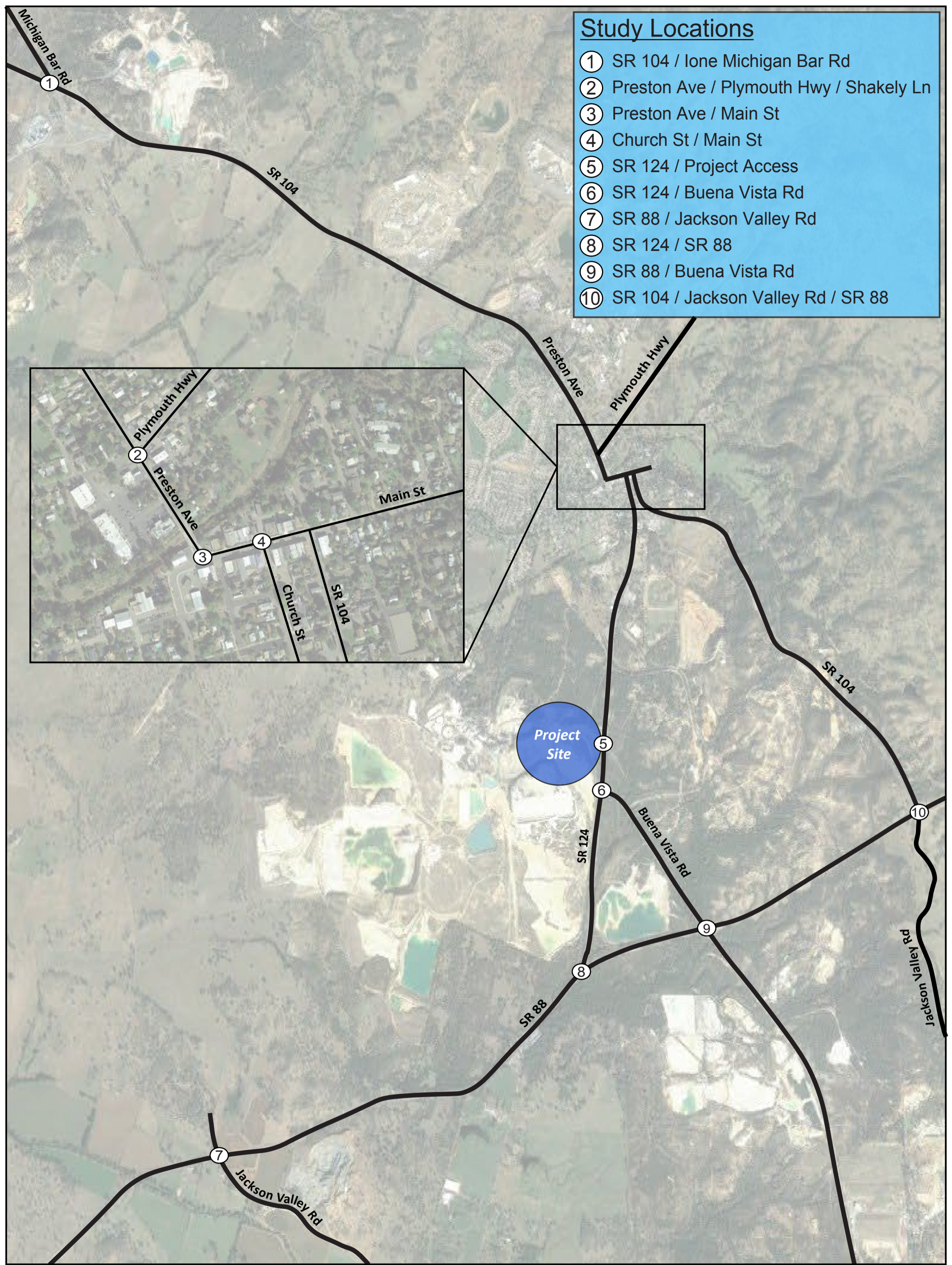
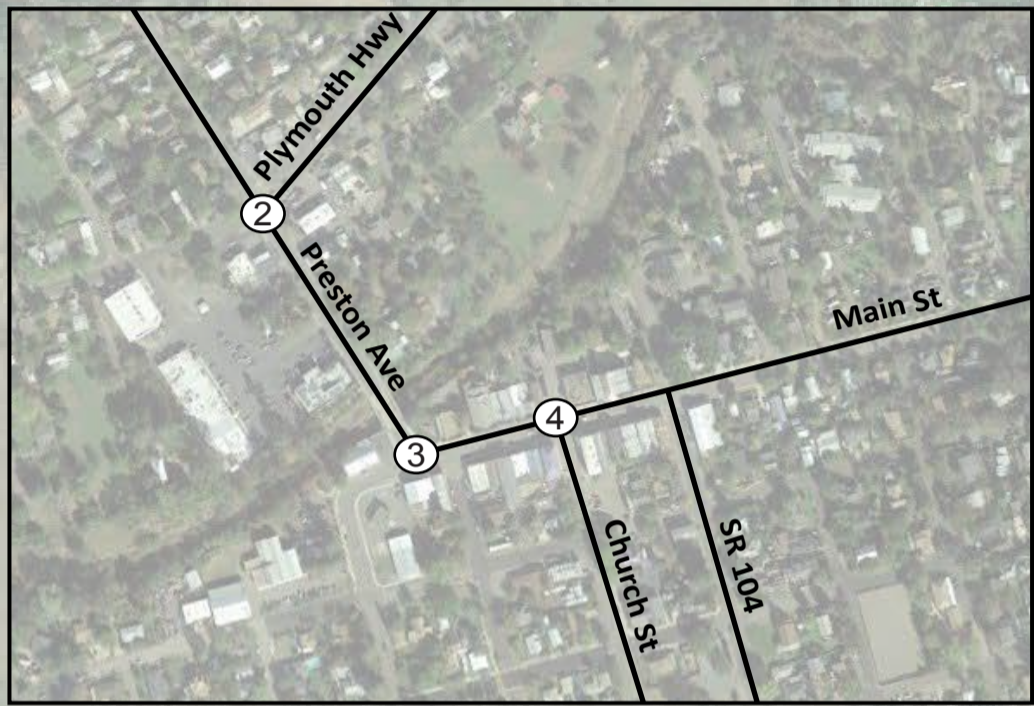
The Amador County *Recommended Traffic Impact Study Guidelines* state, “this percentage shall apply to any unfunded portion of the mitigation measure costs.” Amador County staff will need to identify the unfunded costs for the study intersection improvements and the resulting dollar amounts.

### ***CEQA Environmental Checklist***

The project is expected to result in significant transportation impacts at three study intersections. With the prescribed fair share contributions toward planned improvements at the intersections, all transportation related impacts would be mitigated to a less-than-significant level.

## Study Locations

- ① SR 104 / Lone Michigan Bar Rd
- ② Preston Ave / Plymouth Hwy / Shakely Ln
- ③ Preston Ave / Main St
- ④ Church St / Main St
- ⑤ SR 124 / Project Access
- ⑥ SR 124 / Buena Vista Rd
- ⑦ SR 88 / Jackson Valley Rd
- ⑧ SR 124 / SR 88
- ⑨ SR 88 / Buena Vista Rd
- ⑩ SR 104 / Jackson Valley Rd / SR 88



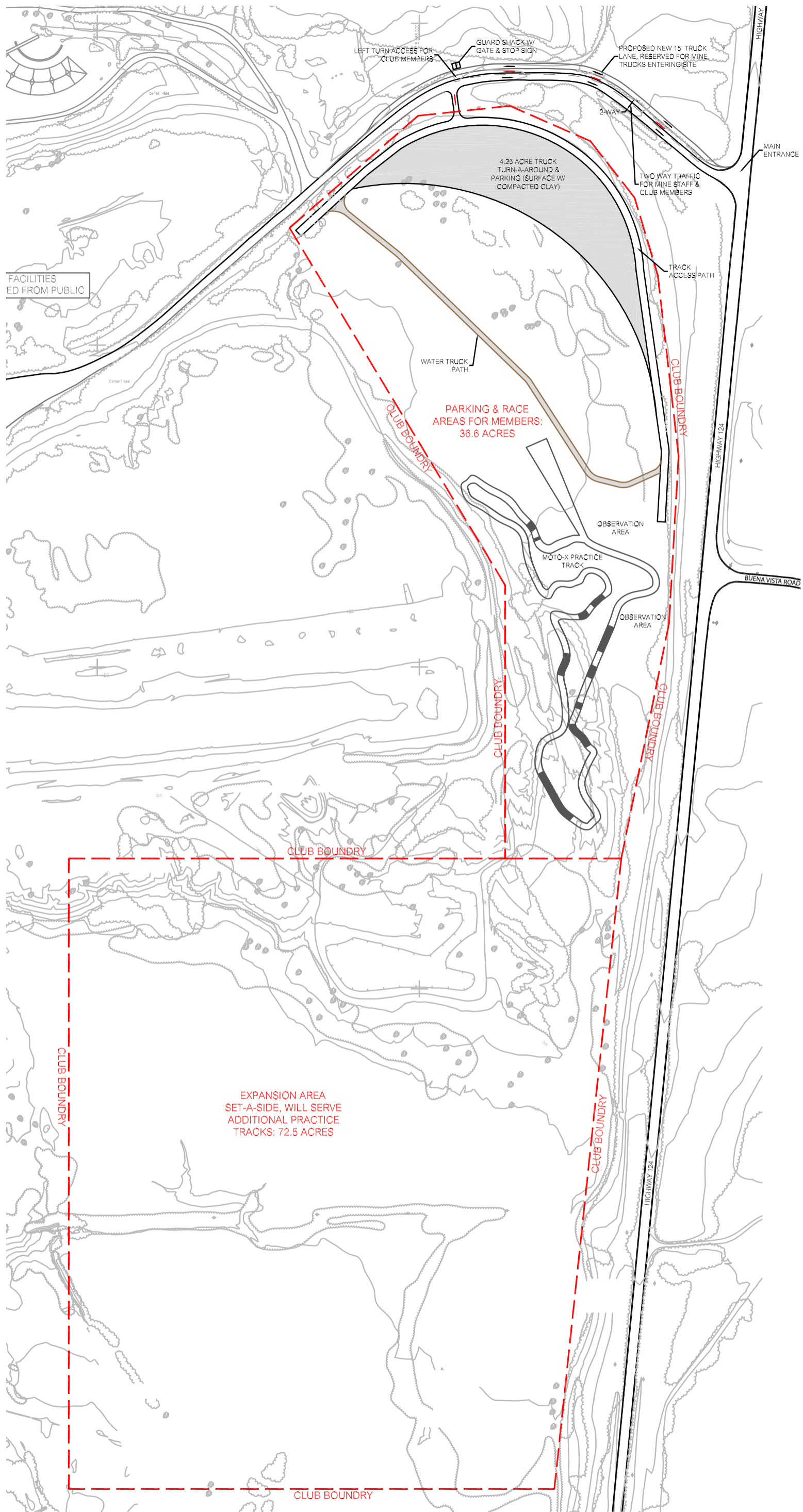
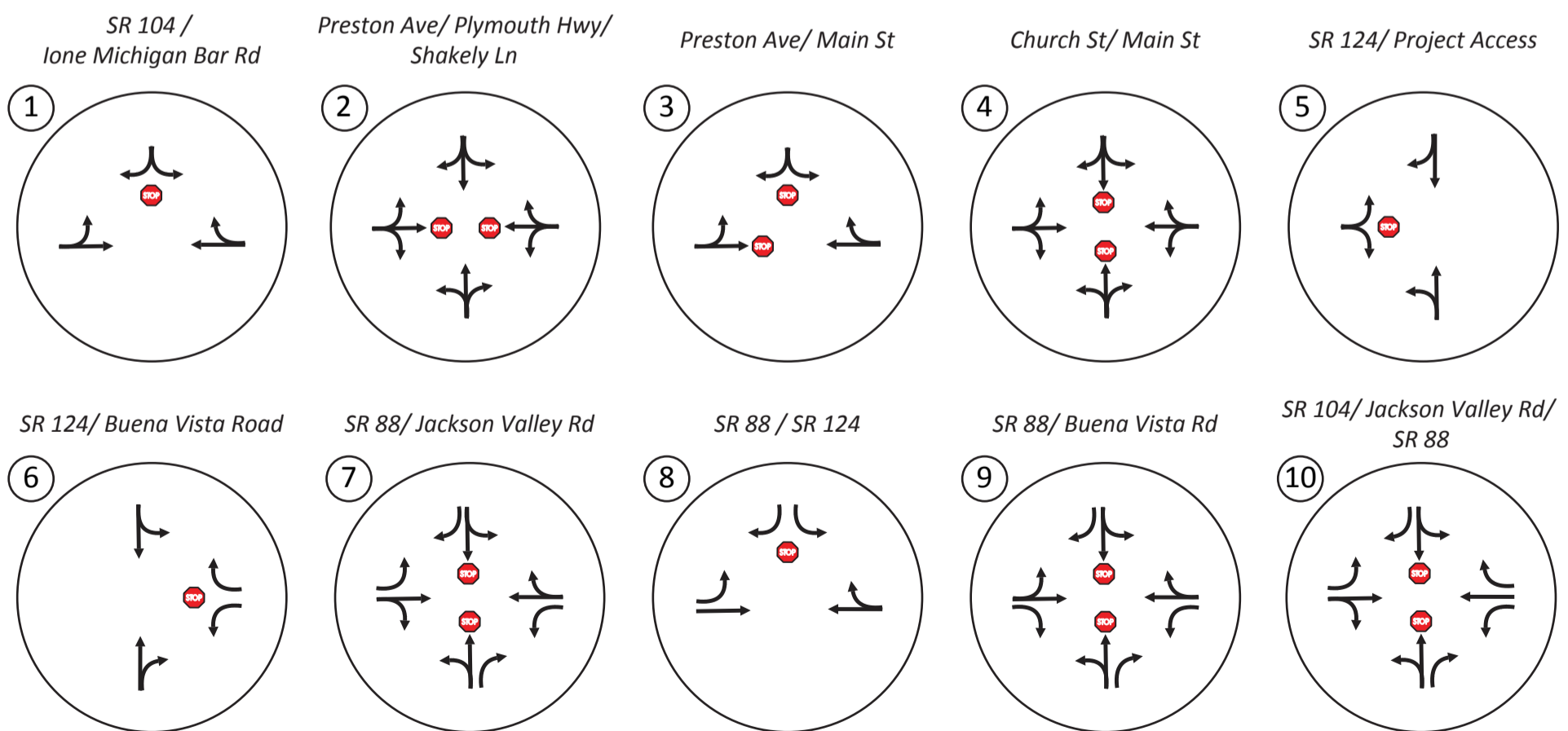
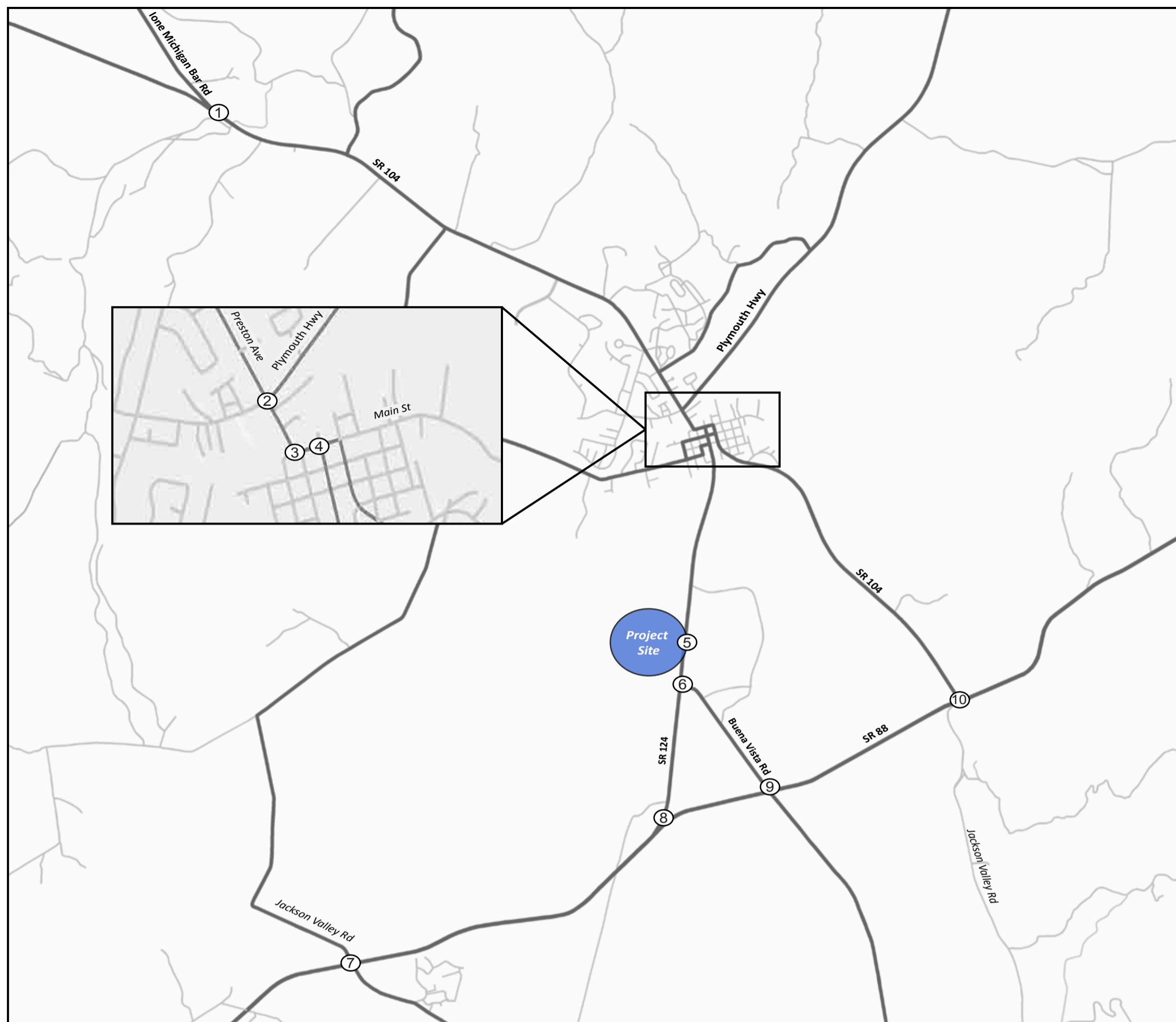
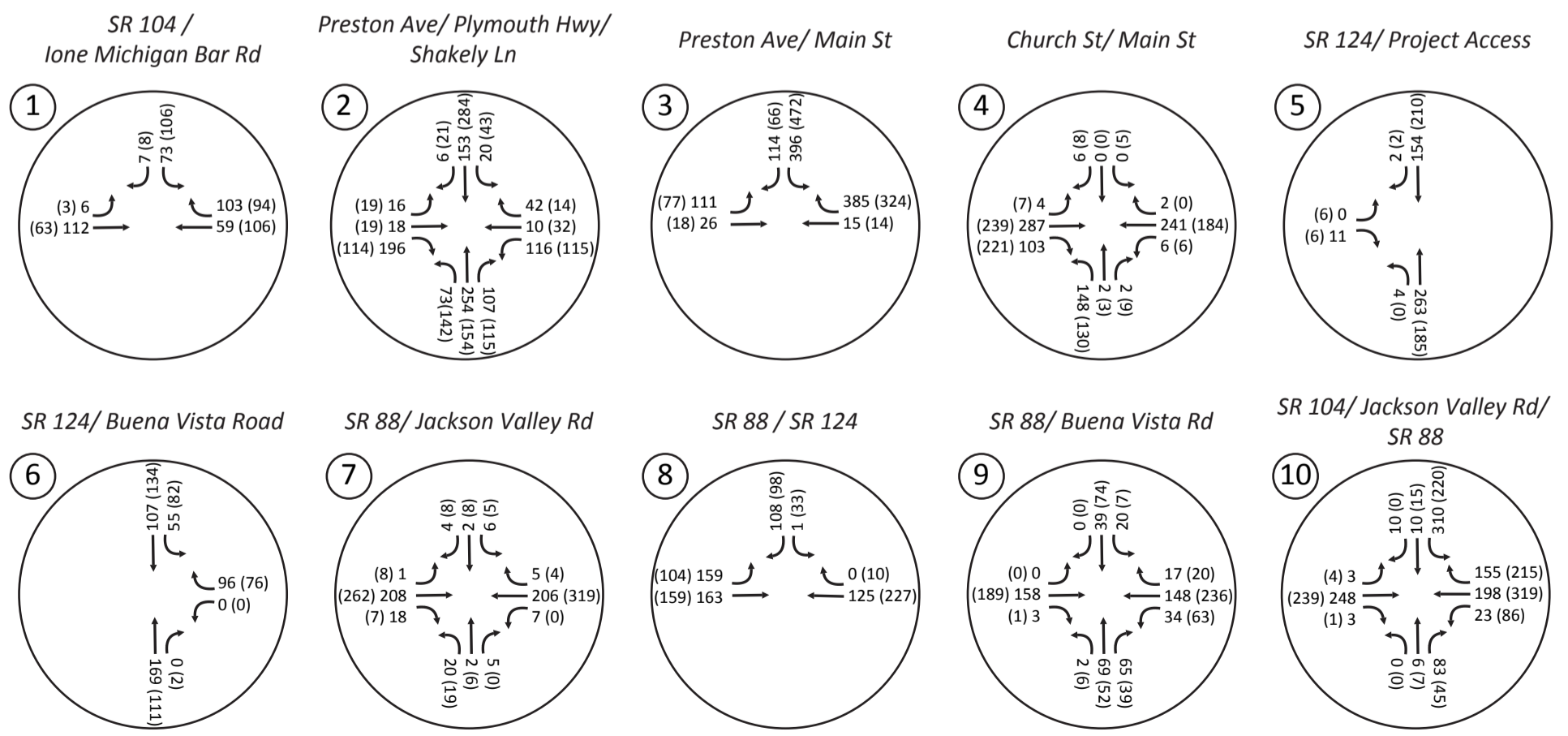
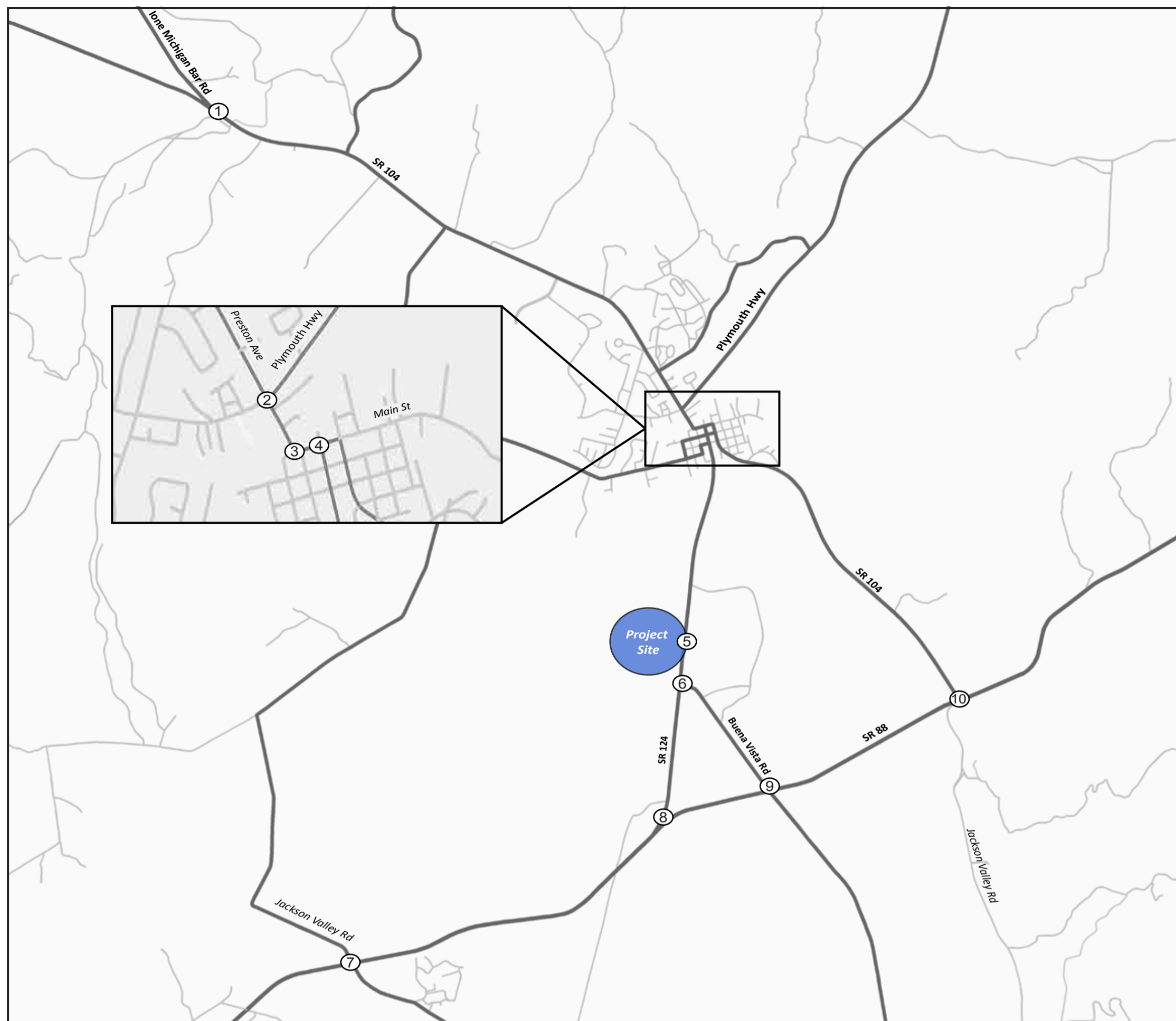


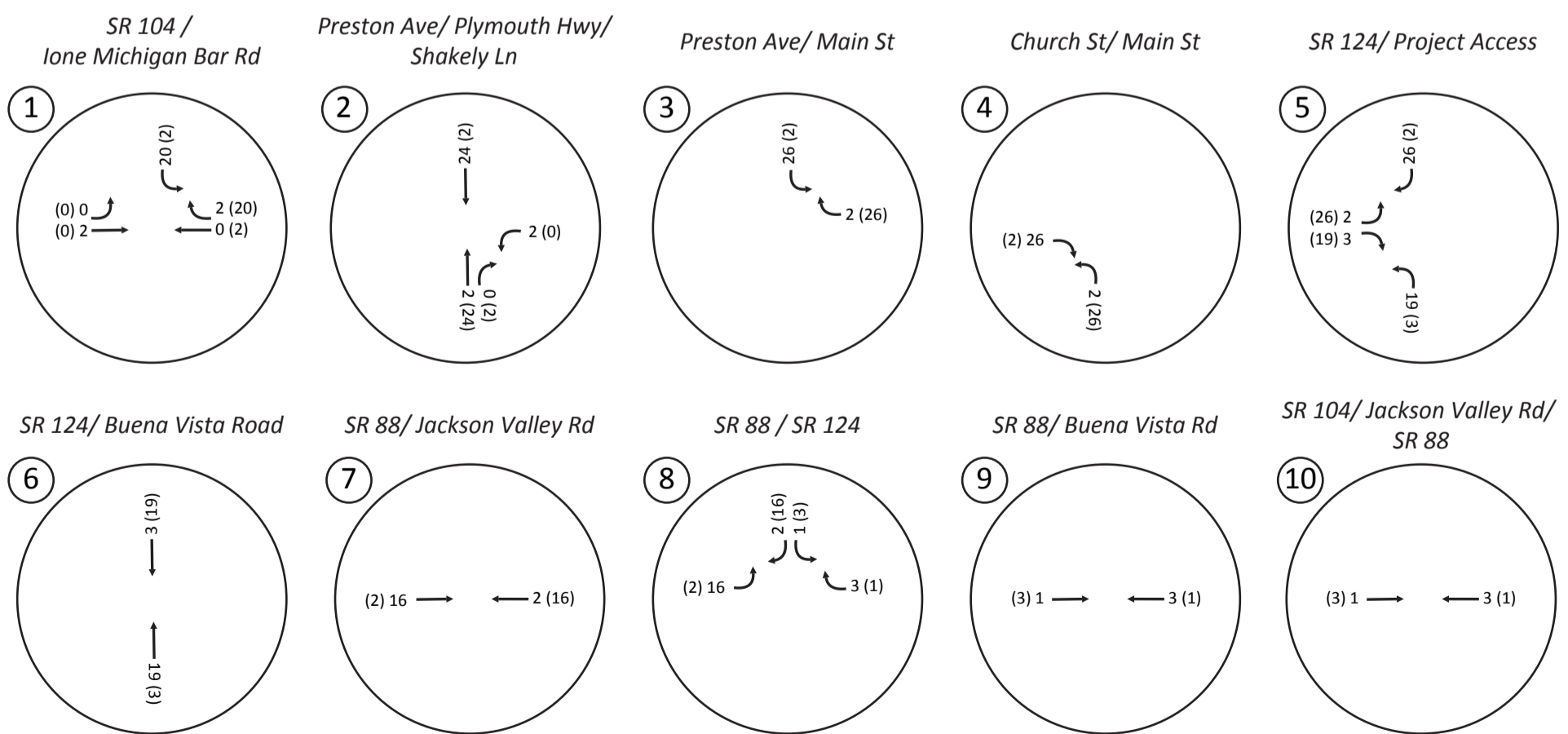
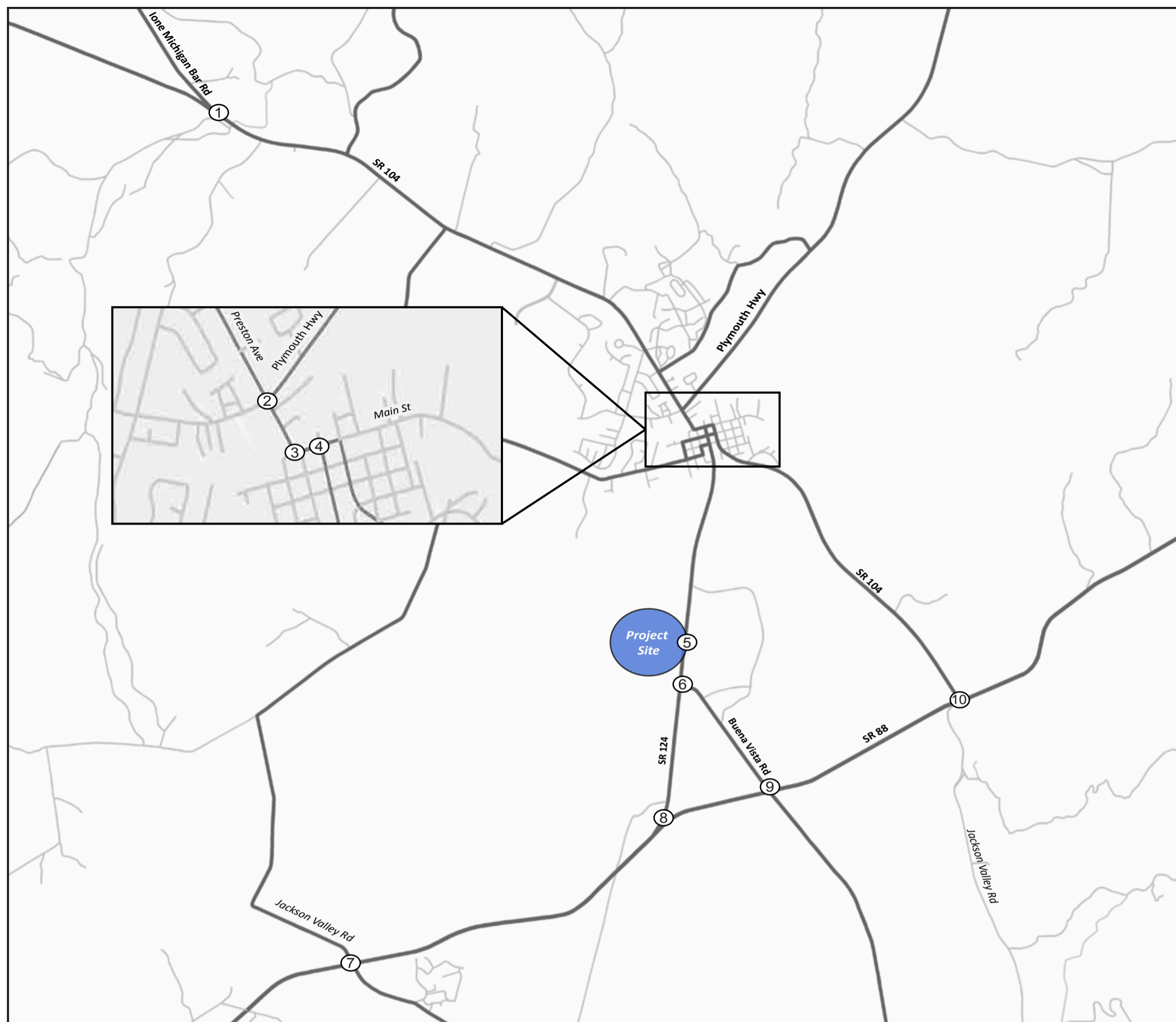
Figure 2



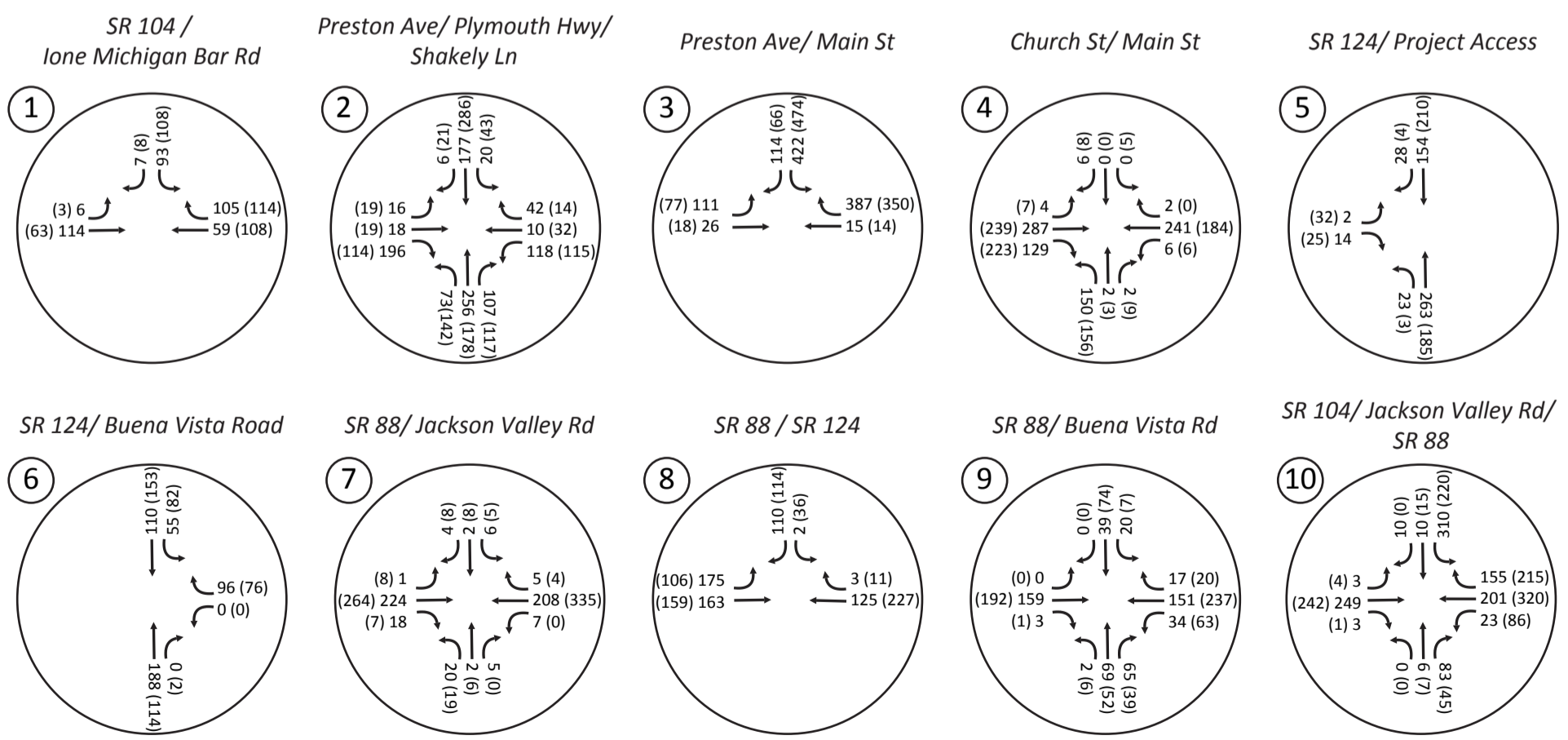
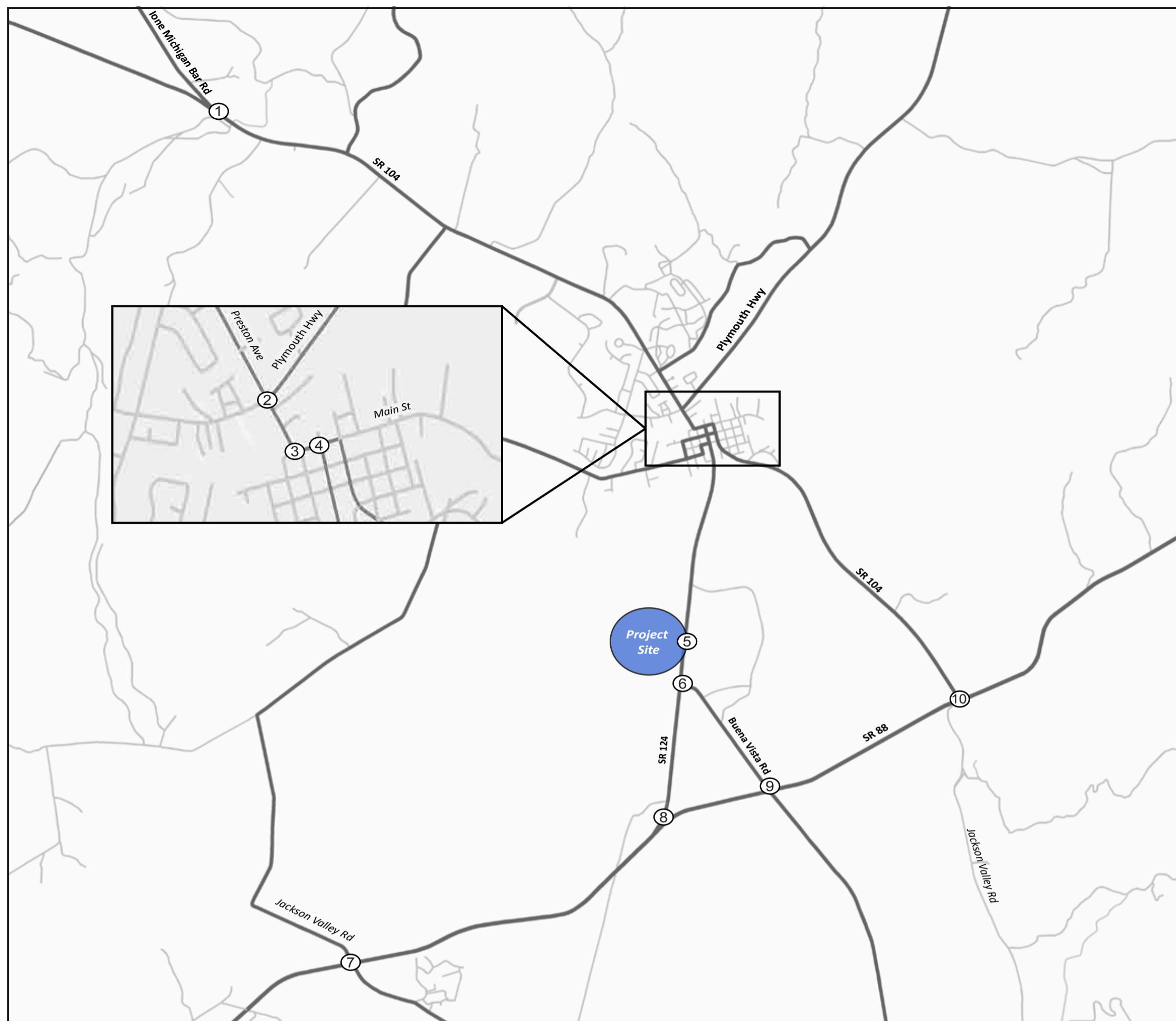




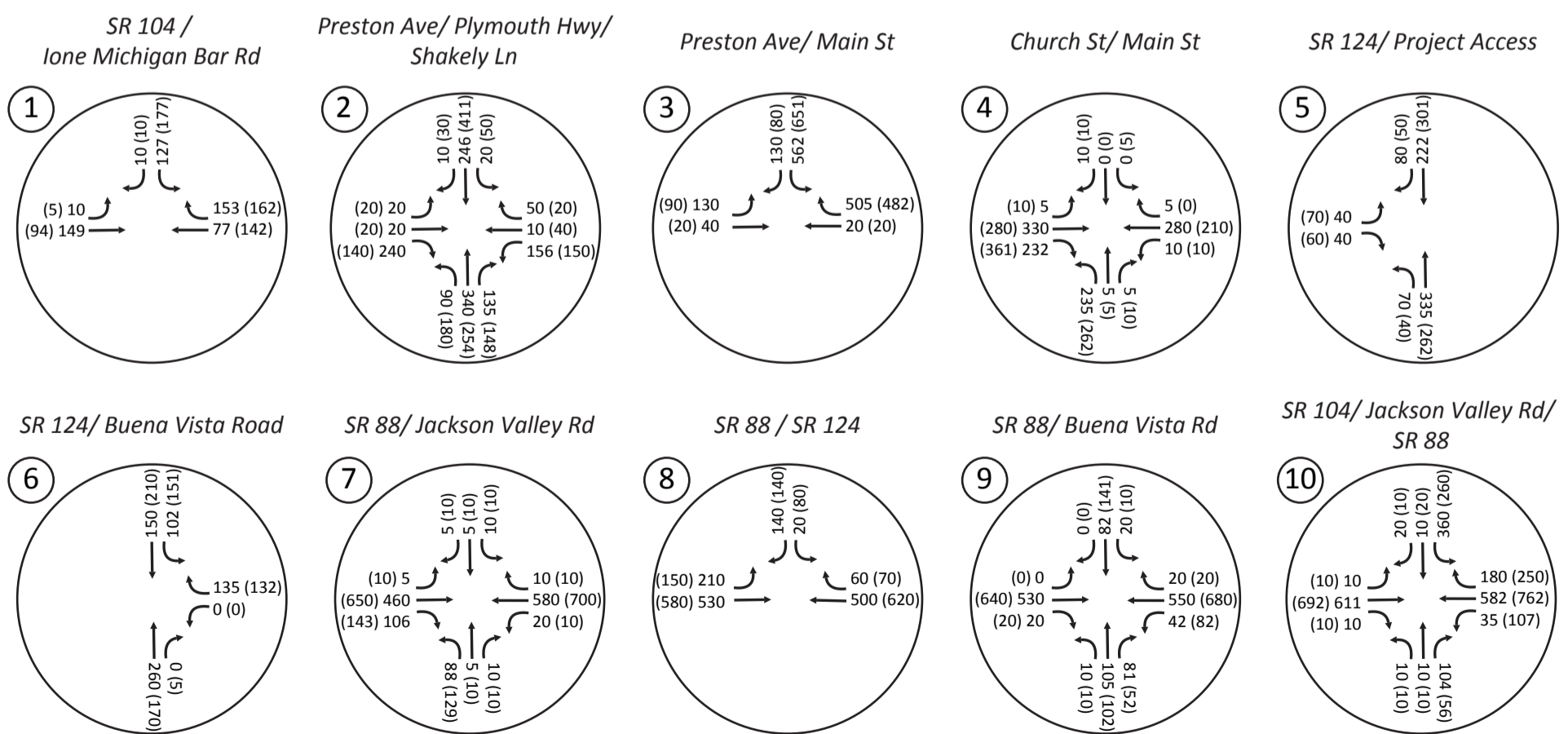
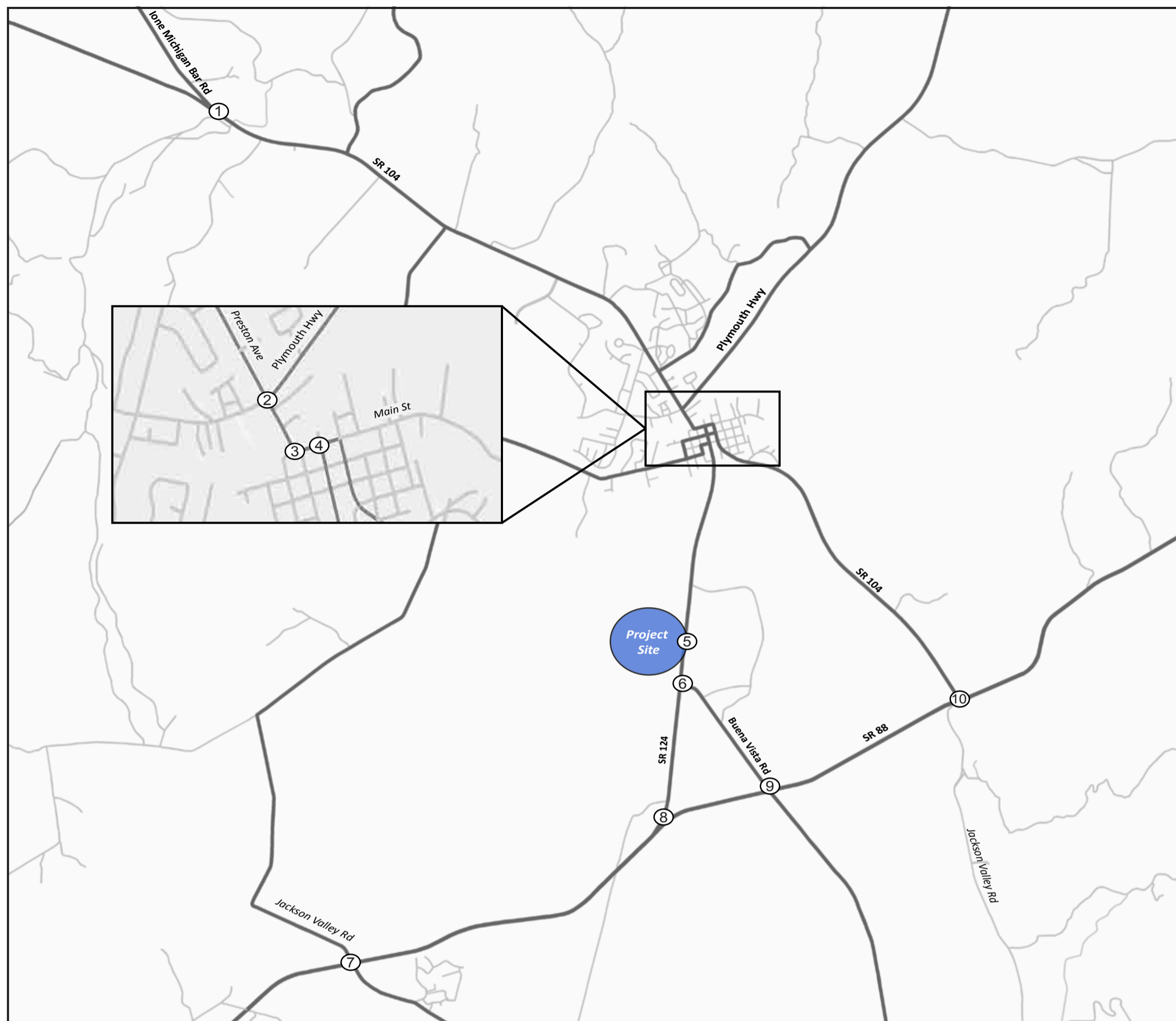
AM Peak Hour Volume (PM Peak Hour Volume)



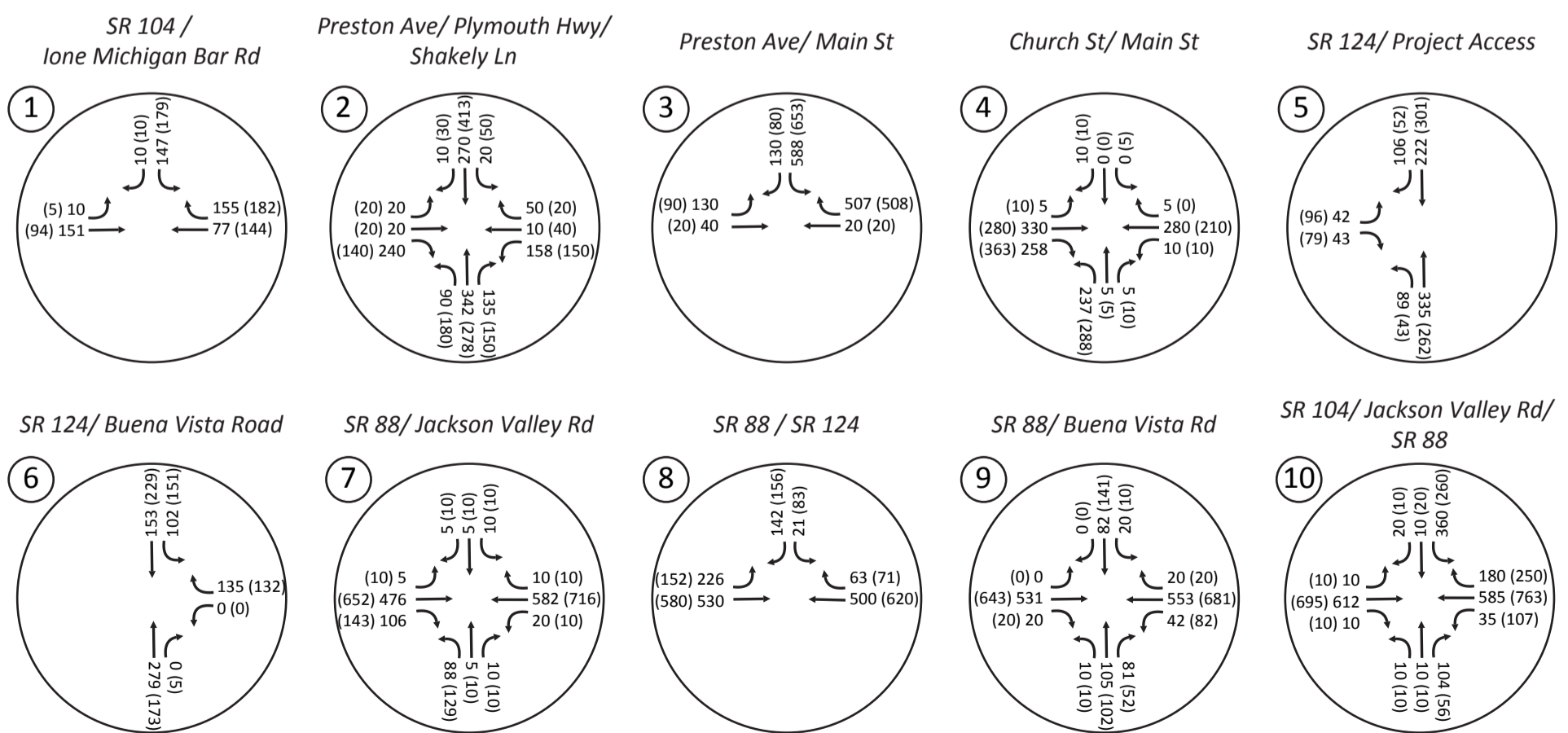
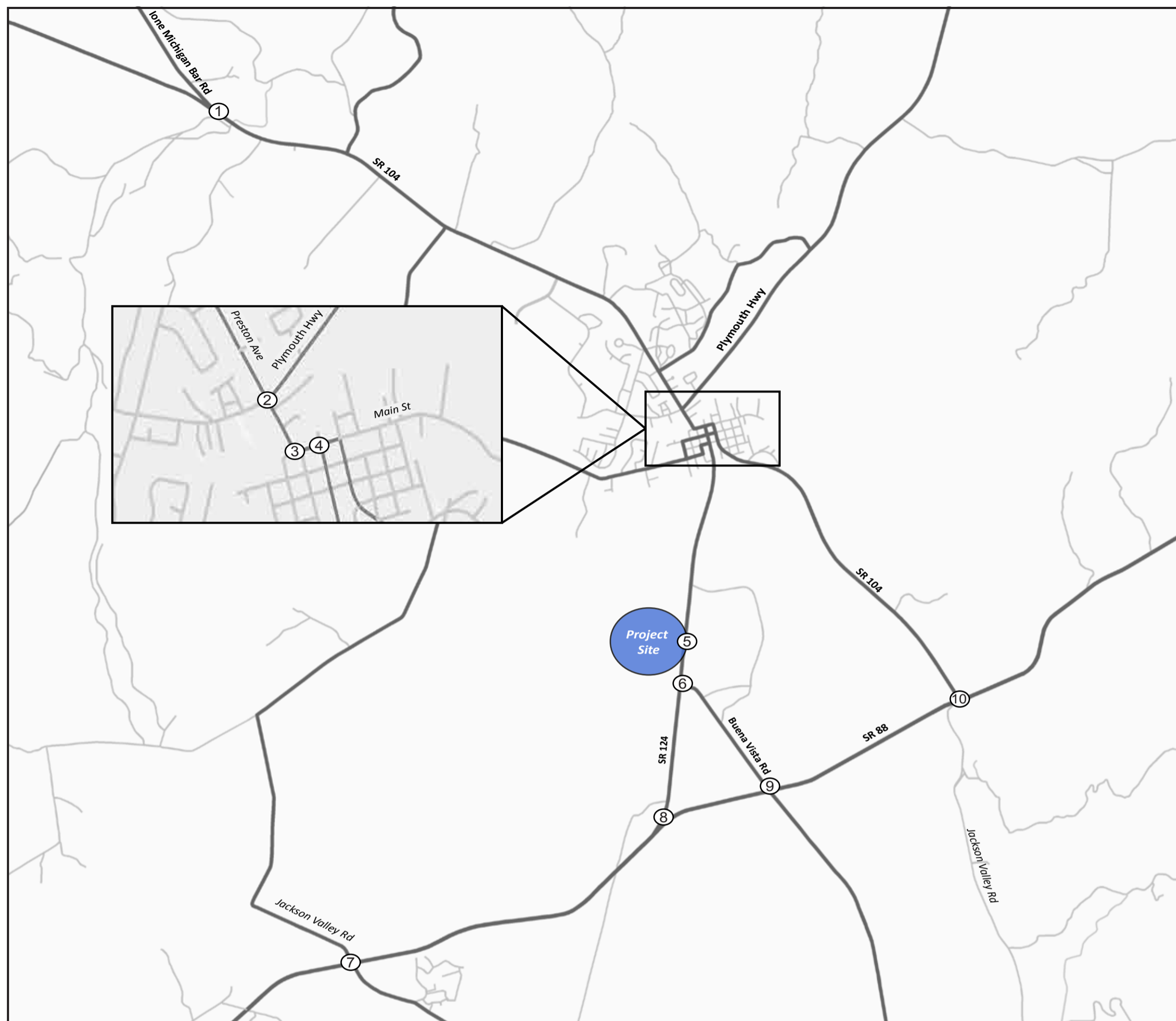
AM Peak Hour Volume (PM Peak Hour Volume)



AM Peak Hour Volume (PM Peak Hour Volume)



AM Peak Hour Volume (PM Peak Hour Volume)



AM Peak Hour Volume (PM Peak Hour Volume)